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U.S. congress. Joint committee on  
Atomic Energy.

HEARINGS

Eightyfirst Congress

First Session

1949

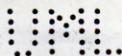
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# ATOMIC ENERGY COMMISSION FELLOWSHIP PROGRAM

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## HEARINGS

BEFORE THE

JOINT COMMITTEE ON ATOMIC ENERGY

CONGRESS OF THE UNITED STATES

EIGHTY-FIRST CONGRESS

FIRST SESSION

ON

ATOMIC ENERGY COMMISSION

FELLOWSHIP PROGRAM

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MAY 16, 17, 18, and 23, 1949

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# ATOMIC ENERGY COMMISSION FELLOWSHIP PROGRAM

MONDAY, MAY 18, 1949

CONGRESS OF THE UNITED STATES,  
JOINT COMMITTEE ON ATOMIC ENERGY,  
*Washington, D. C.*

The committee met at 2:30 p. m., pursuant to call, in room 301, Senate Office Building, Senator Brien McMahon (chairman) presiding.

Present: Senator McMahon, Representative Durham (vice chairman), Senators Knowland and Hickenlooper; Representatives Price, Kilday, Cole, and Elston.

Also present: William L. Borden, Executive Director, and Harold Bergman, Deputy Director, Joint Committee on Atomic Energy.

The CHAIRMAN. The meeting will come to order.

As the committee knows, we have scheduled a full investigation of the fellowship program of the AEC. The fellowship program is a matter on which the staff and the chairman of the committee at least, and the ranking member have been working for some time. A preliminary meeting was held about 10 days ago in executive session.

We have before us, the Senate members of the joint committee, the nominations of Dr. Smyth and Mr. Dean. In Dr. Smyth's hearing on last Thursday, he was interrogated as to his attitude on the fellowship program. In view of the fact that confirmation hearings have been set for tomorrow morning on both Dr. Smyth and Mr. Dean, it is only fair to the nominees, to the Commission, and to the public that this matter should be gone into at least in a preliminary way as expeditiously as possible. I have therefore requested the Commission to come up here today; and Mr. Lilienthal, Mr. Strauss, and Mr. Pike, the three members of the Commission who are in office, are here with us.

Mr. Lilienthal, I would appreciate it if you would sit down next to the stenographer. Would you prefer to make a statement on the fellowship program at this time?

## STATEMENT OF DAVID E. LILIENTHAL, CHAIRMAN, ATOMIC ENERGY COMMISSION, WASHINGTON, D. C.

Mr. LILIENTHAL. Yes, Mr. Chairman and members of the committee, I would like to make a general statement.

The members of the Commission and of its scientific and technical staff are glad of an opportunity to discuss with the members of the joint committee some of the difficult and very trying and puzzling problems that arise in connection with the administration of the fellowship program in the nonsecret fields.

There is present in the hearing room the President of the National Academy of Science, Dr. A. Newton Richards, who is in charge of the

program of medical study and research at the university, and as President of the National Academy of Science, is head of the organization of which the National Research Council is the agency. This latter agency is the organization which is actually administering and awarding fellowships under this program. I should hope that before the hearing is over, the committee would hear the views of Dr. Richards.

Dr. Bronk, the president of Johns Hopkins and the head of the National Research Council, is out of the city today, but is expected back, I should think, tonight; and I should hope that his views would be received by the committee.

The Commission also has present, in addition to our colleagues on the Commission, Dr. Shields Warren, distinguished pathologist, and director of the Commission's Division of Biology and Medicine, and I believe his views would be of relevance and useful to the committee.

### BACKGROUND OF FELLOWSHIP PROGRAM

I would like to make a brief statement of the background of the fellowship program and its purposes, and I should like to emphasize first of all that this program does not relate to the secret side of atomic energy development; that these fellows have nothing to do with atom bombs; that the purpose of the fellowship program is to uncover and to develop great and rare talents for an urgent need in the fundamental sciences, to increase the knowledge of this country in the fundamental sciences, and to emphasize that the Commission, being reluctant that the Federal Government should directly intervene in educational efforts in this country; anxious that the Federal Government should not meddle in education, has adopted the expedient of asking the National Research Council, a private organization with a distinguished membership, to administer this fellowship program and to select the fellows, to make the awards.

We are concerned about the problems that these selections have raised. We are glad that the committee is conducting hearings on them. We want to assure the committee that these have been given as much time as the Commission could possibly devote to the matter and that this delima presented by this problem will be before the country, we are sure, for years and years. There is no easy solution, we believe, to the problem presented.

In January of 1948, the Atomic Energy Commission established a fellowship program providing stipends for graduate students for study and research at universities in biology and medicine and the physical sciences. The program was established in compliance with responsibilities assigned the Commission by the Atomic Energy Act. Specifically, the act directs the Commission, in section 1b (1), to set up a program of—

assisting and fostering private research and development to encourage maximum scientific progress.

These are words from the McMahon Act. And in section 3a, again quoting:

to insure the continued conduct of research and development activities by private or public institutions or persons, and to assist in the acquisition of an expanding fund of theoretical and practical knowledge—

in fundamental science.

Senator HICKENLOOPER. Mr. Chairman?

Would you mind if I interrupted, Mr. Lilienthal?

Mr. LILIENTHAL. I would like to finish this brief statement, if it is possible, Senator.

Senator HICKENLOOPER. I merely wanted to inquire whether you interpret that as extending to all the fundamental sciences, that is, all of the sciences, or whether in the act it connotes enlargement of knowledge in the nuclear field:

Mr. LILIENTHAL. I believe the answer is that it is not limited, as you suggest; although it may not be as broad as the other alternative.

The work carried on under the fellowship program is overwhelmingly concerned with nonsecret areas of research in the fields of biology and medicine and in the physical sciences. These are, of course, fields in which there is graduate work being done by private institutions and in which there is no security interest to prevent the traditional openness and free exchange of science of which this country is proud, and so rightly proud.

Research projects in the medical field include, for example, such studies as developmental genetics, the biophysical study of the nervous system, fundamental physical aspects of structure, and function of cells and tissue, nuclear acids, and nucleo proteins in normal and cancer tissue, the effect of radiation on viruses, and other comparable subjects.

A fellow in the physical sciences may study quantum mechanics and statistical mechanics applied to rate processes, or such a subject as the relativistic invariant meson theories as applied to the explanation of nuclear forces.

Dr. Warren will later describe, if there is an opportunity, the purpose and the need of a fellowship program in somewhat more detail.

Ever since the war, it has been generally recognized, and especially by such distinguished gentlemen as Dr. Conant of Harvard and Dr. Bush and others, that to carry forward the Nation's scientific development, means must be found to insure our continued scientific advance and in particular to overcome the critical shortage of trained scientists. Most of the discussion of the proposed National Science Foundation has, therefore, centered not about the need for such an agency but about the manner in which it is organized and administered.

In the absence of a special agency such as the proposed National Science Foundation, the Commission undertook the fellowship program in an effort to assist in enlarging the reservoir of trained scientific personnel in selected areas of physics, biology, and medicine.

The establishment of the fellowship program was strongly urged on the Commission by its scientific advisors. And you will recall, Mr. Chairman and members of the committee, that the system of advisory committees is not only authorized by law, but, in the case of the general advisory committee, and, I believe, in the case of one or two other committees, it is clearly the policy of the Congress that the Commission should be assisted by these advisory committees. The General Advisory Committee set up by the McMahon Act to advise on scientific and technical matters, recommended strongly the setting up of such a fellowship program.

The Advisory Committee on Biology and Medicine, which is headed by Dr. Alan Gregg of the Rockefeller Foundation, director of medical studies for that foundation, strongly endorsed the establishment of such a fellowship program, especially in view of the lack of any other agency to take immediate steps to build up the number of scientists trained in these fields of such wide consequence to our daily life.

It is expected that some of the scientists trained through the fellowship program may be utilized in the national atomic energy program, although no commitments as to employment are made at the time of the fellowship award. Many of the fellows, however, will continue in nonsecret work outside the Commission's program where they will make substantial contributions to scientific progress.

For the administration of the program, the Commission turned to the most experienced agency for the development of scientific talent, the National Research Council, chartered by the Congress as the primary scientific advisory group to the country. There is, we believe, no other group so well qualified and experienced to select and develop young scientists of unusual ability and promise. These are the men who have searched for rare talents, who have been really looking for nuggets of great value; and these they have succeeded in finding.

The success of the Council's methods and procedures, which the Commission, of course, considered in deciding whether it was not the most appropriate agency for the selection of these fellows, is attested by even a brief listing of some of the fellowship holders of the past. Included among them are names that are very familiar in the scientific field, including Dr. J. Robert Oppenheimer, the wartime director of the Los Alamos laboratory; Dr. Robert F. Bacher; Dr. Samuel K. Allison, director of the Institute of Nuclear Studies of the University of Chicago; Dr. Norris E. Bradbury; Dr. E. U. Condon, the present Director of the National Bureau of Standards; Dr. Lee A. DuBridge, president of the California Institute of Technology; Dr. W. V. Houston, president of Rice Institute; Dr. E. O. Lawrence, the inventor of the fabulous cyclotron; and Dr. Henry D. Smyth. These are among the men whose names are now famous throughout the world, but who were selected as research fellows when they were relatively young men.

The Commission gave long and careful consideration to the question of requiring investigation and security clearance of fellows engaged in nonsecret work comparable to or parallel to that kind of investigation which the law requires and which is carried out in the case of those who have access to restricted data; that is to say, the FBI investigations and so on. The views of the Commission on this question were transmitted to the Joint Committee in our letter to the chairman of the Joint Committee, Senator Hickenlooper, under date of October 11, 1948. This letter also includes a list of the fellowship boards, the names of the gentlemen who would administer this program, the so-called fellowship boards of the National Research Council. And I would think it would be appropriate if, with your permission, Mr. Chairman, I were to insert this letter into the record at this point.

The CHAIRMAN. Without objection.

## CORRESPONDENCE REGARDING FELLOWSHIP PROGRAM

(The letter referred to, together with prior and subsequent correspondence later directed to be inserted at this point, is as follows:)

JULY 30, 1948.

Mr. DAVID E. LILIENTHAL,  
*Chairman, Atomic Energy Commission,*  
*Washington, D. C.*

DEAR MR. LILIENTHAL: The fellowship program of the Atomic Energy Commission has been reviewed with considerable interest by various members of the Joint Committee. The question has arisen as to the nature of the investigation, if any, which is performed on the character, loyalty, and associations of these individuals prior to the awarding of such fellowships.

It is an assumption on the part of the Joint Committee that the purpose of this fellowship program is to establish a nucleus of highly trained individuals who will increase the general knowledge in scientific fields and at the same time provide a pool from which some individuals will be drawn to active employment on the atomic energy program.

Unless an investigation is performed, is it conceivable that we may someday find ourselves in the position of having, with Government money, subsidized the education of a potential subversive who is not eligible for employment on the atomic energy program?

The Joint Committee will appreciate a statement of the views of the Atomic Energy Commission on this subject.

Yours sincerely,

B. B. HICKENLOOPER,  
*Chairman, Joint Committee on Atomic Energy.*

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UNITED STATES ATOMIC ENERGY COMMISSION,  
*Washington, D. C., August 24, 1948.*

Hon. BOURKE B. HICKENLOOPER,  
*Chairman, Joint Committee on Atomic Energy,*  
*Senate Office Building, Washington, D. C.*

DEAR SENATOR HICKENLOOPER: Your letter of July 30, 1948, requested a statement of the Commission's views on the nature of the investigation which should be conducted on individuals who are awarded fellowships under the Commission's fellowship program.

This matter has been under continuous review by the Commission and its staff. We had hoped at this time to be able to furnish you with a complete report, but now find that the Commission will not be in a position to discuss it again until its next regular meeting, which is now scheduled for early in September. At that time we shall give you a full statement of our views.

Sincerely yours,

UNITED STATES ATOMIC ENERGY COMMISSION,  
SUMNER T. PIKE, *Acting Chairman.*

OCTOBER 11, 1948.

Hon. B. B. HICKENLOOPER,  
*Chairman, Joint Committee on Atomic Energy,*  
*Senate Office Building, Washington, D. C.*

DEAR SENATOR HICKENLOOPER: This is in response to your letter of July 30, 1948, inquiring as to the procedure followed in the selection of fellows for the Commission's fellowship programs, which are administered by the National Research Council. You will recall that we wrote you regarding this matter on August 24, and advised you that we were working on a statement of our views for submission to the Joint Committee.

As you know, the National Research Council was selected for administration of the fellowship programs in view of its long and distinguished record in such work. It was felt that the fellowship programs would benefit from the Council's long experience in this field, and at the same time the Commission would be free from the burdens of detailed administration.

In order to assure the selection of well-qualified fellows, the National Research Council has established fellowship boards which review the applications received for AEC fellowships. The membership of these fellowship boards is as follows:

### MEMBERSHIP OF FELLOWSHIP BOARDS

#### Predoctoral Fellowship Board in the Biological Sciences:

- Douglas Whitaker, Chairman, professor of biology, dean of the School of Biological Sciences, Stanford University, Calif.
- Eric G. Ball, professor of biochemistry, Harvard Medical School, Cambridge, Mass.
- J. H. Bodine, professor of zoology, University of Iowa, Iowa City, Iowa.
- Howard B. Lewis, professor of biological chemistry, director of the College of Pharmacy, University of Michigan, Ann Arbor, Mich.
- Raymond E. Zirkle, professor of botany, director of the Institute of Radiobiology and Biophysics, University of Chicago, Chicago, Ill.

#### Postdoctoral Fellowship Board in the Medical Sciences:

- Homer W. Smith, Chairman, professor of physiology and director of physiological laboratories, New York University College of Medicine, New York, N. Y.
- Austin M. Brues, associate professor of medicine, University of Chicago, Chicago, Ill.
- Sam L. Clark, professor of anatomy, Vanderbilt University, Nashville, Tenn.
- Hymer Louis Friedell, professor of radiology, Western Reserve University, Cleveland, Ohio.
- Joseph G. Hamilton, assistant professor of medicine and radiology, University of California, Berkeley, Calif.
- Roy R. Kracke, dean, School of Medicine, University of Alabama, Birmingham, Ala.

#### Postdoctoral Fellowship Board in Biology and Agriculture:

- R. G. Gustavson, Chairman, chancellor, University of Nebraska, Lincoln, Nebr.
- H. K. Hartline, professor of biophysics, Johnson Research Foundation, University of Pennsylvania, Philadelphia, Pa.
- G. Evelyn Hutchinson, professor of zoology, Yale University, New Haven, Conn.
- William J. Robbins, professor of botany, Columbia University, director of New York Botanical Gardens, New York, N. Y.
- L. J. Stadler, professor of field crops, University of Missouri, Columbia, Mo.

#### Predoctoral Fellowship Board in the Physical Sciences:

- Henry A. Barton, Chairman, director, American Institute of Physics, New York, N. Y.
- John C. Bailer, Jr., professor of chemistry, University of Illinois, Urbana, Ill.
- Tom W. Benner, professor of physics, Rice Institute, Houston, Tex.
- William J. Buchta, professor of physics and chairman, department of physics, University of Minnesota, Minneapolis, Minn.
- G. A. Redlund, professor of mathematics, University of Virginia, Charlottesville, Va.
- Charles C. Price, professor of chemistry and head, department of chemistry, University of Notre Dame, Notre Dame, Ind.

#### Postdoctoral Fellowship Board in the Physical Sciences:

- Roger Adams, chairman, professor and head, department of chemistry, University of Illinois, Urbana, Ill.
- Carl D. Anderson, professor of physics, California Institute of Technology, Pasadena, Calif.
- Kenneth T. Bainbridge, professor of physics, Harvard University, Cambridge, Mass.
- George Clockler, professor of physical chemistry and head, department of chemistry and chemical engineering, State University of Iowa, Iowa City, Iowa.
- William W. Rubey, principal geologist, United States Geological Survey, Washington, D. C.
- Marshall M. Stone, Andrew MacLeish Distinguished Service professor of mathematics, and chairman, department of mathematics, University of Chicago, Chicago, Ill.

These fellowship boards were chosen by the National Research Council particularly with a view to their ability to evaluate the scientific promise and moral character of prospective fellows. In considering applications, the fellowship boards have before them confidential reports on the candidate which are received

from men of proved scientific ability who are familiar with the candidate and in whom the fellowship boards have confidence. In addition, in the case of the postdoctoral fellowships in the medical sciences, the candidate is also interviewed by a member of the fellowship board. In the deliberations of the fellowship boards, we understand that careful consideration is given to the question of character.

Before any fellow is given access to restricted data or permitted to work on a Commission project where security clearance is normally required, the usual AEC security clearance must be obtained.

On the other hand, if the fellow does not have access to restricted data or does not work on a Commission project where security clearance is normally required, it is our policy that security clearance need not then be obtained. Some of the reasons underlying this policy are enumerated below.

(a) The Commission has confidence in the methods of selection followed by the National Research Council, which are in line with the experience accumulated by the Council over the last 25 years in handling National Research Council fellowships.

(b) To a large extent, the work to be done under the fellowships will not involve access to restricted data, and the fellows will receive training in fields which are and will remain proper fields for unclassified work in which security clearance will not be necessary.

(c) The requirement for full background investigation and security clearance would place a heavy administrative burden on the fellowship program, and such a requirement appears inadvisable except where it will genuinely serve the interests of security.

Attached for your information is a letter dated July 27 from NRC setting forth their views in this regard.

In your July 30 letter you pointed out that unless an investigation is performed at the outset, it is conceivable that a person may receive a fellowship award who would not be eligible for employment in the atomic energy program. Since it is our policy that fellows will receive security clearance only when they have access to restricted data or work at classified projects, we recognize the possibility of a fellow being barred from certain work after he has received his fellowship. We have considered this carefully and have decided that the interests of the fellowship program as a whole will best be served by the policy we have outlined. It is our firm conviction that by pursuing this policy we will obtain more qualified fellows and achieve fuller cooperation from the scientific community of this country than would be the case if we adopted the principle of requiring security clearances at a time when it is contemplated that fellows will not have access to restricted data.

Furthermore, in terms of expense, it must be recognized that security investigations are costly, and that the cost of these investigations will be kept to a minimum when they are carried out only when the particular person is to have access to restricted data. It is probable that many of the fellows will always be engaged in unclassified work, so that the costs of security investigations as to them could well be an unnecessary expense to the Government if undertaken prior to the award of the fellowships.

One applicant in the field of medical research, who was selected by the postdoctoral fellowship board as having outstanding ability and awarded a fellowship, had applied to work in the Berkeley Laboratory of the University of California, where he would come in contact with restricted data. A security check developed that derogatory information existed. In this case, arrangements have been made for the individual to carry on his fellowship work at a hospital where it is believed that no possible questions of security would be involved. Our Director of Biology and Medicine, who has carefully considered this case, is of the opinion that this particular individual shows sufficient scientific promise to give grounds for believing that the country will obtain a good return on its investment in his fellowship award.

It is the Commission's view that the selection procedures outlined in this letter are procedures well adapted to furthering the needs of the atomic energy program, and that they should continue to be followed, subject to such modifications as may be desirable in the light of further experience. Procedures along these general lines are believed to strike a satisfactory balance between the traditional ideals of scientific freedom, long proved to be essential to productive thought within the framework of democracy, and the special requirements which the national interest dictates shall be observed in the atomic energy program.

Sincerely yours,

UNITED STATES ATOMIC ENERGY COMMISSION,  
DAVID E. LILIENTHAL, *Chairman*.

JANUARY 12, 1949.

Mr. DAVID E. LILIENTHAL,  
*Chairman, United States Atomic Energy Commission,  
Washington, D. C.*

DEAR MR. LILIENTHAL: On July 30, 1948, I addressed a letter to the Commission inquiring as to the procedure followed by the Commission in the selection of fellows for the Commission's fellowship programs. The specific question which I raised was whether or not candidates for fellowships were investigated as to their character, loyalty, and associations prior to the granting of such fellowships. I pointed out that in the absence of the investigation it was possible that the Commission might one day find itself in the position of having expended Government funds for the education of a potential subversive who could not be utilized on any restricted phase of our atomic energy program.

By letters dated August 4 and October 11, 1948, the Commission has clarified the procedures which are being followed in the selection of these fellows and the joint committee has been informed of the policy decision by the Commission not to require investigations as to the character, loyalty, and associations of applicants prior to the granting of a fellowship.

In the interim period between the establishment of the fellowship program and the setting up of this policy by the Commission I am informed by the staff of the joint committee that some fellowship applicants were investigated. Since the records of these investigations are, of course, included in the Commission files, it would be presumptuous of me to call your attention in detail to the substantial derogatory information which has been disclosed upon some of the candidates who were subsequently authorized to receive Government stipends. However, to take one example—i. e., the case of (name deleted)—a situation now exists where public funds are being expended for the education and training of a specialist in the nuclear field who is potentially subversive and whose record surely precludes his utilization on any restricted phase of our atomic energy program.

There are other cases where the investigations revealed Communist membership or long association with potential subversive organizations to such a degree as to cast reasonable doubt and strong suspicion upon their desirability.

Since only a few of the present fellows were investigated before the Commission inaugurated the policy of not requiring investigations, the Joint Committee on Atomic Energy has no way of knowing how many of the rest of the present fellows have similar proclivities.

I realize that the decision not to require prior investigations as to the character, loyalty, and associations of these fellows is an administrative decision of the Atomic Energy Commission but I must reiterate that in my personal opinion, when the facts are known, the expenditure of Government funds for the education of a Communist is indefensible and could easily subject our atomic energy program to justified criticism.

This is a matter which I intend to call to the attention of the joint committee at its first session.

Very truly yours,

B. B. HICKENLOOPER,  
*Chairman, Joint Committee on Atomic Energy.*

Mr. LILIENTHAL. It was the opinion of the National Research Council, and of the scientific advisers and staff with whom the Commission consulted, including Dr. Shields Warren, from whom I hope the committee will hear today, that the extension of the investigative process to nonsecret study and research would seriously threaten the interests of the fellowship program as a whole and therefore of scientific progress. More than that, the introduction of security procedures into nonsecret fields, it was feared, would establish a precedent of grave and far-reaching consequence to our scientific and educational system.

The nonsecret research and training work in science carried on under this fellowship program is but a small part of the education and research now financed wholly or in part with Federal funds. Every educational institution in the country, and thousands of students and teachers, are concerned in education under the GI Bill of

Rights, in nonsecret research financed by funds from the agencies of Government, including the National Military Establishment.

The proposed National Science Foundation, and the proposed program for \$300,000,000 annually in educational aid to the States, would greatly widen the range of influence of Federal funds, and therefore increases the potentialities of an error in the decision in this matter.

There would appear to be no question of national security at issue here. The sole question, it seems to us, is how best to operate a fellowship program so as to advance the scientific assets of the country. As I have indicated, it was the conviction and experience of the best-qualified people in the country we could find, a conviction with which we agree, that the Nation will get the most return from its investment by adhering to the procedures for the development of scientific talent tested in the past, and not by adding to these investigations of students engaged in nonsecret studies.

In view of the interest in this question in the scientific and educational community of the country, and of the very great importance, Mr. Chairman, that their confidence and respect and adherence to this program, and other scientific programs of government, be not lost, and because they may well have suggestions to offer that will be helpful to the committee and to the Commission, we respectfully suggest that the Commission may wish to invite the views of representative scientific and educational leaders.

I would say, in conclusion to this general statement, that the Commission is well aware that this is a difficult question. The National Research Council and our staff are anxious to find an answer that will not run counter to the firmly held views of the scientific community upon which this program and other programs depend; and at the same time to take care not to run counter to those deeply held feelings that almost all people have about the payment of public funds to those people who avow, or are discovered to have, views completely antagonistic to those held by this Government and the Constitution.

We see no easy solution. If we can't rely on the judgment of a private, nongovernmental agency, the National Research Council, to select these fellows on the basis of ability and of their indications of great promise in the future, and without the consideration of the political and economic views of such potential fellows, we fear it would invite the danger of the Federal Government itself tying strings related to political and economic views and opinions to educational funds. On the other side, there are the obvious objections involved in some of these particular cases, in which it is proposed on the part of the National Research Council to award fellowships to individuals who have views that at this stage in their lives certainly are completely contrary to the views of most of us, and the purposes of this Government.

As I have said, Dr. A. Newton Richards, the president of the National Academy of Sciences, is here today, and Dr. Shields Warren, and my colleagues, Commissioners Strauss and Pike, and the General Manager, and they will be glad to try to answer questions. I would hope that before the end of the afternoon, in view of the fact that Dr. Richards is from out of town, he might be heard.

The CHAIRMAN. We will endeavor to get to him.

I think it would be well, since you have referred to the National Research Council, for me to read into the record a very short paragraph [reading]:

The National Research Council was organized in 1916 by the National Academy of Sciences under the congressional charter of the Academy. Its organization was requested by President Wilson as a measure of national preparedness. The National Research Council was perpetuated by the National Academy of Sciences on April 29, 1919, in response to President Wilson's further request as expressed in Executive Order 2859, dated April 11, 1918, with duties as prescribed in the order.

Mr. LILIENTHAL, I call your attention to page 14 of the act, under (B), subsection (ii) [reading]:

Except as authorized by the Commission in case of emergency, no individual shall be employed by the Commission until the Federal Bureau of Investigation shall have made an investigation and report to the Commission on the character, associations, and loyalty of such individual.

You stated in the course of your remarks that the Commission had given consideration to the procedures by which these selections were made. Did you consider this section of the act as bearing upon the method of selection?

Mr. LILIENTHAL. Yes; in this sense, Mr. Chairman: The question was raised, of course, as to whether the recipients of these awards, these fellows, are employed by the Commission. And you were advised they were not employed by the Commission.

The CHAIRMAN. I would be interested in the opinion on that. I think the average layman reading it might come to a contrary conclusion. Could you give us the basis upon which, or the reasoning upon which, that finding has been made?

Mr. LILIENTHAL. I am unable to. Mr. Volpe is here, and we might also put into the record at this point a memorandum of law on this and related questions. There are other questions of a similar character.

The CHAIRMAN. Have you got it with you, Mr. Volpe?

Mr. VOLPE (Joseph Volpe, Assistant General Counsel, AEC). Yes; we have.

The CHAIRMAN. I think you will agree that that is a basic question. If the legal interpretation of this section would include "stipends," as I believe you called it, then the Commission would have no right to exercise any jurisdiction at all. And it is mandatory; they had to have these boys investigated.

Mr. LILIENTHAL. That is correct.

The CHAIRMAN. While he is locating that opinion: How many fellowships have been granted to date?

Dr. WARREN (Dr. Shields Warren, Director of Biology and Medicine, AEC). There have been 497 granted to date, Senator McMahon.

The CHAIRMAN. How many have been investigated by the Federal Bureau of Investigation?

Dr. WARREN. I believe my information is correct that there are 103. I would like an opportunity to verify that. These were men who were intending to work in fields in which there was classified or restricted data, actually.

The CHAIRMAN. In other words, do I understand that all of the men who, it was anticipated, would engage in secret research were investigated by the Federal Bureau of Investigation?

Dr. WARREN. Yes; all such were investigated. It is also my memory that there were some 48 others who were investigated in a

very early stage of the program, in an effort to determine what sort of individuals were applying for these fellowship programs, and to determine the way in which security clearance might be a factor one way or the other.

The CHAIRMAN. Then do I gather that you desisted after you had begun the program of investigation; that you desisted and changed your policy?

Dr. WARREN. I do not think that it was actually a change in policy, sir. It was simply an experiment carried out initially before the policy had been finally set.

The CHAIRMAN. It has always been, and I am sure will always be, the policy of this committee not to try anybody in absentia. There has been a question raised as to one other in addition to Mr. Freistadt, and I think it would be well if his name should remain unknown at the present time until we can determine what course we are going to take in the future. I think it is fair to mention Mr. Freistadt, because he has chosen to give out interviews in the press, and he has chosen to state his opinions.

Was he investigated by the FBI?

Dr. WARREN. So far as I know Mr. Freistadt has not been investigated by the FBI.

The CHAIRMAN. He was one of those who came in after the policy of investigating was stopped?

Dr. WARREN. Yes; that is correct.

The CHAIRMAN. He had to have recommendations to get into the program, did he not?

Dr. WARREN. He did, sir. He had to have three recommendations from recognized scientists in the universities under whom he had worked.

The CHAIRMAN. And were those recommendations furnished?

Dr. WARREN. Those recommendations were furnished.

The CHAIRMAN. By professors of what university?

Dr. WARREN. The Virginia Polytechnic Institute, and the University of North Carolina.

Representative DURHAM. Could you give us the names?

Dr. WARREN. I can.

May I refer to Dr. Richards for the names of the men recommended?

# STATEMENT OF DR. A. NEWTON RICHARDS, PRESIDENT, NATIONAL ACADEMY OF SCIENCES

Dr. RICHARDS. Professor Rosen, the head of the department of physics of the University of North Carolina, Associate Professor Bowers in the same institution, and Professor Wright of the Virginia Polytechnic Institute.

The CHAIRMAN. Now, have I got that right? Professor Rosen?

Dr. RICHARDS. Rosen, R-o-s-e-n.

The CHAIRMAN. Professor Bowers? And they were both of North Carolina?

Dr. RICHARDS. Yes.

The CHAIRMAN. And Professor Wright of the Virginia Polytechnic Institute.

Dr. RICHARDS. Yes.

The CHAIRMAN. What was their opportunity for knowing Freistadt?

Dr. RICHARDS. I will have to refresh my memory for a moment, Mr. Chairman, but I think I can do it quickly.

Representative DURHAM. Could you give us the initials of those professors?

Dr. RICHARDS. I will. Mr. Freistadt worked at the University of North Carolina from 1946 to 1948, and he worked at the University of Chicago from 1942 to 1944. He was in the service from 1944 to 1946.

The CHAIRMAN. Whereabouts?

Dr. RICHARDS. In ASTP. That means Army Students Training Corps.

The CHAIRMAN. Where did he spend his time on that?

Dr. RICHARDS. I am not sure, Mr. Chairman. I had better not guess.

The CHAIRMAN. He was not investigated by the Federal Bureau of Investigation, was he?

Dr. RICHARDS. Not to my knowledge.

The CHAIRMAN. From 1946 to 1948 he was at the University of North Carolina. From 1942 to 1944 he was at Chicago. And in the middle years, 1944 to 1946, he was in the Army students training program.

Dr. RICHARDS. Yes. And as such, he was a member of the Army of the United States. Three-quarters of the time he was in that Army students training program.

Representative COLE. Mr. Chairman, I did not understand the Doctor's response. Three-quarters what?

Dr. RICHARDS. I have a note here. I can get it absolutely correct by getting the original document.

Representative COLE. I just did not understand what it was you said, Doctor. I was not asking for amplification.

Dr. RICHARDS. His statement here is in answer to the question as to a brief outline of wartime research, military or other Government service during World War II. The answer is, "Army of the United States, 1944 to 1946 (three-quarters ASTP) inclusive."

The CHAIRMAN. What are you reading from, Doctor?

Dr. RICHARDS. I am reading from a photostat of his application for a fellowship.

The CHAIRMAN. Could I see that?

Dr. RICHARDS. Certainly.

The CHAIRMAN. Was there any mention by these three professors who recommended him, or any comment as to his loyalty?

Dr. RICHARDS. No comment as to his loyalty. He had, of course, to take an oath of allegiance when he joined up, in 1944.

The CHAIRMAN. One of these gentlemen said that in his judgment the candidate was of excellent character and personality. Another one said: "I believe candidate is of good character. He does not have an outstanding personality. If he has any physical handicaps, I am not aware of them." Another one: "He has a pleasant personality, is serious and conscientious, leads a sober, well-regulated life, has strong will power and the courage of his convictions."

It goes on to say that he is a man of his word and unusually efficient and reliable in carrying out the assigned tasks.

Have you, since this question has been raised, been in touch with any of these three men?

Dr. RICHARDS. No, sir.

The CHAIRMAN. Do you not think it is somewhat unusual that they recommended him for a fellowship, in the light of what has now developed?

Dr. RICHARDS. In retrospect; yes.

Representative DURHAM. In other words, Doctor, you do not believe in educating Communists?

Dr. RICHARDS. That question I hope I will not be required to answer by "Yes" or "No."

Representative COLE. Mr. Chairman, may we have the considerations which the doctor has in mind when he requests that he not be required to answer the question categorically?

Dr. RICHARDS. I will be glad to.

May I interject this, before I answer the gentleman's question: I have prepared a short general statement, yesterday afternoon, as a matter of fact, which I hoped to be able to read before questions came to me. However, I am at your disposal.

The CHAIRMAN. I think it is all right, Doctor, that you be permitted to read your statement. We will probably be back to that question, though.

Dr. RICHARDS. I haven't the slightest doubt that you will.

With your permission I would like to say that I approached this hearing not in any sense to speak for the National Academy of Sciences.

I have been a teacher in schools of medicine at three universities for 41 years, and more recently vice president of one of them, the University of Pennsylvania, and have had the experience that came from chairmanship of the Medical Research Committee of the Office of Scientific Research and Development during the war.

I was saying that I am in no way authorized to speak for the National Academy of Sciences, and I want to tell you, too, that in a sense, I am pinch-hitting for the Chairman of the National Research Council, because of his absence.

The National Research Council is the operating agency, as you have been told, of the National Academy, and as such the National Academy has to assume responsibility for what the Research Council does. But my next duty, of fellowship appointments, or considerations, has not been a direct one, and that is responsible for some of the hesitation that I may have in answering your question.

Here is the statement:

The question as I understand it is: Shall the young men and women who have been selected by the National Research Council to receive fellowships in the nonsecret study and research supported by Atomic Energy Commission funds be subjected to investigation as to their political beliefs or affiliations—specifically their attitude toward communism?

Security considerations are not involved. Any AEC fellow, who is to be placed in an institution in which he would have contact with or access to secret data, must be investigated and obtain formal, official clearance.

The vast majority of fellowships already awarded—and I am confident that this will be true of those of the future—are given in fields of study and research which are nonsecret—fundamental physics,

mathematics, medicine, biology, agriculture, metallurgy—fields in which all agree that the free exchange of results by publication is in the national interest. The official announcement of the fellowships contains the statement that—

the research to be pursued by a Fellow should preferably be conducted with a problem which will permit unrestricted publication of results.

As I understand it, the primary purpose of the Atomic Energy Commission in financing fellowships is to recruit into new and fertile areas of investigation in the physical, medical, biological, agricultural sciences which have been opened up by developments in nuclear physics, young men and women of unusual ability and promise in large numbers. Thus the advance of knowledge in those sciences shall be accelerated for the good of the whole people—indeed of the whole world. It is not the sole purpose to train young scientists to go to work in the Government-financed atomic energy programs, though it is expected that some will go into this program.

My approach to the question of whether investigative procedures should be applied to young people who might enter nonsecret study and research is influenced by the fact that the greater part of my life has been spent in teaching and research; and by the knowledge which I have thus acquired of the character and qualities of mind of just such young people as those who have been and will be selected for Atomic Energy Commission fellowship awards.

Understand that the very small fraction of our population who are eligible for these fellowships is made up of unusual individuals. Their mental qualifications have been found to be exceptionally high; commendatory references have been obtained from their professors with whom they have worked; they have become enamored of science and are preparing to devote their lives to it. Their devotion to science implies curiosity, love of nature, and desire to understand her laws, sincerity, honesty, and devotion to truth. It implies eagerness to explore new fields, to learn something which no one else at the time knows and to contribute such knowledge as they may gain to the common pool.

Suppose there is a Communist among those selected, and that he receives a fellowship. Whether or not he can be used in secret governmental projects, his training will have added one more to the group—now far too small—of those capable of utilizing knowledge of nuclear energy and of its products in the advancement of medicine, biology, agriculture, and, at need, could release for Government classified service another who possessed no disqualifications. The country will have been the gainer by his training. That is point No. 1.

Next, I hope you will consider what the effect upon future applicants will be, if a rule be made that each successful applicant shall be subjected to an investigation of his political and social views. If not generally known now, it would soon become generally known that the information collected about an individual in such an investigation is not limited to probable facts, but of necessity includes hearsay accounts of associations, of the opinions or suspicions of neighbors or companions possibly colored by personal prejudice—

The CHAIRMAN. Doctor, can I interrupt you right there?

Dr. RICHARDS. Certainly.

The CHAIRMAN. Of course, an applicant for a United States attorney's job takes the same kind of a report. You realize that. In other

words, if the Attorney General is going to designate John Brown to be an assistant United States attorney for the district of Philadelphia, before he is sworn in as assistant district attorney there is an investigation made by the FBI of his character, loyalty, and associations. That is so for every employee of the Federal Government, as I understand it.

Dr. RICHARDS. Yes.

The CHAIRMAN. Is that not true?

Dr. RICHARDS. Yes. I would certainly agree with you. But we are not now talking about employees of the Federal Government.

The CHAIRMAN. Of course, I have just been looking at this opinion, which is quite a lengthy opinion, from Mr. Volpe. I think it is quite an important matter in this proceeding. I have great respect for Mr. Volpe, who is associate general counsel, but I certainly want to read this opinion very carefully, in which he comes to the conclusion that they are not within the operations of the provisions of the act that I read to Mr. Lilienthal.

You are proceeding, however, now, on the basis that there is no question about that at all, and that they are not employees under the law.

Dr. RICHARDS. I am not maintaining that I am competent to decide such a question. I do know, however, that these stipends are not taxable.

The CHAIRMAN. They are not taxable?

Dr. RICHARDS. No.

The CHAIRMAN. That has been ruled on by the Bureau of Internal Revenue?

Dr. RICHARDS. Yes.

The CHAIRMAN. Are they not taxable as gifts?

Dr. RICHARDS. Gifts are not taxable except through gift tax.

The CHAIRMAN. Of course, there is an exemption of a certain amount. The exact amount, I am not aware of. The gift tax supplements the income tax.

Dr. RICHARDS. Who, in this case, would pay the gift tax?

The CHAIRMAN. I am not worried about that. What I am trying to find out is whether you are assuming, as you start your statement, or as you proceed, that the legal conception of these men as not being employees of the Federal Government is correct.

Dr. RICHARDS. Yes, I have to assume that, on the basis of such knowledge as I possess.

The CHAIRMAN. And it is upon that distinction that you rest your opinion that it is not necessary to have these men examined by the Federal Bureau of Investigation?

Dr. RICHARDS. Yes, sir. Shall I proceed?

The CHAIRMAN. Yes.

Dr. RICHARDS. I was about to say that knowledge that successful applicants were to be subjected to FBI investigation would, I believe, act to deter sensitive young people, some of them desirable, from applying.

The FBI does not, as I understand it, pronounce a judgment; it simply provides data upon the basis of which the agency at interest would judge. The decision would have to be made by the Atomic Energy Commission. The National Research Council, not being a Government agency, ought not to be empowered to make such a

decision, and if empowered should not accept the responsibility as not being within its competence. The Atomic Energy Commission would therefore be faced with decisions, extraordinarily difficult in some cases, whether a leaning, an association, a tendency to be critical of some of the weaknesses in our form of government constituted a basis for disqualification.

The effect of a disqualification by AEC of a successful applicant on political grounds, would be a stigma—a wound—which would be apt never completely to heal—and it would be given at an age at which it could well produce the greatest degree of damage. It is intolerable to me to think that in order to assure our taxpayers that their money is not being spent in the training of Communists, we must subject a most precious part of our intellectual resources to the risk of hurt involved in such investigation, where no question of security is involved.

If saving of taxpayer's money is an issue, a balance should be drawn between the cost of conducting FBI investigations of the hundreds of successful applicants and the cost of the fellowships for the one or two per hundred who might be disqualified. Is it wise to spend thousands in an effort to avoid an expenditure of hundreds—particularly when one cannot be sure that the expenditure of the hundreds would not be a good investment?

Senator KNOWLAND. Mr. Chairman, right at that point, might I interrupt the doctor to ask a question?

The CHAIRMAN. Yes.

Senator KNOWLAND. You say, Dr. Richards, that one per hundred or so, might be discovered by such an investigation as made in the case of the 103, plus the 48 others who, it has been testified, have been investigated. How many of those, was it indicated, did have Communist affiliations?

Dr. RICHARDS. May I ask Dr. Warren to answer?

Dr. WARREN. There is one in that group who had not had proven against him the matter of membership in the Communist Party, but who, it was proved, had very strong Communist associations. I think in addition there were two others with Communist associations. I would like to check those figures, briefly.

Senator HICKENLOOPER. Just for the record, Doctor: If you and I are thinking of the same case, and one which we discussed at one time, I think the cell to which that man belongs, and I think the cell to which his wife belongs, is known and is in the record.

Dr. WARREN. Thank you very much, Senator.

Senator HICKENLOOPER. That is my belief; I believe the record will bear that out.

The CHAIRMAN. You fully agree, Senator, that we should not mention any names?

Senator HICKENLOOPER. I have no intention of bringing out anybody's name here unless, under other circumstances, it may be absolutely necessary. But I do not believe in unnecessarily bringing out names.

The CHAIRMAN. I knew that that was your position. I just wanted to make it clear so that we can all realize the restrictions, self-imposed, under which we are operating, at least for the present.

Senator HICKENLOOPER. I felt free to mention this to Dr. Warren, because we had had a specific discussion about this case.

The CHAIRMAN. I think that is perfectly all right.

Senator HICKENLOOPER. So we can talk about names here, and about whom we are speaking.

Senator KNOWLAND. As I understand it, in the 151 cases that have been investigated, according to your testimony, there were only three that the FBI indicated had Communist affiliations. Is that the testimony? I want to be clear in my own mind.

Dr. WARREN. As far as I can recall, there are two, Mr. Freistadt and one other, in which the Communist affiliation is definitely established. There are, I think, two additional in which Communist association enters into the picture but affiliation does not.

Senator HICKENLOOPER. Mr. Freistadt was not investigated, however?

Mr. WARREN. We received, after Mr. Freistadt's award had been announced, a report from the FBI which stated that they had certain information that indicated that he was a member of the Communist Party. That was not done as a matter of routine investigation, but was information that was sent by the FBI when the award was announced.

Representative DURHAM. Was that before the award was announced, Doctor?

Dr. WARREN. It was after the award was announced, as far as I am aware. Let me check that with Mr. Volpe, please.

Was that before or after the announcement of the award that we received that FBI information?

Mr. VOLPE. I believe it was after the announcement.

Representative DURHAM. Did you ask for that report from the FBI in the Freistadt case?

Mr. VOLPE. I believe not.

Representative COLE. How soon after the award was the report submitted to the Commission?

Mr. VOLPE. I don't know that.

Representative COLE. Would you mind getting the date and putting it in the record?

Mr. VOLPE. Yes.

(The information referred to is as follows:)

UNITED STATES ATOMIC ENERGY COMMISSION,  
May 25, 1949.

To: Joint Committee on Atomic Energy.

From: David C. Acheson, Office of General Counsel.

On Wednesday, May 25, 1949, the Joint Committee on Atomic Energy called and requested confirmation of the date on which the FBI report on Freistadt was submitted to the Commission and information as to whether an opinion of the General Accounting Office was rendered on the legality of the expenditure of funds for the fellowship program.

I am told by our Security Division that the report on Freistadt was delivered to the Division of Security on April 20, 1949.

The General Accounting Office did not render a formal ruling on the expenditure of funds for the fellowship program, nor was one requested. Mr. Lillenthal appears to have been referring to an informal discussion between representatives of GAO and members of the Commission's staff.

The CHAIRMAN. I would like to place in the record Mr. Volpe's opinion on the nonapplicability of the act to these fellowships.

(The opinion referred to is as follows:)

### NONAPPLICABILITY OF McMAHON ACT TO FELLOWSHIPS

UNITED STATES ATOMIC ENERGY COMMISSION,  
Washington 25, D. C., May 17, 1949.

HON. BRIEN McMAHON,  
Chairman, Joint Committee on Atomic Energy,  
Senate Office Building, Washington 25, D. C.

DEAR SENATOR McMAHON: During yesterday's hearings relating to the Commission's fellowship program you requested that memoranda discussing certain legal questions be furnished for the information of the Joint Committee on Atomic Energy. Accordingly, you will find enclosed the following memoranda:

1. A memorandum dated August 23, 1948, from the associate general counsel to the Commission, considering the question whether there was any requirement of law that security clearance procedures be established for persons receiving the fellowships.

2. A memorandum prepared in the Office of the General Counsel, dated January 22, 1948, relating to the statutory basis for the Commission's fellowship training program in the field of atomic energy as applied to medicine and biology. You will recall that this phase of the fellowship training program was approved by the Commission prior to the research fellowship program. The research fellowship program, which received the Commission's approval on January 28, 1948, provided that each of the fellowships granted should be for research within the fields specified by section 3 (a) of the Atomic Energy Act of 1946.

3. A memorandum dated May 16, 1949, prepared in response to your request at yesterday's hearing, which deals at greater length with the reasons why persons granted fellowships are not employees of the Atomic Energy Commission and why section 102 of the Supplemental Independent Offices Appropriation Act, 1949, is inapplicable to them.

Sincerely yours,

JOSEPH VOLPE, Jr.,  
Associate General Counsel.

UNITED STATES ATOMIC ENERGY COMMISSION,  
Washington, D. C., August 23, 1948.

Memorandum

To: The Commission.

From: Joseph Volpe, Jr., associate general counsel.

Subject: Security clearance of fellows.

This memorandum is submitted in response to the Commission's request for the opinion of the Office of the General Counsel as to whether there is any statutory requirement for security clearance of individuals who are awarded AEC fellowships by the National Research Council. The facts as we understand them are briefly as follows:

The Commission early this year approved the inauguration of two fellowship programs to be administered by the National Research Council. One of these programs is a fellowship training program in the field of the application of atomic energy in biology and medicine; the other is a research fellowship program in the fields of science basic to atomic research and development, within the scope of section 5 (a) of the Atomic Energy Act of 1946. The National Research Council was selected as the contractor for the administration of these fellowship programs, because, as the Commission has previously informed the Joint Committee on Atomic Energy, the Council has a long and distinguished record in administering fellowship programs, and it was felt that the fellowship programs would benefit from the Council's administrative experience and at the same time the Commission would be free from the burdens of detailed administration. Pursuant to arrangements which have been worked out with the National Research Council (a definitive contract, superseding an earlier letter contract, was executed in August) the Council has undertaken the administration of these two fellowship programs on a reimbursable, no-fee basis. In order to assure the selection of qualified fellows, the National Research Council has established fellowship boards which review the applications received, together with reports (which include information on character and personality) on the applicant which are obtained from persons given as references; in the case of postdoctoral fellowships in the medical sciences, the applicant is also interviewed by a member of the board. The National Research

Council has informed the Commission that these selection procedures are in line with the experience accumulated by the Council over the last 25 years in handling National Research Council fellowships.

The Commission is now in receipt of a letter dated July 27, 1948, from the National Research Council, inquiring as to the policy of the Commission regarding security clearance of fellows. The letter states that it is the general, and possibly the unanimous, hope of the members of the Council's fellowship boards that a man should not be barred from participation in the fellowship program because he cannot be cleared; and that it is felt that objections would be encountered with serious consequences if the mere participation in the academic study and research under these fellowships were made conditional on security clearance. The letter recognizes that security clearance would be necessary in the event that a fellow were to have access to restricted data.

It is also our understanding that this question as to security clearance has an immediate importance because, in the case of one of the persons to whom a fellowship award has been announced, information from existing FBI reports indicates probability that the individual is or has been a Communist.

The security provisions of the Atomic Energy Act of 1946 are directed primarily at safeguarding "restricted data" as defined by section 10 (b) (1) of the act. Thus, section 10 (a) states that—

"It shall be the policy of the Commission to control the dissemination of restricted data in such a manner as to assure the common defense and security."

By section 10 (b) (5) (B) (i), provision is made for security clearance by the Commission, after receipt of a report of investigation from the Federal Bureau of Investigation, for persons permitted access to restricted data; this provision is by its terms inapplicable to a fellow who would not have access to restricted data. In addition, section 10 (b) (5) (B) (ii) contemplates the security clearance of all persons who are employed by the Commission, regardless of whether they have access to restricted data. In view of the fact that persons awarded fellowships are in no sense in an employment relationship to the Commission, this provision is likewise inapplicable. Accordingly, in our opinion, the Atomic Energy Act of 1946 does not require that the Commission make the awarding of a fellowship conditional on security clearance, in cases where the fellow will not have access to restricted data during the course of his fellowship.

The next question to be considered is whether there are any other applicable statutes which would prohibit reimbursement of the National Research Council for its expenditures in paying out, pursuant to its contract with the Commission, a fellowship award to a person who is a Communist. Section 102 of the Supplemental Independent Offices Appropriation Act, 1949 (the act which contains the Commission's appropriation for the fiscal year 1949), incorporates the following provision which has appeared in appropriations acts for a number of years:

"Sec. 102. No part of any appropriation contained in this Act shall be used to pay the salary or wages of any person who engages in a strike against the Government of the United States or who is a member of an organization of Government employees that asserts the right to strike against the Government of the United States, or who advocates, or is a member of an organization that advocates, the overthrow of the Government of the United States by force or violence: *Provided*, That for the purposes hereof an affidavit shall be considered *prima facie* evidence that the person making the affidavit has not contrary to the provisions of this section engaged in a strike against the Government of the United States, is not a member of an organization of Government employees that asserts the right to strike against the Government of the United States, or that such person does not advocate, and is not a member of an organization that advocates, the overthrow of the Government of the United States by force or violence: \* \* \*

It is believed that this provision is probably applicable by its terms only to the salary or wages of persons who are direct employees of the Government, and that it accordingly would be inapplicable to the reimbursement of a Government contractor for expenditures made by him for salaries and wages pursuant to his contract. In any event, it is our opinion that a fellowship award cannot properly be considered "salary or wages" within the meaning of this statute, and consequently the restriction would not by its terms be applicable.

A related statute is section 9A of the Hatch Act (18 U. S. C. 61 (i)), which provides as follows:

"(1) It shall be unlawful for any person employed in any capacity by any agency of the Federal Government whose compensation, or any part thereof, is paid from funds authorized or appropriated by any Act of Congress to have membership in any political party or organization which advocates the overthrow of our constitutional form of government in the United States."

As appears from a recent opinion of the Attorney General dated May 27, 1948 (see Annex), the Communist Party is an organization which is to be considered within the scope of section 9A of the Hatch Act. The opinion of the Attorney General reviews a considerable body of evidence establishing a congressional intent to exclude from Government employment any person who is a member of the Communist, Fascist, or German Bund parties. It is to be noted, however, that section 9A of the Hatch Act by its terms is applicable only to persons "employed in any capacity by any agency of the Federal Government." As indicated above in the discussion of section 10 of the Atomic Energy Act of 1946, an individual awarded a fellowship is not so employed, and hence is not subject to this provision of the Hatch Act.

From our examination of the Federal statutes, we have not found any provision which would require that a person who is a Communist be barred from an award of an AEC fellowship of the National Research Council, pursuant to the contract between the National Research Council and the Commission.

It is, of course, the statutory responsibility of the Commission, in determining the scope of its fellowship program, to approve such policies governing the selection of fellows as are consistent with the prudent expenditure of appropriated funds. It thus is a matter of policy, to be decided by the Commission after consideration of the many relevant factors, whether a requirement of security clearance of all fellows would or would not be in the best interests of the atomic energy program. On the basis of such consideration, it is for the Commission to determine whether there shall be a requirement of full security clearance, whether complete reliance shall be placed upon established selection methods of the National Research Council, or whether there shall be followed a middle course in which there is superimposed on the Council's selection methods some additional precaution.

JANUARY 22, 1948.

To: Joseph Volpe, Jr., Associate General Counsel.

From: Bennett Boskey.

Subject: Fellowship training program in the field of atomic energy as applied to medicine and biology.

This memorandum summarizes the results of the examination made of the Commission's statutory authority, in connection with our advising the Commission that in our opinion there is a proper legal basis for the proposed fellowship training program in the field of atomic energy as applied to medicine and biology.

The nature of this fellowship training program is set forth in some detail in the report presented to the Commission by the Division of Biology and Medicine. Its general outlines are given in the letter forwarded by the Commission to the Joint Committee on Atomic Energy, a copy of which is attached so that repetition of the facts in this memorandum is unnecessary.

In considering legislation applicable to other Government agencies, instances have been found where an agency was enabled by explicit statutory provision to carry on a fellowship or scholarship program. This has been the case, for example, with the United States Public Health Service (58 Stat. 685, 42 U. S. C. 209 (d); 58 Stat. 691, 42 U. S. C. 241). Similarly, the National Science Foundation bill, recently passed by the Congress and vetoed by the President (S. 1850, 79th Cong., 2d sess.), contained such provisions, as does the bill which has been reintroduced at the present session (H. R. 4852, 80th Cong., 2d sess.).

The authority of the Commission to inaugurate the proposed fellowship training program rests upon a broader base. Among the primary statutory responsibilities of the Commission are the conduct of research and the rendering of assistance to research conducted by others in specified fields (sec. 3 of the Atomic Energy Act of 1946), the production of fissionable materials (sec. 4), and atomic weapon research and production (sec. 6).

There should be noted particularly the strong emphasis which the Atomic Energy Act places upon the medical and biological phases of atomic energy. Of the five fields of research and development specified in section 3, two are directly related to biology and medicine, namely, "(3) utilization of fissionable and radioactive materials for medical, biological, health, or military purposes", and "(5) the protection of health during research and production activities."

In addition, section 3 (a) specifies that arrangements made pursuant to that section shall contain "such provisions to protect health, to minimize danger from explosion and other hazards to life and property \* \* \* as the Commission

may determine;" and section 4 (c) (2) provides that contracts for the operation of the Commission's production facilities shall contain provisions obligating the contractor to comply with all safety regulations which may be prescribed by the Commission. Section 5 (a) (4), which relates to the distribution of fissionable material, requires that applicants observe "such safety standards to protect health and to minimize danger from explosion or other hazard to life or property as may be established by the Commission;" and section 5 (c) requires that applicants for byproduct materials "observe such safety standards to protect health as may be established by the Commission." Similarly, section 7 (c), relating to utilization of atomic energy, requires that licensees be "equipped to observe such safety standards to protect health and to minimize danger from explosion or other hazard to life or property as the Commission may establish." Complementary to some of the provisions of the act just referred to is the authorization in section 12 (a) (2) for the Commission to "establish by regulation or order such standards and instructions to govern the possession and use of fissionable and byproduct materials as the Commission may deem necessary or desirable to protect health or to minimize danger from explosions and other hazards to life and property." Further, section 12 (a) (5) authorizes the Commission to "construct, acquire, provide, or arrange for such facilities and services (at project sites where such facilities and services are not available) for the \* \* \* health, safety \* \* \* of personnel employed by the Commission as it may deem necessary."

It is in light of these statutory responsibilities, and of the practical problems confronting the Commission, that the proposed fellowship training program should be examined. Experience has demonstrated the vital relation of biology and medicine to the successful conduct of these atomic energy activities. Health and safety requirements imposed by novel and special hazards of radioactivity and toxicity, for example, constitute a serious limiting factor on the research and production output at Commission installations. Adequate control of such hazards, and prompt development of new knowledge concerning them, is necessarily an urgent concern of the Commission.

As is indicated in the attached letter to the Joint Committee, the Commission has obtained the advice of some of the country's most distinguished scientists on the methods by which its responsibilities can best be discharged in the field of atomic energy as applied to medicine and biology. These scientists, including the group designated to serve as the Medical Board of Review, all have recommended that the Commission take measures to overcome the critical shortage of trained technical personnel in this field. After careful study of these recommendations by the Commission's staff, the Commission has determined that the inauguration of the fellowship training program is the most practicable way to meet this need for trained technical personnel.

It may be noted that many of the fellows under this training program will during the period of their fellowship, be themselves engaging in research and development activities in the fields specified in section 3 (a) of the Atomic Energy Act. It may also be noted that many of the fellows, particularly those receiving predoctoral training in health physics, will be undergoing a type of training somewhat similar to the occupational training which is provided for in other Government contracts with industrial concerns whose employees must receive special training before they can efficiently perform the job for which the contract calls.

The numerous provisions of the act specifically relating to health and safety and protection from hazards give emphasis to the statutory responsibility of the Commission to assure adequate development of the atomic energy program as applied to medicine and biology. Since such development is directly dependent upon a sufficient supply of technical personnel with the special training needed, the Commission is acting in the discharge of its statutory responsibility, in determining to inaugurate a fellowship training program which would vitally contribute toward obtaining a sufficient supply of such personnel.

It thus appears that the fellowship training program has as its objective the supplying of technical personnel with special training essential for the continued progress of the atomic energy program. The record provides a proper basis for the Commission to conclude that this action will make an important contribution to the major programs relating to atomic energy, as specified in section 1 (b) of the Atomic Energy Act. There is likewise a proper basis for the Commission's determination that the action comes within the direction of the Congress, in section 3 (a) of the act, that the Commission "exercise its power in such manner as to insure the continued conduct of research and development activities in the fields specified below."

MAY 16, 1949.

To: The Commission.  
From: Joseph Volpe, Jr., associate general counsel.  
Subject: AEC fellowship program.

This memorandum is prepared as a result of the request made at yesterday's hearing before the Joint Committee on Atomic Energy for more detailed information concerning the opinion previously rendered that persons awarded AEC fellowships are not employees of the Commission. It will be recalled that in my memorandum of August 23, 1948, it was concluded that such fellows are not employees of the Commission and that section 102 of the Supplemental Independent Offices Appropriation Act, 1949, was inapplicable to them.

The Commission's authority to appoint its employees is set forth in section 12 (a) (4) of the McMahon Act. It was contemplated, however, that the Commission would carry out only a portion of its responsibilities through its direct employees. The Atomic Energy Act authorized and directed the Commission, for example, to make arrangements for the conduct of research and development activities under section 3 (a) of the act, in order to assure the continued conduct of research and development activities by "private or public institutions or persons." The mere fact that funds appropriated by the Federal Government are used for carrying on the activities under such arrangements and contracts does not establish Federal employment status for persons who enjoy none of the incidents of Federal employment.

First, it should be noted that the fellows do not have an employment relation either to the Atomic Energy Commission or the National Research Council. The fellowship grants which they receive as a result of their selection by the National Research are neither salaries nor wages. In this connection, attention is invited to the fact that since 1925 the National Research Council has been administering its fellowships on the basis of a ruling it received from the Bureau of Internal Revenue that the recipients of fellowship grants awarded by the Council should not include the grants in the amounts of their taxable income; the basis for this ruling is the fact that the grants were to be regarded as gifts or gratuities, since the fellows who received them were not employed by the Council nor did they render services to the Council.

It is even clearer that the fellows selected by the National Research Council in the AEC fellowship program do not have an employment relation to the AEC. None of the incidents of Government employment attach to these fellows. They acquire no Government employment status; they do not obtain Government sick-leave or annual-leave rights; they do not participate in the Government retirement system; they do not receive compensation for injuries under the United States Employees' Compensation Act; they are not entitled to Federal overtime pay; their work is not supervised by the Commission.

Second, the AEC fellowship program is being conducted by the Commission through its contract with the National Research Council. The provisions of section 102 of the Supplemental Independent Offices Appropriation Act of 1949 do not extend to those persons whose sole relationship to the Commission is a derivative relationship through one of the Commission's contractors. Somewhat similar questions have previously been considered by the Comptroller General. In an opinion, dated August 13, 1946 (26 Comp. Gen. 111, 113), the Comptroller General ruled:

"With respect to point No. 3, the prohibition in the statute is against the use of the appropriation to pay the salary or wages of persons who engage in a strike against the Government of the United States or who are members of an organization of Government employees that asserts the right to strike against the Government. This language clearly indicates that it relates to Government employees whose salary or wages are payable directly from appropriated funds and was not intended to be extended to the employees of private contractors who may be engaged upon Government contracts."

In another opinion, dated July 26, 1948 (28 Comp. Gen. 54), the Acting Comptroller General ruled that the antistrike provisions of section 601 of the Labor-Federal Security Act of 1948 have no application requiring the submission of antistrike affidavits by State employees employed in State public employment offices supported by Federal grants. It may also be of interest to note rulings of the Comptroller General that the antistrike affidavit provisions are inapplicable to persons who, even though they were rendering services to a Government agency, did not have an employment relationship to that agency, in that they were not subject to direct supervision or administrative control of offices of the department. See the opinion, dated July 26, 1948 (28 Comp. Gen. 50), involving part-

time and intermittent physicians and dentists of the Public Health Service; and also the opinion, dated November 5, 1948 (28 Comp. Gen. 296), involving an alien lecturer who had a contract with the Department of State to prepare and deliver lectures on foreign languages.

By way of analogy, the Attorney General has ruled that the Hatch Act does not apply to persons who receive benefit payments such as old-age assistance and unemployment compensation under the Social Security Act, rural rehabilitation grants, and payments under the agricultural-conservation program. (See Circular No. 3301 of the Attorney General's Office, dated October 26, 1939, quoted in United States Civil Service Commission publication Political Activity and Political Assessments of Federal Officeholders and Employees, p. 8.) Similarly, it will be noted that the appropriations of the Veterans' Administration are, like those of the Atomic Energy Commission, subject to the provisions of section 102, and, so far as it is known, it has not been suggested that the veterans' benefits which that agency is charged with administering are "salaries or wages" within the meaning of section 102, or that the recipients of such benefits are Government employees.

The CHAIRMAN. I have no further questions to direct to Mr. Lilienthal, and Dr. Richards, although I may have some later.

Did you have a statement, Dr. Warren?

Dr. WARREN. I would like to speak, very briefly, sir.

The CHAIRMAN. You have a statement?

Dr. WARREN. Yes.

The CHAIRMAN. Before we get into your statement, it is necessary, I think, that the committee have the opportunity to address some questions to Dr. Richards.

Dr. RICHARDS. Mr. Chairman, I have one final paragraph.

The CHAIRMAN. I beg your pardon. I thought you had finished, Doctor. Go right ahead.

Dr. RICHARDS. I don't want to use more of your time than necessary.

The CHAIRMAN. Go right ahead. I thought you had finished.

Dr. RICHARDS. Not quite.

I have referred to the age of the group whose fortunes are being considered. It is made up of individuals at the beginning of professional careers devoted to the quest for truth. Must we not assume that that ideal will be their guide in social relations as well as scientific? They are not mature; and, if our social and political system is as worthy as we believe it to be, can we not assume that it will so prove itself to them as their experience broadens?

A third point—the most important that I have to present—seems to me to be this. If it is ruled that the Atomic Energy Commission fellowships cannot be granted to any except those who have successfully passed an examination of their economic and social views, a first step will have to be taken toward a disastrous intervention of Government in education. The press last week reported that one of the members of this committee expressed the view that if a National Science Foundation is created, he would advocate that an investigation should be conducted of the social and economic views of every applicant for a scholarship or fellowship granted by it. I believe, with all due respect to the patriotic impulse which animated the Senator, that such action would be a blow to the principles of freedom of thought on which this country was founded. It would introduce an element of educational procedure so closely akin to those by which the Russian bureaucracy controls science in that country as to be scarcely distinguishable from them.

The education and training of the young people of this country is the heaviest responsibility which the older generations of us carry.

Damage to a single unit of it is damage to the country; damage to such a specially qualified group as that of which we are speaking would, I think, be irretrievable.

The CHAIRMAN. Doctor, we are going to proceed with the questioning in order, taking Senator Hickenlooper and Mr. Durham. I would like, however, to ask you this question.

Do you think the three gentlemen who screened this man Freistadt for your body did a good job?

Dr. RICHARDS. No. May I qualify that?

The CHAIRMAN. All right.

Dr. RICHARDS. From the standpoint of potential scientific value to the country, I think I would have to say "Yes" to your question. From the standpoint of promotion of the whole program in which the AEC is concerned, "No."

The CHAIRMAN. Senator Hickenlooper?

Senator HICKENLOOPER. Dr. Richards, taking this thing from the back first: I was intrigued and interested by your last reference. I hope I did not note a touch of sarcasm in the last paragraph or two about those views, which happen to be mine.

Dr. RICHARDS. Not a sign of it.

Senator HICKENLOOPER. I noticed an editorial in the local paper which quoted that statement. And, of course, the statement is picked out of context and used to support the objective and the purposes to which the editorial was directed. The whole connotation of that sentence was that in any National Science Foundation I would be utterly opposed to taking public money for the training of those Communists. They can get their education on their own power if they want to, but whether it be the Atomic Energy Commission funds, or any other public funds directly devoted in that way, I am against the use of the taxpayers' money to educate those people who will overthrow our Government if they get their way. So that is my position, very clearly, I hope.

Dr. RICHARDS. May I say to you that there wasn't the slightest element of sarcasm in anything I said or any element of lack of respect.

Senator HICKENLOOPER. Well, I am glad to know that, Doctor. I said I hoped that I did not detect an element of sarcasm, and I thought maybe there might have been just a little.

Dr. RICHARDS. There was not.

Senator HICKENLOOPER. I want to ask you a question at the outset, Doctor, and perhaps we can clarify the issues. We will take the known case where a man has been named who has, at least in the public press, admitted he is an active Communist, Mr. Freistadt. We now know that he is an active Communist, assuming the reliability of the newspaper reports and other information. We know that he has had a history of communistic activities, allegedly, at least, in two universities, of which he has been a member, two universities which he has attended. He has now been awarded a fellowship which carries with it some \$1,600 a year of public money to pursue his education.

I think it is fair to ask you, in view of your statement: Do you believe that that fellowship should be continued, or discontinued?

Dr. RICHARDS. In preparing myself to answer that question, I would like to find out from that man himself, what is going on within

him. He signed an oath of allegiance when he joined up, in 1944. Is he so committed to the principles of the Communist Party that he has forgotten that oath and the obligations which it entails? He is false to one or the other. If he is false to this Government, he ought not to get it.

Senator HICKENLOOPER. I presume that it is well nigh impossible to test the secret workings of a man's mind. We have to go on whatever information and evidence can be picked up surrounding the situation. The latest evidence, according to the newspapers, that we have on this man is that within the last few days he has again reaffirmed that he is a Communist. And he made no denial of it. He said that no one had ever asked him, but of course he was a Communist.

Now we go a step further. If we believe what we see in the Communist principles as they have been recited and laid down in this country, to the public, they have as one of their principles allegiance to communism, international, and not allegiance to any particular government or country, unless it be to Soviet Russia. I do not know about that, particularly.

Then we also know, if we can believe the tremendous volume of evidence that has been developed, that it is a part of the fundamental Communist philosophy to use falsification, deception, and any other means at hand to gain their ends, even to the denial that they are Communists. We are told that it is part of what they are taught to, if they have to, even deny their communism, deny their membership, as a matter of subterfuge, to advance their cause.

I knew nothing about Mr. Freistadt. It took me entirely by surprise. I knew nothing about him until, I think, late in the afternoon when the news commentator, Mr. Fulton Lewis, Jr., had it on the air, and I understood that it had been bandied around in other places for several days. But that was the first I knew of it, when somebody called me about it. The latest evidence we have is that he is now a believing Communist, by his own admission, according to the newspaper report.

So that is the only evidence I have about his belief. And that, among other things, generated my question.

Dr. RICHARDS. If I were possessed of the convictions which I believe you hold, I would say that he ought not to have that fellowship.

Senator HICKENLOOPER. But, Doctor, what convictions?

Dr. RICHARDS. The convictions that Freistadt is an active Communist, and that he accepts the principles of the Moscow Politburo.

Senator HICKENLOOPER. The only knowledge I have is his statement as reported in newspapers that he is a Communist. And I go back to the other matter, of the historical communistic philosophies, and hook them all up together, as a matter of fact. As I say, that is the reason I asked the question.

Under all the circumstances that you know now, would you be prepared to say that he should continue, as a fellow, to receive these public funds, or that he should not? I am not trying to force you, but I would be delighted to have your opinion.

Dr. RICHARDS. No, Senator; but, of course, you have me in a corner, and I am trying to slip out of it. I want to get out straightforwardly. If he is committed to the principles and practice of communism, then he is false to his oath. He is a dishonest person, and he shouldn't have any fellowships of any sort.

Representative DURHAM. Doctor, at that point: You say, as I understand you, if he admitted that he was a Communist—

Dr. RICHARDS. No, I don't think I used the word "admitted." I think I said "if he is," and "if he follows."

Representative DURHAM. I beg your pardon. I misunderstood you.

He has, in public statements, admitted that he belongs to the Communist Party. He has conducted a Karl Marx Club since coming to the university, for several months.

Now, in the face of those facts, you do not believe, as I understand your statement, that he should have a scholarship.

Dr. RICHARDS. If the extreme implications—I mean the sinister implications—of all of those things are borne out by the facts, he should not have a scholarship.

The CHAIRMAN. Well, the doctor said this Board had made this recommendation, and it is his opinion, in view of what we now know, that it did a very poor job.

Dr. RICHARDS. Yes; it has worked out as a poor job from the standpoint of the task of the Atomic Energy Commission.

The CHAIRMAN. Senator Hickenlooper?

Senator HICKENLOOPER. The great emphasis has been placed upon the difficulties which lie in this program, and on the freedom of selection, and I believe that you mentioned the cost factor. Do you know what it costs to investigate an individual for clearance under the atomic energy program?

Dr. RICHARDS. I only know what has been told to me.

Senator HICKENLOOPER. I believe the cost is approximately \$100.

Dr. RICHARDS. That is what I understand.

Senator HICKENLOOPER. And these fellowships run into better than \$1,000. This one is \$1,600. Some of them are up to \$3,600 or \$4,000.

Dr. RICHARDS. Up to \$4,000, if a man has a wife and two children.

Senator HICKENLOOPER. So that any place from \$1,600 a year to \$4,000 a year is the amount that is being spent of public funds on the education of these people in scientific fields. Does it seem to you that \$100, from the purely economic standpoint, should be a deterring thing, in order to be assured that the very few, perhaps that might slip under the wire would be eliminated?

Dr. RICHARDS. No; I was basing the theory on investigating all of the 350 or the 497.

Senator HICKENLOOPER. Yes, but the total amount of income that they will receive would run into the thousands of dollars apiece, and the investigation would only be \$100.

Dr. RICHARDS. But it is only a matter of one out of a hundred. Are you not spending some \$50,000 or \$60,000 or more in order to save \$8,000 or something like that? In my statement I implied that I didn't think you should. I think spending \$40,000 to do something right is better than spending \$8,000 to do it wrong.

Senator HICKENLOOPER. There is no question but what the matter of the righteousness of the project should be the controlling thing, without any doubt. But why do you believe that it is any more offensive to investigate, or to look into the backgrounds of some of these people who are going on the pay roll in this educational field than it is to thoroughly investigate and look into the backgrounds of

people becoming United States attorneys general or Federal judges, as Senator McMahon mentioned awhile ago?

Dr. RICHARDS. Well, I think you are dealing with two orders of people. People who are entering Federal employment are not, in my opinion, in the same category as people who are receiving a fellowship in order that the pool of trained personnel in this country, capable of utilizing science for the general good, shall be increased.

Senator HICKENLOOPER. Does it make any difference what the color of a man's eyes is, or what his station in society is, if he believes in the overthrow of this Government by force and violence?

Dr. RICHARDS. No.

Senator HICKENLOOPER. And is that not the issue: Whether or not public money is being spent to educate subversive people? It is not a question of general education. We have lots of support for general education, for fundamental education.

Dr. RICHARDS. It seems to me that the greatest issue is the advance of scientific competence in this country capable of providing us, should another emergency arise, with the people on whom we can rely to help us out as scientists helped us out in the last war.

To go back to your other question, you said something to this effect: Why should a young man object to being examined by the FBI? Well, have I stated your question correctly?

Senator HICKENLOOPER. Yes, that is about it. I think that is fair enough.

Dr. RICHARDS. The FBI, as I have said in the statement I read, gets all the provable facts that it can find. It gets all of the opinions that it can find. I have had numbers of FBI investigators come to me and ask me for my knowledge and my opinion about this, that, and the other person, and I am assuming that it all goes into the folder. And there is fact and hearsay mixed up, on which some agency has to pass.

Now, there are sensitive people who don't like that, who don't like to subject themselves to that sort of thing.

Senator HICKENLOOPER. Yes, I presume almost everyone is sensitive. I presume people all have reasonable sensibilities. But I do know a great many people who feel that they have no resentment against being investigated for some important assignment. Maybe some do. But if there really is nothing fundamentally wrong with them, it would seem to me that they should not have too much resentment against someone making an inquiry as to whether they do meet the standards.

Dr. RICHARDS. I don't disagree with you.

Senator HICKENLOOPER. We have, I believe, some 140 or 150 that have been investigated. And Dr. Warren stated that in that number there have been but three or four cases where substantial suspicion or criticism could be raised. Would the elimination of those four or five, if that were the percentage, or even if it were less—would the elimination of those from the entire program wreck the fellowship program, do you believe?

Dr. RICHARDS. The mere elimination would not wreck it. The system which provided the elimination might damage it badly.

Senator HICKENLOOPER. Do you believe it would be necessary to make fellowship appointments and then investigate? Or could not.

the investigation be done very quietly, prior to the selection, and avoid the necessity?

Dr. RICHARDS. I do not think it would be within the competence of the National Research Council Committee to pass on a candidate's, an applicant's political views.

Senator HICKENLOOPER. Of course, the National Foundation technically does not put these people on. It is the Atomic Energy Commission that has the sole right and power and the final authority in putting them on. The National Foundation, while I presume their judgment is given almost controlling weight, probably controlling weight, is only a recommending body. The Commission is the one that furnishes the funds.

Dr. RICHARDS. I have got to consult with Mr. Lilienthal or Dr. Warren to answer that question.

The AEC contracts with the National Research Council through the parent agency, the Academy, to administer the contract money for the selection and appointment of the fellows.

Senator HICKENLOOPER. Yes. But it comes from the fountainhead of the authority, the Commission. The Commission secures the services of the National Foundation to do a job for the Commission.

Dr. RICHARDS. Yes.

Senator HICKENLOOPER. So the Foundation is acting in a contractual capacity in that case.

I notice that you referred to the nonsecret work. I am thoroughly aware that this program, as such, is not designed to take these fellows into secret work during the time they are receiving the benefits of the scholarship. That is very true. But as I understand it, the fellowship program is designed to give special education and training to this group of fellows in specialized fields, and for the purpose of creating a reservoir and backlog of knowledge and abilities in these various fields which may eventually be brought to the use of the public generally, and in some cases to the Commission itself.

I probably should not discuss this with you, because you probably have not discussed the act from that standpoint. I think I will leave the question out because it is a technical question of interpreting the authority of the Commission, going into the general educational field, which I have some question about.

Dr. RICHARDS. I would not be competent to answer as to that.

Senator HICKENLOOPER. I believe that is all.

The CHAIRMAN. Mr. Durham?

Representative DURHAM. Doctor, I believe I understood you to say that this was an important program. I agree with you on that. I believe you said it was important.

Dr. RICHARDS. I believe it to be very important.

Representative DURHAM. That brings up the question as to who is the sufferer in this action taken by your group. You have said that this was a very poor report. Who else is the sufferer, except the Commission? I agree with you on academic freedom. I was born and raised to believe in that type of thing. But how are we going to insure against making another mistake as serious as this if we do not have some kind of FBI report or some kind of examination? Why, this report here would hardly be recognized as sufficient for admitting a high-school student who had transferred from one high school to

another, if this is all this man was accepted on. I do not want to be critical, but here are the facts before us.

Dr. RICHARDS. If this is a mistake, and I have admitted that I think it is, it may be the most wholesome mistake that has been made.

Representative DURHAM. Well, I certainly hope so, Doctor.

Dr. RICHARDS. I have ventured to suggest to my friends, here, near me, that one simple thing might be done: That after a man has passed the scrutiny of the National Research Council Committee, and it is planned that he shall have the award of a fellowship, that he should be asked to sign an oath of allegiance. That puts him on record with an oath which is utterly contrary to the Communist principles and practice. If he is false to that oath, get rid of him.

Representative DURHAM. Of course, they have a habit of infiltration, too, Doctor, that is not only damaging the most important program we have from a military standpoint, but is also damaging what we are trying to do, here, from a humanitarian standpoint in this program. We are also aiming at that.

Dr. RICHARDS. Certainly.

Representative DURHAM. We hope to be successful with it.

Dr. RICHARDS. That is the big thing.

Representative DURHAM. And I do not think we can be successful if we make such mistakes as that, and if we do not adopt some procedure that will clear the atmosphere on an individual, somehow, when he is accepted.

Dr. RICHARDS. The procedure which I have just suggested is one which has occurred to me as being straightforward and simple, and which no true citizen of this country could possibly object to.

Representative DURHAM. And you do not believe the scientists would object to such a procedure as that?

Dr. RICHARDS. I cannot believe that 1 in a hundred, or 1 in 500 would be false to it.

The CHAIRMAN. You mean by taking an oath of allegiance, the filling out of a questionnaire, a sort of a personal security form, in which they should allege or should state the organizations they belong to, and their history, in addition to their oath of allegiance?

Dr. RICHARDS. I simply meant the form of oath, with the unnecessary phrases taken out of it, that a person becoming a naturalized citizen signs when he finally receives his citizenship.

The CHAIRMAN. Incidentally, I understand that Mr. Freistadt is a naturalized citizen.

Dr. RICHARDS. Yes, sir.

The CHAIRMAN. And he did take such an oath.

Dr. RICHARDS. He must have taken such an oath. I have a certificate of his naturalization here.

Senator KNOWLAND. Doctor, along the lines that Senator McMahon discussed, would you see any objection, in the questionnaire they must fill out when they apply for one of these scholarships, one of these fellowships, to asking the question, "Are you now or have you ever been a member of the Communist Party?"

Dr. RICHARDS. I think I see objections to that. And if it became necessary to put that in—would like to be convinced that it were necessary—I would have to answer your question as you perhaps think I should. But the fundamental point, it seems to me, is including political faith as a criterion for educational opportunities.

Senator KNOWLAND. Doctor, I just cannot quite accede to what you have said on that point. You treat the question of membership in the Communist Party as though it were a simple political question as to whether you belonged to the Democratic or Republican Parties, or the Socialist Party or the Progressive Party. You apparently do not feel that the Communist Party is in effect an international conspiracy.

Now, do you feel that they are in exactly the same category, as the Communist Party, as are other parties in the United States?

Dr. RICHARDS. No; but I think this: That young people, particularly young people of an inquiring trend of mind, may go all out and be professed and active Communists. On the other hand, there are shades. I regard them as immature and capable of revising their beliefs. To make it all black or all white seems to me to make the question too simple, far too simple. That is why I am perhaps confused and confusing, in answering your question.

Senator KNOWLAND. Of course, it seems to me that this is a little different problem, a considerably different problem than whether a person, regardless of his beliefs, will attend an educational institution. Here are funds being provided by the Government of the United States. They are being provided, first of all from the Congress to the Atomic Energy Commission. The Atomic Energy Commission is set up with vast powers, far greater powers than we have ever given a commission before this in the history of our country, to deal with a subject which has world-shaking possibilities.

Now, presumably one of the reasons these funds are being provided is to supply this Nation with a reservoir of trained people, with the hope that ultimately out of that reservoir of trained people there will be developed additional personnel that can work in the atomic field both from the weapon point of view and in the broader scope from the point of view of benefiting mankind. But both of them are certainly of considerable importance. If you take a known Communist and educate him up to that point, and then you discover that he is a Communist, you certainly do not believe that you can take him from that step into the next one, where he would have access to secret information, I take it.

Dr. RICHARDS. I wouldn't think of that. But the vast majority of the people that we are talking about this afternoon are in fields remote from military importance, as I take it. I think of them as being inducted into the use of isotopes in the study of medical problems, cancer; agricultural problems, crop production; and so forth and so on—rather more than problems that are even indirectly associated with the atomic bomb or atomic energy as a military weapon.

Senator KNOWLAND. But at the same time you do not ignore the fact that the atomic weapon is still a pretty vital factor insofar as the national security of this country is concerned. The only thing I am trying to get at is that I do not think you should underemphasize the problem of getting only one of these people ultimately into the secret phases of this work. It only took one man, a Canadian spy, as disclosed in the report of the Canadian commission, to get what probably was very vital information into the hands of the Soviet Union. So if you only had one who ultimately gets access to secret information, you will agree that that is one too many, will you not?

Dr. RICHARDS. It would be one too many.

Senator KNOWLAND. That being so, do you not feel that where you have an acknowledged member of the Communist Party, assuming that he is an acknowledged member of the Communist Party, that then there should be some process whereby these funds can be withheld from him?

Dr. RICHARDS. Is he to be given the privilege of answering these charges?

Senator KNOWLAND. Assume for the moment that he has answered the charges and has admitted that he is a member of the Communist Party.

Dr. RICHARDS. With all that that implies?

Senator KNOWLAND. With all that that implies.

Dr. RICHARDS. I would say that he would have no business to be in the fellowship program.

THE CHAIRMAN. I want to be very clear, Doctor, because I do not want this committee to be in any position of trying anybody in absentia. But Mr. Freistadt has made at least three or four statements since this whole thing came to public attention. He has stated his own beliefs, and that he has headed what he calls the Karl Marx Study Club at the University of North Carolina. He commented on Dr. Smyth's testimony of Thursday, and he said, according to the Associated Press dispatch, that he congratulated Dr. Smyth on his tolerance, but in answer to Dr. Smyth's hope that he might change, Freistadt wanted it known that Dr. Smyth was under an illusion, because he never would change.

I want to make it very clear that we are not engaging in any trial in absentia on Freistadt; and if Freistadt, speaking for myself, wanted to come before this committee, I certainly think that he should have an opportunity to do so. In fact, we may ask him to come up here before we get through with this thing. But it should be very clear that we are not conducting any ex parte trial of his activities. We are only stating what he says they are. I hope that is very clear to you, and clear for the record.

Dr. RICHARDS. It is certainly clear.

Senator HICKENLOOPER. Mr. Chairman, may I just make one statement in commenting on that.

Just in case, Doctor, I might have created in your mind some idea that I am at all hostile to the fellowship program, I may say that I did the other day, and a good many months ago, in discussing this matter, state that I thoroughly agreed with the philosophy of the fellowship program. I have stated that I thought it was a fine thing when they finally developed this type of a program for educating a reservoir of capable and top-flight people for the future benefit of science. And I have no resistance whatever against the spending of public money where it would contribute to that end. But I did have some correspondence, Mr. Chairman, at that time, and Chairman Lilienthal put in a letter to me in the record a moment ago.

I would like to have the series of correspondence, my letters to him, and the replies back, all put in at that point, so that the whole series of letters will be in the record here, rather than scattered through. There is one exception. In the last letter that I wrote, I mentioned the name of the man that I referred to a while ago in speaking to Dr. Warren. I would like to have the privilege of deleting that name from the letter as it goes in the record. That can just be left blank, so that in the public record the particular name will not go in.

The CHAIRMAN. Without objection, that will be done.

Senator HICKENLOOPER. I will furnish the reporter with a copy of the correspondence, which I have here.

(The correspondence referred to will be found on p. 5.)

Senator KNOWLAND. I would like to finish with the doctor.

I also would like to ask the same question of Mr. Lilienthal: As to whether, in the case of a known Communist, assuming that it is proven or admitted, you feel that a fellowship should be available to him on the same basis as any other applicant.

Mr. LILIENTHAL. My answer, Senator Knowland, is to refer to the relation that we have established with the National Research Council. I certainly would not take action on such a matter independently of that Council, as long as we have this arrangement with them. And I would assume that we should ask them about the effect upon the fellowship program of the application to it of the investigative process. They say that to impose that kind of a standard is the wrong way to handle it from the point of view of scientific progress. They may review this matter and find some better way of answering the question than that, some more discriminating way of answering it. But as long as we have in the country an agency which is recognized as the scientific adviser to the Federal establishment, I would not set myself up to say that we should take out of their hands the decision about whether it is to the best interests of scientific progress.

I would add this further comment: I have the feeling that the question hides some of the differences that there are in this problem. And I am sure nobody wants to hide them. I think it is in their mind, and I think it would be in my mind, that if it was simply a question of saying that those men who are professed and avowed Communists, shall under no circumstances be granted fellowships, or anything else in the way of public educational funds, that would be a relatively simple question.

Senator KNOWLAND. I am not getting into other types of funds. I am dealing specifically with funds appropriated by the Congress of the United States to the Atomic Energy Commission, which you are responsible to the Congress for expending. And if you delegate any of your power, you are delegating it with the ultimate responsibilities still in your hands to the Congress of the United States.

It may be necessary to ask Mr. Freistadt to come here and give this information, under oath if necessary. But assume for the moment that is a case where he admits membership in the Communist Party. Do you believe, as Chairman of the Atomic Energy Commission, that the payment of funds in that case, that specific instance, should be continued?

Mr. LILIENTHAL. I believe that where the relation of science to the Federal Government is involved, I would feel that the judgment of the National Research Council on this thing would be a judgment that I would accept. I have a very strong fear of the Federal Government directing that, or the Federal Government withholding or granting approval in respect to education on any basis, because of the dangers of the domination by the Federal Government of education. That is why my answer is: Let's turn to the National Research Council, a private independent agency, and see what they think is the wise thing to do under this set of circumstances.

It is true, and you are quite right, that the responsibility is ours. If they have made a decision, if they have made a recommendation, to award a fellowship, which is wrong, which is recognized as wrong, we are responsible for having followed their judgment. But I would a lot more happily carry that responsibility than to feel 10 years from now that I had been a party to a very terrible turn of the road in the relations between the Government and education. I think the Government should keep its fingers out of education and I think this is one of the ways to do it in the atomic energy program. Those are my feelings about it.

Senator HICKENLOOPER. It would just appear to me that this is the Government sticking its finger directly into education when it supports subversive people with public funds.

Mr. LILIENTHAL. No, because we have sought to place this in the hands of a private, nongovernmental institution which is not part of the political structure of our country, the National Research Council. And when the day comes when the Federal Government selects individuals for educational fellowships, that I think will be a sad day for this country. I am very much disturbed about the fact that that kind of a solution presents great difficulties here, of which I am just as aware as you are. You have worried about this a great deal, and I have, and all of us who are familiar with it realize that we have a tough problem here. But it is one of those dilemmas in which it seems to me that the lesser evil is to ask the National Research Council, as a nongovernmental institution, to try to frame policies in respect to education in this field, and perhaps to serve as models elsewhere, rather than for the Federal Government to begin putting strings on educational funds. Because I want to tell you that with what is going on in the development of additional funds for education, this \$300,000,000 program the other day is just the beginning, and everybody here knows it. And the kinds of tests that will be applied by the political side of this Government as to who shall and shall not receive the benefits of educational funds, in the high schools and the colleges, and even in the grade schools 10 years from now will make our hair stand on end. That is my own feeling. That is why I think it is a terribly serious case.

Senator KNOWLAND. Mr. Chairman, since Mr. Lilienthal has raised that point:

Do you not think there is a difference between a situation in which these fellowships are being granted by the Atomic Energy Commission in the field of nuclear science, and a general education program? And is there any more reason to feel that properly safeguarding the security of the United States in this field should establish a precedent than that because we gave vast and heretofore unprecedented power to your commission we ipso facto have to give it to every other commission we create?

Now, we do not do that, because we have recognized that in this field of nuclear science and in the atomic field it is an unprecedented development. And we have done things that this country has never done before.

Therefore, I say that if you can draw a line of distinction there, you can certainly draw a line of distinction in these fellowships to train a reservoir of people to work in this specialized field.

Mr. LILIENTHAL. Senator, it seems to me a line has been drawn in this law. And I agree with the way it has been drawn. The line has been drawn essentially between those individuals who have access to restricted data, which is broadly defined, and those who are engaged in nonsecret work. That is contrary to the general traditions of the country, but necessity dictated it. And it is a line that can be fairly well followed.

But when we get out of the secret work, it seems to me, then, while we may find some other line, I, myself, have not seen it. I hope perhaps it will evolve out of these discussions.

We are, I think, out on uncharted and new seas. Because the fields of study in this fellowship program, many of them are matters of fundamental science. Here is one going on at Duke, the theory of the extensive showers of cosmic radiation. Well, this has no more to do with the atomic bomb than astronomy has. It is a very important fundamental study. And so on through the list.

I find it very difficult, Senator, to pass this milestone, to find any other line, since we are in nonsecret work. If someone can come up with a line, I am sure the National Research Council is just as anxious as we are to find a rule that will be self-defined.

Senator HICKENLOOPER. Of course, Mr. Lilienthal, let me suggest this. I think you have just announced a rather startling departure from normal Government operations, when you say that you turn over the ultimate decision of a governmental function to a private body.

The CHAIRMAN. He did not quite say that.

Senator HICKENLOOPER. He said that they turned over the decision to this national council, and that he would accept their decision on this matter.

The CHAIRMAN. Accept their advice, perhaps. Was that not it?

Mr. LILIENTHAL. Well, I don't shy away from that. I don't shy away at all from that, where the field of education is involved.

Senator HICKENLOOPER. But I feel we are not justified in having the Secretary of Defense select an advisory committee of private citizens and letting them make the decisions which he will accept *per se* on the programs of our national defense. In other words, I believe that there is a complete area where Government bodies must accept and discharge the ultimate responsibility. They may receive advice. And I do not mean to say that you have done this. This is a little harsh.

Mr. LILIENTHAL. You are not being harsh at all.

Senator HICKENLOOPER. But to abrogate the responsibility of a public body, especially one that has such vast authority as the Atomic Energy Commission, to a private group which is in no way responsible to the Congress or to the public, except as private citizens, is rather a departure. I mean, I think we are getting dangerously close to the adoption of that philosophy, perhaps, in the operation of Government activities.

I say "perhaps." I do not know.

Mr. LILIENTHAL. I can only say that I have so deep a distrust of political domination of education that I think that whatever the theoretical objections—and they are considerable, as this is not an easy question, as you suggested—that is a far preferable course to the other one. And we have some history, some current history, to

show those dangers. Is this not an answer? I do not feel that I know the answer, but the answer that occurs to me, that I have been thinking about, is that the Commission is responsible. That is why I am here today. If there is anybody to be shot, you have the guys to shoot. The reason I don't feel that we will be shot is that I really believe, after you think this thing over carefully, you will agree that it is better to turn to a group of men who are nongovernmental, nonpolitical in the governmental sense, with a record of competence, and accept their judgment about educational matters.

Senator HICKENLOOPER. You are doing just that. And nobody is trying to interfere with that. The only question at issue, here, if we can just narrow this down, and get away from the broad field of education, is the use of Government funds to support and to educate in very, very rare instances, known subversives who belong to a party whose purpose is to destroy this Government.

Now, then, as we have shown, here, only maybe three or four questionable characters out of, let us say 150, would even be given a second thought as potentially dangerous or bad people, under that classification. I do not take it to the Commission, nor am I advocating that the Commission go out and order the course of study, or that any Government body prescribe the textbooks; nor do I say that the Government body should support just this public institution because it happened to preach the philosophy that they wanted.

The only issue, in my mind, is the use of public funds in the rare instances in this program to which reference has been made, to support known subversives. And my whole point is that that could very easily be screened in advance, and the rare instances could be eliminated.

I apologize, because some of the other gentlemen have not even had a chance to talk here, and we have monopolized all of it. If you have any comments you wanted to make on it, all right, but I think we could talk about that tomorrow or another day, when we have a meeting.

The CHAIRMAN. Mr. Elston?

Representative ELSTON. Mr. Lilienthal, I do not think you answered Senator Hickenlooper's question entirely. You said that you would accept the opinion of the National Research Council; that you would accept their opinion about any boy who is placed in the fellowship class.

Mr. LILIENTHAL. Yes. They set up procedures, and they say, "Here is a man whom we believe to be the best qualified person." I certainly would accept that.

Representative ELSTON. Now just take the Freistadt case as an example. They still approved of him, let us say, as a student. What would you do about it?

Mr. LILIENTHAL. I think we would have to accept that. I don't see how we could deal with them as a consulting body and break with them on this.

Representative ELSTON. Let us bear in mind all the statements that Freistadt has made during the past few days, which indicate clearly that he is a Communist and does not intend to change his position. If, notwithstanding that fact, the National Research Council recommends that he be continued as a student, what are you going to do about it?

Mr. LILIENTHAL. It seems to me we would only have two choices. If they say, "We believe an important principle in the field of science and the freedom of education is involved, when a political or economic test"—I am assuming that they make this statement—"is imposed in respect to otherwise worthy and promising individuals, and we stand on that," then it seems to me we have only two alternatives. One is to accept that, and the other is to accept the resignation of the National Research Council. I think this latter course would be a very unfortunate one for the country.

Representative ELSTON. You still have not answered what I am getting at. Are you going to keep Freistadt, a Communist, in this program if the National Research Council recommends that he be kept?

Mr. LILIENTHAL. I would like to see what the National Research Council's restudy of this question turns up. I believe that having it reexamined, we would be in a better position to say.

Representative ELSTON. Suppose on reexamination they still decide to keep him, but the evidence that you have in your possession is that he is a Communist, as indicated by his own statements. Now, which would you do? Accept the word of the council and keep him in the program? Or would you get rid of him?

Mr. LILIENTHAL. I would feel obliged to accept the judgment of the Council.

Representative ELSTON. Even though you knew he was a Communist?

Mr. LILIENTHAL. Even though they knew he was a Communist.

Representative ELSTON. Even though they knew it, and even though you knew it, you would keep him in school?

Mr. LILIENTHAL. I think this may well be an unlikely speculation. But you put it in that form, and I would say that rather than have the National Research Council withdraw from the program, which might be the result, the lesser of the two evils would be recommended.

Representative ELSTON. So you would keep the Communist in and let the Government go ahead and pay his tuition.

Mr. LILIENTHAL. I think this would be the lesser of the two evils.

Representative ELSTON. And how many years would you keep him in school?

Mr. LILIENTHAL. I don't know what kind of scholarship he has. I am told it is a 1-year scholarship.

Representative ELSTON. Your whole theory is educating these students at the taxpayers' expense is that they might be useful to the Atomic Energy Commission?

Mr. LILIENTHAL. No; I think it is a great deal broader than that, Mr. Elston. The program was recommended to us by the General Advisory Committee, and more particularly by the Advisory Committee on Medicine and Biology, and they have quite a different premise.

Representative ELSTON. A boy who is a Communist certainly could not ever be of value to the Atomic Energy Commission.

Mr. LILIENTHAL. Not in classified work.

Representative ELSTON. And yet you would go ahead and educate him at the expense of the Government?

Mr. LILIENTHAL. Under the circumstances of an award of a fellowship by the National Research Council, an expression of their judg-

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ment that his political and economic views are irrelevant to his future promise, I personally would feel bound to accept that judgment.

Representative ELSTON. And you know that if he is a Communist he could not even work for the Government, because he would have to take a loyalty test.

Mr. LILIENTHAL. Yes; but it would be pointed out to me—and this will be of especial interest to everyone who is worried about the prospect of cancer in his family, or as to himself in the next 10 years—that this might be the mind that would break the last barrier to the solution to the problem of cancer. There are many instances in which people of unworthy political beliefs have the kind of genius that the country needs in nonsecret aspects of development. And, although I realize that the categorical answers here represent quite an unpopular and to me a distasteful alternative, I think the alternative in respect to the damage to science and free education would be even greater, and we will all realize this, not today or tomorrow but some years later.

Representative ELSTON. You do not think we can find that genius among 100-percent-loyal American boys?

Mr. LILIENTHAL. One never knows where genius is, Mr. Elston.

Representative ELSTON. Where do you get any authority in the Atomic Energy Act to embark on a general program of education?

Mr. LILIENTHAL. There are sections of this—

Representative ELSTON. Yes; I heard you quote the sections before. You think Congress intended that the Atomic Energy Commission embark on a general educational program of any kind?

Mr. LILIENTHAL. I think Congress intended the Commission to foster and advance general scientific progress, with emphasis on those matters related to atomic energy. It just so happens that nuclear science, the fundamentals of atomic energy, and its application reach into almost every field of science.

Representative ELSTON. Well, you have got pretty good help from the universities and private industry, have you not?

Mr. LILIENTHAL. Yes.

Representative ELSTON. You did not have to go out and embark on an educational program of your own, did you?

Mr. LILIENTHAL. Well, it is not our own. We are supplying funds. And we are directed to encourage private research and research in universities. These men are in universities.

Representative ELSTON. Does that not mean through universities? Is there anything in the act that gives you authority to supply funds to students to go to school?

Mr. LILIENTHAL. We so believe; yes.

Representative ELSTON. Did you get an opinion from anyone on that?

Mr. LILIENTHAL. Yes. I asked counsel about it. I do not think there is any question about it under the terms of this law.

Representative ELSTON. Did you take it up with Congress?

Mr. LILIENTHAL. We examined the act that Congress passed.

Representative ELSTON. Did you come before this committee and explain your program and ask if it would be all right to go ahead with it?

Mr. LILIENTHAL. No; we didn't ask if it would be all right to go ahead with it, but we did report what we were doing, and asked for

funds, and we have been before appropriation committees for several sessions now, and this program has been debated as part of that.

Representative ELSTON. That was after you had embarked on the program?

Mr. LILIENTHAL. No; I think it was before. Obviously it was before the funds were expended.

Representative ELSTON. Why did you first start to have loyalty checks, and then stop them?

Mr. LILIENTHAL. Well, the policy in respect to investigations was a subject of considerable discussion. While this discussion and indecision was going on, and while we were trying to find a suitable answer to the problem, the investigation by our Security Division may well have proceeded on the assumption that all individuals in this program would be investigated. It is also true that, in case of a good many of these people, they were working on secret work and so, of course, were thoroughly investigated. I think this is how that circumstance arose. There was nothing extraordinary about that, Mr. Elston. While we were considering what the proper policy should be, and whether we could accept the recommendations of the National Research Council, a certain amount of investigative work was carried forward.

I am advised, as to the legality of the expenditure of funds for this program and for these purposes, that the legal position was fully discussed with the General Accounting Office, whose function it is to examine into these things.

Representative ELSTON. Did you get an opinion from the General Accounting Office?

Mr. LILIENTHAL. We certainly were not advised that it was an illegal expenditure. Just exactly what the GAO said, I don't know, but I will get it for the record.

Representative ELSTON. If they rendered any opinion, I think it ought to be in the record.

(The information referred to will be found on p. 17)

Representative ELSTON. Just one other question I wanted to ask you about.

You set up the program in January, but it was not until in the fall that you asked for an opinion from your counsel on whether or not these loyalty checks had to be made. Why did you wait that long?

Mr. LILIENTHAL. I will have to examine the chronology. A great many things have happened since that time, of which this is only one. My recollection of it is that the program was not ready for operation until then, but I will have to check that.

Representative ELSTON. Did your preliminary loyalty checks, the ones you started out to make, indicate that there were some Communists who had applied for these fellowships?

Mr. LILIENTHAL. I did not look at these files, and I do not know whether Dr. Warren knows.

Dr. WARREN. I have not reviewed them recently but, to the best of my memory, in these some 48 preliminary checks there were not any Communists found.

Representative ELSTON. When did you become aware of the fact that Freistadt had a communistic background?

Dr. WARREN. I became aware of it when word was sent from the FBI office after the award of the fellowship had been made.

Representative ELSTON. When was that?

Dr. WARREN. That was approximately 3 weeks ago. I can get the exact date for you.

Representative ELSTON. Three weeks ago you learned through the FBI that he was a Communist?

Dr. WARREN. That he was alleged to be a Communist.

Representative ELSTON. What did you do about it?

Dr. WARREN. We at once had a number of discussions. We talked with representatives of the National Research Council. We attempted to review in detail his record, which was discussed with Dr. Bronk, the Chairman of the National Research Council.

Representative ELSTON. Did you advise the Commission?

Dr. WARREN. I believe the Commission had already been advised on that.

Am I correct on that, Mr. Wilson?

Mr. WILSON (Carroll Wilson, General Manager, AEC). Yes.

Dr. WARREN. The Commission was advised at the same time that I got the information.

Representative ELSTON. So 3 weeks ago the Commission knew he was a Communist.

Dr. WARREN. If my memory is correct, it was about 3 weeks.

Representative ELSTON. Did you do anything about it, Mr. Lilienthal?

Mr. LILIENTHAL. No.

Representative ELSTON. Were you going to do anything about it?

Mr. LILIENTHAL. I think I have answered that before, Mr. Elston. I am myself persuaded that leaving these questions to the National Research Council is the safest course for the country. And that satisfied me. I think that is the way it ought to be.

Representative ELSTON. It does not make any difference, then, whether they admit Communists into this program or not, does it, as far as you are concerned?

Mr. LILIENTHAL. Yes; it does to me personally. I have a very strong feeling of distaste about it, as strong as that of anyone here. But I also realize that there are some deeper and broader issues involved, and it is those that persuaded me that we should depend on private, nongovernmental, and nonpolitically dominated organizations to select these fellows. We should keep the fingers of the Federal Government out of it.

Representative ELSTON. If that is the way you feel about it, you should never have embarked upon the fellowship program, because you are putting your fingers in when you do that. You are putting them in very deeply.

Mr. LILIENTHAL. Not the way it is administered, Mr. Elston, I don't think.

Representative ELSTON. That is all.

The CHAIRMAN. Mr. Price.

Representative PRICE. In arriving at its decision in awarding fellowships, was this document from which portions have been read the final basis for action by the three persons referred to?

Dr. RICHARDS. The committees which were assigned to the different sciences—biology, agriculture, and so on—meet twice a year. The documents such as you have in front of you are assembled. And they

will spend many hours in debating who is good enough and who is not good enough to receive one of these fellowships.

Representative PRICE. But is this the only document that they read?

Dr. RICHARDS. I am not intimately enough familiar with those committee meetings to answer that question. Dr. Bronk will be here in Washington tomorrow and will be ready to appear.

Representative PRICE. How many fellowships were awarded in the last year?

Dr. RICHARDS. The record that I saw says that 540 applications were processed, and 216 were said to be suitable, and a few less than that were accepted. Some of the men have made other arrangements.

Representative PRICE. I am not a scientist; I am a layman. But on the basis of the references on the application of Freistadt, the ratings given him by the people supplying the references, his qualifications do not appear to be too high. In other words, he does not appear to be in that "potential genius" class that we have talked about. Mr. Rosen, for instance, gave him 3 ratings in the best 10 percent, 2 in the best 25 percent, and had no opportunity to observe him in 2 of your other classifications, and he lists him as among the first 35 students. We have no rating in there at all of "best 2 percent."

Mr. Wright made about the same classification, and Mr. Bowers made about the same classification. So I was just wondering what procedure they did follow in making the awards of these fellowships.

Dr. RICHARDS. I have never sat in a meeting of those committees, so what I am saying is not a particularly informed statement. I can only tell you that the people who form the committees are chosen with a great deal of care, and I know that they take their duties with extreme seriousness.

Representative PRICE. Each one of these references in Mr. Freistadt's case stated that they had no opportunity to observe him as to his ability to prosecute or process a research program effectively. I am wondering how you could pass on him on that point.

Dr. RICHARDS. May I say this, in that connection: The ability to organize a research program implied the ability to direct other people as a team. Now, the most important discoveries in science that I can think of have not been done by teams. They have been done by individuals, thoughtful individuals, working alone. Faraday didn't have any assistance when he discovered the principles which have led to the electrical industry.

Representative PRICE. But I was just wondering whether this was a final paper that this committee studied in making their selection. If it is, it does not appear to ask very much of the applicant.

Dr. RICHARDS. I have told you of my relative incompetence to answer your question. I am sorry that that should be so.

Representative PRICE. That is all I have, Mr. Chairman.

The CHAIRMAN. Mr. Kilday?

Representative KILDAY. Mr. Lilienthal, the number of fellowships available in a year depends upon the amount of money made available by appropriation, does it not?

Mr. LILIENTHAL. That is correct, sir.

Representative KILDAY. Now, this past year, I understand from Dr. Richards, there were 216 chosen, and some lesser number were actually awarded. Is that correct?

Dr. RICHARDS. That is right.

Representative KILDAY. In other words, there were some people chosen by the National Research Council to whom you did not award fellowships.

Dr. RICHARDS. Of the people who had the awards, three or four declined to accept, having made other arrangements.

Representative KILDAY. Were those positions filled?

Mr. LILIENTHAL. Dr. Warren knows the details of this; I don't.

What is the answer to that, Dr. Warren?

Dr. WARREN. We still have available fellowship positions open. There is in this initial screening, an attempt to get as much relevant data as can be readily assembled. Then there is careful study given to the relative merits of the different individuals, and the offer of an award is made to the prospective fellows.

I believe in almost every instance there have been one or more of the prospective fellows who have turned down the fellowships offered to them. And we have at present some unfilled vacancies in the fellowship program. I can't give you the exact number at this present time.

Representative KILDAY. Did you ever fail to make an award in an instance in which a person had been chosen for a fellowship?

Dr. WARREN. So far, we have followed the recommendations of the National Research Council.

Representative KILDAY. Has the National Research Council served notice on you that unless their recommendations are accepted they will not serve?

Dr. WARREN. No; it has not.

Representative KILDAY. Has that decision ever been made by the National Research Council?

Dr. RICHARDS. No.

Representative KILDAY. It has not?

Mr. LILIENTHAL, why do you assume that if you should not continue the fellowships in this instance, or if you should not award the fellowships in accordance with the recommendations of the National Research Council, you would lose their services?

Mr. LILIENTHAL. I didn't, Mr. Kilday. I was asked a hypothetical question, and I indicated that if they regarded the issue that strongly, then it seemed to me that in that kind of a——

Representative KILDAY. You had no indication that they would do so?

Mr. LILIENTHAL. No. And I think it is an important ingredient in this situation that this matter is now being studied by them. And I assume that there will be consultation with us. I think there ought to be clarification.

Representative KILDAY. Doctor, is your organization that temperamental?

Dr. RICHARDS. It is not.

Representative KILDAY. So that there is no reason for us to assume that you would withdraw from the program? Or is there?

Dr. RICHARDS. Let me call your attention to the statement in the act of incorporation of the National Academy of Sciences, dated 1863. [Reading:]

The Academy shall, whenever called upon by any department of the Government, investigate, examine, experiment, and report upon any subject of science

or art, the actual expense of such investigations, examinations, experiments, and reports, to be paid from appropriations which may be paid for the purpose; but the Academy shall receive no compensation whatever for any services to the Government of the United States.

Now, that constitutes an obligation which extends to the National Research Council.

Representative KILDAY. So, then, you would not withdraw.

Dr. RICHARDS. When asked by the Government to perform a task which we believe we can do, which is within our competence, we are bound to do it.

Representative KILDAY. And you have already made that determination in this instance, that it is within your competence?

Dr. RICHARDS. By implication, certainly.

Representative KILDAY. So we cannot assume that you would withdraw?

Dr. RICHARDS. No.

Representative KILDAY. Then what are you going to do with Freistadt if it develops that he is a Communist, Mr. Lilienthal?

Mr. LILIENTHAL. I think what ought to be done with this case and other cases is to ask the National Research Council to study the procedures they have been following, the kind of questions they have been asking, in the light of this case, and see whether they themselves would not come up with suggestions which would produce a much more satisfactory result.

What I am trying to avoid, Mr. Kilday, and what I think would be serious, would be for us to be forced to begin to interfere with the Council in their selection of particular cases. If that can be avoided, it would be much better for the whole program.

Representative KILDAY. Then just one other question to Dr. Richards:

Does the Council regard its functions as determining the scientific qualifications of a person to receive the scholarship? Is that your primary function?

Dr. RICHARDS. Yes, sir.

Representative KILDAY. Would there be any objection on the part of the Council if it made the determination from a scientific standpoint, leaving aside the other qualifications, such as the political, if it is possible to describe them in that way, using the broader sense of the word? Would there be any objection on the part of the Council?

Dr. RICHARDS. I am afraid I haven't got the nub of your question.

Representative KILDAY. What I mean is: Would you be willing to pass upon the man's technical qualifications and submit them to the Atomic Energy Commission for its final determination as to whether other factors might make him unacceptable for the Government program?

Dr. RICHARDS. If the Atomic Energy Commission asked us to do that, certainly we would?

Representative KILDAY. You would do it?

I assume, Mr. Chairman, it is back with Mr. Lilienthal. I do not have anything further.

The CHAIRMAN. May I interject? I think that perhaps Mr. Lilienthal has been asked some purely hypothetical questions. Now, Dr. Richards says in this Freistadt case, which has more or less precipitated the discussion of this issue, in his personal opinion, and not

speaking for the Council, they made a mistake. I think you have a right to assume that is the generally held opinion. If that is their opinion, then it seems to me that a good deal of your difficulty is obviated. As I understand it, you are now in the process of conversations with these gentlemen, to find out whether or not that is the situation.

Mr. LILIENTHAL. That is correct, Senator. I think, however, there is a danger in missing the question, which is not concerned with this individual case, but as to the methods of selection. Is there some way of avoiding becoming involved in the process of making selections in the cases of men doing nonsecret work with the same considerations that we go into in the case of men doing secret work? That would include opinions and affiliations, including affiliations with or membership in the Communist Party. The reason I say that I think it is the method of selection that is the trouble, rather than this particular case is that I do not think that it would be any time at all until we will be faced with the fact that it is not these avowed Communists who are a problem. It is these more devious fellows who do not profess communism, but are actually affiliated secretly. That is the real trouble.

To uncover that requires a whole investigative process.

While it is easy enough to decide it this way, I am afraid it does not decide very much.

Senator KNOWLAND. I merely want to say this: When you say, which is perfectly true, that of these one or two or three Communists who might receive these funds, there might be one who would discover some important scientific fact in medicine, or something else, I also say that the calculated risk is that one of them also might hit upon a "superduper" atom bomb, and be off to Russia, as Mr. Eisler was, on a boat, trying to get out of the jurisdiction of this country. And from the calculated risk point of view, he might be just the missing link to furnish information to an international conspiracy which has as its avowed purpose the destruction of the Republic and all that it represents.

So I think that it is a considerable responsibility for you to take upon yourself.

Mr. LILIENTHAL. Senator, it is a responsibility; but these men have no access to restricted data. They are not at work on problems of that kind. If they are, and the moment they are, they get into a completely different category.

That is why I say the line we have in the law is a line that can be defined. It is clear. And I think we ought to be very reluctant to cross it. None of these boys are working on bombs, or anything connected with bombs.

Senator KNOWLAND. I do not want to go into it today, but had we not had some examples of people who did have access to information which was of a security classification, who apparently also had affiliations, I would feel more secure in my own mind on this subject than I do today.

Mr. LILIENTHAL. What troubles me is that the Congress of the United States has thus far not drawn the kind of line that would make this an easy case. The Congress of the United States, for reasons that seemed to it wise, has decided not to outlaw the Communist Party, not to say that a Communist is not like a Republican or a

Democrat, as you have said; not to say by law, "The membership in or affiliation with this organization is in effect illegal and a crime against the country." That would be an objective approach, but it has not been done. It would assist the drawing of this line.

Senator HICKENLOOPER. Yes; but if the Senator would yield, I would like to suggest that the United States Government has said that Communists will not be carried on the public pay rolls, will not be supported by public funds.

Mr. LILIENTHAL. That is right.

Senator HICKENLOOPER. So we have at least gone that far in the declaration of our disbelief in the subversive activities of Communists and communism, whether we have outlawed them as such and made it a crime to belong to the Communist Party, or not. We have taken the step of providing economic restrictions against them, insofar as the use of public funds to employ them and keep them on the public pay roll are concerned.

Mr. LILIENTHAL. Senator, this does suggest this possibility, that the membership, the known membership, as in the case apparently of this North Carolina fellow, would give you a line, because you have the precedent of the provision in the law about the employment of Communists, who are employees of the Government.

Senator HICKENLOOPER. I would like to get into that at a later time. There are a number of questions that I wanted to discuss, but I do not think we have time tonight.

Mr. LILIENTHAL. I was only going to suggest it as a question. If that were the really difficult kind of case, that would seem to indicate some progress. The trouble is that you have got to investigate leanings, sympathies, associations, these other more subtle things, to really get the bad eggs, and that throws you into the whole business of investigation of all of these people. It seems to me that we would lose a good deal on that.

Representative DURHAM. Just one question: Mr. Lilienthal, I believe Dr. Richards has suggested, in connection with future examinations, the use of the loyalty oath.

Dr. RICHARDS. That is right.

Representative DURHAM. Would you accept a loyalty oath?

Mr. LILIENTHAL. I would accept not only a loyalty oath, but any other improvement in the procedure of the National Research Council, which they believe would be in the interest of the purposes discussed here, and would not discourage scientific development.

I think this is an important point of principle: To try to encourage them to come in with certain suggestions as this and others, and come in on that basis, rather than to have the Federal Government impose limitations.

Representative ELSTON. Do you think for one moment that a Communist is going to pay attention to a loyalty oath?

Mr. LILIENTHAL. Well, I didn't recommend this procedure. I just was asked whether I would accept that.

My whole point is that this business of professed Communists, and violations of oath, means nothing to that kind of devious individual who is our real danger.

Representative ELSTON. Freistadt must have taken two loyalty oaths. He must have taken one when he went into the Army. He must have taken another one when he was naturalized. And inci-

dently, I notice in his application he was naturalized in 1944, which was after, of course, Germany had invaded Russia.

Mr. LILIENTHAL. It is precisely because of this point that it seems to me it is a problem that cannot be solved except by facing the whole question. Should we extend the full investigative process here? That is what I think we are faced with. On that, I would like to see the National Research Council giving their opinion before we start imposing.

Senator KNOWLAND. I hope they will not be too long in giving it to us, because the Congress has this matter under consideration forthwith.

Mr. LILIENTHAL. They are studying it now, I understand, Senator.

Senator HICKENLOOPER. I want to clear the record for a moment, because we did not pursue the point, and I expect to pursue it later.

I stated a while ago that I had originally been, or have been continually, in favor of the philosophy of the fellowship program. I want to clarify that.

My conception of the fellowship program originally, and really, up until today, was a fellowship program designed to develop special talents in the nuclear field for the benefit of the atomic energy program generally. I did not have the conception of the fellowship program that it was to be education in the broad fields of science, rather usurping some other fields of national education that we had talked about. I do not care to pursue it now, but I had the idea that the fellowship program was in a restricted field of nuclear science for the benefit of the atomic energy program, and I probably will have some observations on whether I believe the Atomic Energy Commission should go into the educational field.

Now, just this one question, I would like to ask, Dr. Richards: Would you see any harm or any objection from the standpoint of the foundation, if the Atomic Energy Commission, in setting up this program, would say to your group "We want to educate a certain number of brilliant young people, scientists, but we have certain qualifications that we would like to lay down in advance. No. 1, they must, within your judgment, be able and capable of doing a job. No. 2, they must be of good moral character—we want no immoral people, if we can help it—in the program. No. 3, they must not be people who are subversive or reasonably potentially subversive people, so far as the Government of the United States is concerned. We would like for your group to operate within that program. Do you think you could do it?" If they came to you and asked you something like that, would you see any great restrictions in trying to operate within a program of that kind: First, ability, second, good morals, and third, "We do not want people who are subversive in their beliefs or reasonably potentially subversive?" Would there be any harm in such?

Dr. RICHARDS. There wouldn't be any harm on the part of the Atomic Energy Commission making that request, but the National Research Council Committee might well say "We are not equipped to discover potential communistic tendencies."

Senator HICKENLOOPER. Granted, Doctor. And I should have gone a little further and said that in outlining that program the Commission would be, in effect, saying to you, "Now, gentlemen, we respect your judgment. You are able, capable, and zealous people, and we want

you to help us, but please don't be offended if we discover in some of these recommendees some people that fall within the last two categories, either unacceptable as to morals, or subversive people. We just do not want you to be offended if we find some of those people and do not accept them, because we know you are not equipped to do that kind of a job."

Dr. RICHARDS. That would be O. K.

The CHAIRMAN. I do not think there is any question but what the Congress has evidenced, on two or three different occasions, and that recently, its intent that no part of any appropriation shall be used to employ any person who has membership in any political party or organization which advocates the overthrow of our constitutional form of government in the United States.

Now, that is section 9 (a) of the Hatch Act (18 U. S. C. 61, Fed. Note 4). Then, in the Appropriation Act, supplementary section 102 of 1949, which contains the Commission's appropriation, among other appropriations, it is again reiterated that no part of the funds shall be so used.

I wish that you would, before our next meeting, if it is possible, examine again whether or not these young men are employees of the Commission. On examining the opinion issued by the associate general counsel, I find the statement is made that they are not employees. That may well be true from a legal standpoint, but the reasoning upon which that conclusion is reached, is not set out in any detail. Of course, if that opinion is in error, if these men are legally employees, then we have no option in this matter at all.

So I wish you would reexamine the opinion of the counsel for the Commission on that point. I do not say that it is right or that it is wrong, except that I think that is a matter we should examine further.

Now, it is obvious that we have opened up a question here, which, as Mr. Lilienthal, the Chairman, has stated, is of tremendous significance. I do think that we ought to hear further testimony on it.

Mr. Bronk, as I understand it, the Chairman of the National Research Council, is to be in town tonight. Will you see him, Doctor?

Dr. RICHARDS. I will make every effort to do that.

The CHAIRMAN. Maybe some employee of the Commission could see him, too, and we could meet him here at 10 o'clock tomorrow morning, if that is agreeable. At that time we will have had a chance to consider the matter further.

Senator KNOWLAND. Mr. Chairman, just before we adjourn, because I would like these gentlemen, and others who may discuss it, to give some further thought to this:

I quite agree that all of these people who are trained under this program will not ultimately be engaged in either classified work or in the weapon phase of it. But it seems to me the Commission should constantly have in mind that out of the reservoir which the Federal Government is helping to finance, of these people, any single one of them might be drawn into our classified or weapon work. Therefore, if that fact could be kept in mind, you might get over this hurdle of a known and obvious Communist taking advantage of the program. Because, obviously he could not take the next step.

I think that certainly, anyone helping in this program should be available to us in the interests of the security of the Nation. If he

is not willing to make himself available for that purpose, I think he has no call on the Federal Government for funds.

The CHAIRMAN. Gentlemen, the only room that we can secure for tomorrow is 48-G, which is our room over in the Capitol, as you know.

We will meet tomorrow morning at 10 o'clock.

Mr. LILIENTHAL. Senator, we have been asked to appear, on our appropriation, before the Senate Committee on Appropriations, the Independent Offices Subcommittee. I am not just sure how one divides this up, whether laterally or horizontally, but we certainly, I suppose, ought to be there.

The CHAIRMAN. Well, this is a matter of tremendous importance. We have two nominees of the President awaiting the confirmation hearing. We will want to get to that as quickly as we can.

Mr. LILIENTHAL. We have some bombs to make, too, and would like to get back to work.

The CHAIRMAN. Yes. Well, I am in favor of that, too. Who is the chairman? Senator O'Mahoney?

Mr. LILIENTHAL. Yes.

The CHAIRMAN. He is the chairman of the subcommittee?

Mr. LILIENTHAL. Yes. The notice came to us 2 or 3 days ago, Senator.

The CHAIRMAN. I will talk to Senator O'Mahoney and see what arrangements we can work out, and advise you before 7 o'clock, or advise Mr. Volpe.

It might be that at least for tomorrow morning, I could prevail upon them to take the management people, with Mr. Shugg, who will start out on the budget, and we could continue this tomorrow.

Mr. LILIENTHAL. You will let us know?

The CHAIRMAN. I will let you know.

(Whereupon, at 5:55 p. m. the committee recessed, to reconvene at 10 a. m. Tuesday, May 17, 1949, in room 48-G, the Capitol.)



## ATOMIC ENERGY COMMISSION FELLOWSHIP PROGRAM

**TUESDAY, MAY 17, 1949**

CONGRESS OF THE UNITED STATES,  
JOINT COMMITTEE ON ATOMIC ENERGY,  
*Washington, D. C.*

The committee met at 10 a. m., pursuant to adjournment, in room 48-G, the Capitol, Senator Brien McMahon, chairman, presiding.

Present: Senator McMahon; Representative Durham (vice chairman); Senators Knowland and Hickenlooper; Representatives Holi-field, Price, Kilday, Cole, Elston, and Hinshaw.

Also present: William L. Borden, executive director, and Harold Bergman, deputy director, Joint Committee on Atomic Energy.

The CHAIRMAN. The meeting will come to order. Last night after the hearing, I announced an opportunity was being offered to Mr. Hans Freistadt, now at the University of North Carolina, to appear here and testify. Since his case has been so prominent in this hearing, and since his name has been mentioned, and comments have been made upon his situation, it seemed to me and to the committee that it was only proper and right that we should give him an opportunity to have a chance to appear to testify. We did this because we did not want to be placed in the position, and will not be placed in the position, of trying anybody in absentia. If there are going to be any names mentioned in this committee in connection with this matter, we will certainly give those whose names are mentioned an opportunity to appear publicly, at a time when it will do them some good, if they have a case to make.

I have an answer from Freistadt, in which he says he wants to come up here and testify, and to notify him of the date. We will fix the date, which is tomorrow morning. He will be here, I assume, tomorrow morning.

Now, Dr. Bronk, will you step over here, please?

I might say that we had scheduled for this morning confirmation hearings on the appointments of Dr. Smyth and Mr. Gordon Dean. In view of the fact that this other issue has arisen, the confirmation hearings will be held at 2:30 this afternoon.

Doctor, I know you know why you are here, and I am going to ask you to go right ahead in your own way and tell us who you are, in what capacity you are appearing, and make any comments you wish to make relevant to this hearing.

### **STATEMENT OF DR. DETLEV W. BRONK, CHAIRMAN, NATIONAL RESEARCH COUNCIL, WASHINGTON, D. C.**

Dr. BRONK. Mr. Chairman, my name is Detlev W. Bronk. I am chairman of the National Research Council, which, of course, as you

know, has been administering this fellowship program under contract with the Atomic Energy Commission.

The National Research Council also, as was described to you yesterday has, since the directive establishing the Council issued by President Wilson, sought to advise the governmental agencies on scientific matters. It is, I would say, a democratic agency of the scientists of the country. It represents a large number of scientific societies which have representatives on the Council, and also serves to provide an agency through which scientific bodies and individual scientists can make their greatest contribution to the national welfare.

The CHAIRMAN. Now, Doctor, the National Academy of Sciences was incorporated in 1863 or 1864, during the Civil War, for the purpose of advising the Government on scientific matters. It has had a long and distinguished history.

Dr. BRONK. That is right, sir.

The CHAIRMAN. The Council came into existence around the First World War?

Dr. BRONK. During the First World War, sir.

The CHAIRMAN. And its purpose was to assist the Government in experimentation and research that would be helpful in national defense?

(The Executive order perpetuating the National Research Council is as follows:)

#### EXECUTIVE ORDER No. 2859

The National Research Council was organized in 1916 at the request of the President by the National Academy of Sciences, under its congressional charter, as a measure of national preparedness. The work accomplished by the Council in organizing research and in securing cooperation of military and civilian agencies in the solution of military problems demonstrates its capacity for larger service. The National Academy of Sciences is therefore requested to perpetuate the National Research Council, the duties of which shall be as follows:

1. In general, to stimulate research in the mathematical, physical and biological sciences, and in the application of these sciences to engineering, agriculture, medicine and other useful arts, with the object of increasing knowledge, of strengthening the national defense, and of contributing in other ways to the public welfare.

2. To survey the larger possibilities of science, to formulate comprehensive projects of research, and to develop effective means of utilizing the scientific and technical resources of the country for dealing with these projects.

3. To promote cooperation in research, at home and abroad, in order to secure concentration of effort, minimize duplication, and stimulate progress; but in all cooperative undertakings to give encouragement to individual initiative, as fundamentally important to the advancement of science.

4. To serve as a means of bringing American and foreign investigators into active cooperation with the scientific and technical services of the War and Navy Departments and with those of the civil branches of the Government.

5. To direct the attention of scientific and technical investigators to the present importance of military and industrial problems in connection with the war, and to aid in the solution of these problems by organizing specific researches.

6. To gather and collate scientific and technical information, at home and abroad, in cooperation with governmental and other agencies, and to render such information available to duly accredited persons.

Effective prosecution of the Council's work requires the cordial collaboration of the scientific and technical branches of the Government, both military and civil. To this end representatives of the Government, upon the nomination of the National Academy of Sciences, will be designated by the President as members of the Council, as heretofore, and the heads of the departments immediately concerned will continue to cooperate in every way that may be required.

WOODROW WILSON.

THE WHITE HOUSE,  
May 11, 1918

Dr. BRONK. And to give general scientific advisory services whenever the Government desired them.

The Council is an agency of the National Academy of Sciences. It was created by the Academy at the request of the Government in order to provide a large base of scientific advice. It was a means whereby a larger number of scientists could be brought into Governmental advisory service under the general aegis of the National Academy of Sciences, which acts as the trustee, if you will, of the National Research Council. The National Research Council has no corporate structure itself.

The CHAIRMAN. The National Academy of Sciences is something of a holding company for the National Research Council?

Dr. BRONK. That is correct, sir.

The CHAIRMAN. How do you get into the National Academy of Sciences?

Dr. BRONK. That is by election, after very careful consideration by members of the Academy.

The CHAIRMAN. How big is the membership?

Dr. BRONK. The membership is somewhat under 500.

The CHAIRMAN. You elect every year?

Dr. BRONK. Every year there is an election.

The CHAIRMAN. And membership for life?

Dr. BRONK. That is correct, sir.

The CHAIRMAN. The elections are made by the Board of Trustees, or by the membership generally?

Dr. BRONK. By the membership generally.

The CHAIRMAN. And the qualifications for admittance?

Dr. BRONK. They are very carefully considered by the individual members and by the several sections which are concerned with the field of science of which the individual candidate is a representative.

The CHAIRMAN. Is there any limitation of the scientific qualifications? I mean by that, in the fields of science.

Dr. BRONK. All fields of the natural sciences; yes, sir.

The CHAIRMAN. How many are on the National Research Council?

Dr. BRONK. That is a little difficult to say, although approximately 220 are on the Council officially. But the Council actually includes all those who work through the Council on its many committees, and that would run into some thousands. I would say approximately 3,000 are working in the Council. That would include, for instance, those who are now on the Building Research Advisory Board, which is advising the Government on building problems; and those who serve the Highway Research Board, which has been the leading agency for the coordination of research and the giving of advisory services to the highway departments of the various States of the Union and the Federal Government.

The CHAIRMAN. How does one become a member of the National Research Council, Doctor?

Dr. BRONK. The individual members are appointed by the chairmen of the several divisions of the Council, the Division of Mathematics and Physics, the Division of Chemistry, the Division of Biology and Agriculture, the Division of Geology and Geography, the Division of Anthropology and Psychology, the Division of Medical Sciences, the Division of Engineering. The chairman of these several divisions appoint the members of the constituent committees, usually on advice of individuals in that particular field of activity.

The CHAIRMAN. And how are the chairmen selected?

Dr. BRONK. The chairmen of the different divisions are selected by the chairman of the Council, on recommendation of individuals in that field.

The CHAIRMAN. And you are the chairman of the Council?

Dr. BRONK. I am the chairman of the Council, and I recommend the appointment of a chairman of a division to the president of the National Academy of Sciences, who makes the final appointment.

The CHAIRMAN. So you are chairman of the Council. You appoint the chairmen of the various divisions, on recommendation of people in that field.

Dr. BRONK. I recommend to the president of the National Academy of Sciences that he appoint the chairmen of the divisions.

The CHAIRMAN. It is these subsidiary boards under the chairmanship of the various divisions which have actually made the recommendations for the fellowships?

Dr. BRONK. Yes. We have 10 fellowship boards. There is one which administers the medical fellowship program, the funds being provided by the Rockefeller Foundation. There is another fellowship board which administers the fellowships in the natural sciences. The funds for that are also provided by the Rockefeller Foundation.

There is a fellowship board which is known as the Merck Fellowship Board, which administers a grant made by Merck & Co., Inc., for the training of people in the borderland between chemistry and biology. There is one which administers funds provided by the Radio Corporation of America for training in the field of electronics. And when this program began, it seemed desirable to appoint five additional boards in order to get as wide representation, as wide judgment, as possible, on the selection of these individuals, rather than to overburden already existing fellowship boards.

I might say that I also felt it was highly desirable, in view of the fact that we are a national research council, to have wide national geographical representation. And accordingly, I think it is significant to state that the chairman of the Predoctoral Fellowship Board in the Biological Sciences is Dr. Whitaker, vice president of Stanford University, and the chairman of the Postdoctoral Fellowship Board in Biology and Agriculture is Reuben Gustavson, chancellor of the University of Nebraska.

The CHAIRMAN. He used to be at Chicago?

Dr. BRONK. He used to be at Chicago. The chairman of the Postdoctoral Fellowship Board in the Physical Sciences is Roger Adams, professor of chemistry at the University of Illinois. The chairman of the Postdoctoral Fellowship Board in the Medical Sciences is Homer Smith, professor of physiology at New York University. And the chairman of the Predoctoral Fellowship Board in the Physical Sciences is Henry Barton, director of the American Institute of Physics, which is a national organization.

So you can see that we have done our best to get a wide geographic representation, and to put the activity of the Council on a truly national basis in this respect.

The CHAIRMAN. I forgot to mention it, Doctor; but you are chancellor, or president, of Johns Hopkins University?

Dr. BRONK. Yes, sir.

The CHAIRMAN. You succeeded Dr. Bowman?

Dr. BRONK. Yes, sir.

The CHAIRMAN. And before that?

Dr. BRONK. I was professor of biophysics at the University of Pennsylvania, and director of the Johnson Research Foundation there.

Representative DURHAM. What is the total number of scholarship awards you have acted upon up to the present time? What is the total number?

Dr. BRONK. The total number in current operation at the present time, sir, is in the neighborhood of, I would say, approximately 575.

I recently scrutinized figures made available to me—

Representative DURHAM. I am not talking about this particular thing, but the Government awards made by the whole organization.

Dr. BRONK. I was including those, sir. I was adding the number in these several other programs, to those under the Atomic Energy Commission program. It would be in the neighborhood of 550 to 600.

The CHAIRMAN. What was the total?

Dr. WARREN. There is a total of 497 at the present time, and this year, the number made, I believe, was 216.

Dr. BRONK. The number was 216?

Dr. WARREN. There were a total of 216 made this year.

Representative DURHAM. I am not interested in the total awards on individual cases. The question I asked was how many awards of fellowships you made to groups like the Atomic Energy Commission. What is that number?

The CHAIRMAN. The so-called private ones.

Dr. BRONK. The private ones? That would be in the neighborhood of approximately 55 or 60.

The CHAIRMAN. So the majority of your business is the distribution of the Atomic Energy Fellowships.

Dr. BRONK. That is by far the larger part of our fellowship activity.

The CHAIRMAN. How long have you been in the fellowship business, Doctor?

Dr. BRONK. About 30 years.

The CHAIRMAN. And how many would you say had been granted in that time? Would you hazard an estimate?

Dr. BRONK. Yes, approximately 1,500.

The CHAIRMAN. Have they averaged about \$1,000 or \$1,500? What have they been worth?

Dr. BRONK. They have varied, of course, as the cost of living has gone up. They began at a lower figure, but recently they have been in the neighborhood of \$2,500, and this past year they have increased to \$3,000, as a basic stipend for a postdoctoral fellow who is unmarried. That is increased in terms of a wife and children.

The CHAIRMAN. And predoctoral?

Dr. BRONK. Predoctoral has been in the neighborhood of \$1,600, as the basic stipend.

The CHAIRMAN. That is the classification that Mr. Freistadt is in?

Dr. BRONK. Yes.

Representative DURHAM. Do you use over-all standard requirements in the application of these awards?

Dr. BRONK. The award is made, sir, on the basis of the judgment of the Board, which tries to take into consideration the scientific ability of the individual in view of all of the various considerations which are deemed to be pertinent. So that it is on the basis of the

judgment of the Board, and there is a rotation of membership on that Board, so that there would, of course, be somewhat different criteria and standards as the personnel of the Board changes from year to year.

Representative DURHAM. But are you using practically the same standard that you have been using over the past 30 years for these atomic energy fellowships?

Dr. BRONK. We are using exactly the same methods of procedure; although, as I say, the standards change.

I would also like to say this, which I think is pertinent: We feel that the selection of individuals is an experimental procedure. We must keep ourselves alert to changing conditions and changing requirements for people going into scientific work.

Because of that we review from time to time our bases of selection and our criteria. Last autumn we had a meeting of representatives of all of our fellowship boards, not only those dealing with the Atomic Energy Commission program, but the others too, in order to go over many of the detailed problems concerning these fellowship programs: What should be the stipend, what should be done with regard to increasing the stipend in the case of the birth of a child, what should be done about fellowships for foreign study, what sort of compensation should be given for travel, details of that sort, as well as broad general issues, and there was general agreement by representatives of all of these boards on what should be the policy.

Because of the fact that we have, during this past year, had a much larger fellowship responsibility than ever before, I had some months ago decided to have a meeting early this summer of the members of all the fellowship boards, together with a committee on the selection and training of scientific personnel, which is under the chairmanship of Dr. Rulon of Harvard, to consider whether or not we are using the right methods for the selection of individuals. We like to feel that we are continually studying the method of selection, to improve it, in order to make it more effective.

Representative DURHAM. Has your Board turned down any requests by any group or individual or organization or corporation or whoever makes the award, to administer and select these awards?

Dr. BRONK. There has been so such proposal made to us during the 3 years I have been chairman, sir. And before that time I am not aware of there having been such a negotiation entered into.

Representative DURHAM. To your knowledge, then, there have never been any awards turned down by the Board because of the fact that certain stringent regulations were requested by the donor?

Dr. BRONK. No, sir. We like to operate on a basis of partnership and cooperation with the agency with which we are working. As I say, in the field of the fellowship programs, there has been only the relationship with the Rockefeller Foundation, up until these last few years.

I might add, in addition to the agencies I have already referred to, that we do administer fellowships under funds provided by the American Cancer Society, the National Foundation for Infantile Paralysis, and certain other agencies in the field of medicine.

The CHAIRMAN. Do you distribute fellowships, or distribute funds?

Dr. BRONK. We distribute fellowships for those agencies.

The CHAIRMAN. Does that include all of these classifications, that amount to about 55 or 60, the Rockefeller, the Cancer Society, Merck, all of them?

Dr. BRONK. I think it comes in the neighborhood of 60 to 70; yes, sir.

The CHAIRMAN. How many organizations do you represent, other than the AEC?

Dr. BRONK. Six.

The CHAIRMAN. Let us see. We might as well get them for the record.

The Rockefeller Foundation, Merck, and the Institute for Cancer Research?

Dr. BRONK. The American Cancer Society, the National Foundation for Infantile Paralysis, the Radio Corporation of America, and the Carnegie Corporation of New York. There may be some others in the field of medicine that I am not aware of, but those are the ones that come to my mind.

The CHAIRMAN. That would be seven, adding the Atomic Energy Commission.

Representative DURHAM. The Atomic Energy Commission award was the only one with Government funds, then? Is that correct?

Dr. BRONK. That is correct.

The CHAIRMAN. Where was this meeting held, that got all the people in?

Dr. BRONK. That was in the offices of the American Institute of Physics, in New York.

The CHAIRMAN. When?

Dr. BRONK. Last November.

The CHAIRMAN. Previous to that time you had had some discussion with the Atomic Energy Commission about investigating, making a check on the applicants for fellowships?

Dr. BRONK. That was discussed; yes, sir.

The CHAIRMAN. Was that discussed at the November meeting?

Dr. BRONK. I am not aware of the fact that that was gone into at that time, because we were concerned then with the operation of the program as it was proceeding for that particular year, which was already in process. The fellowships had been announced, and we were trying to decide on the details of operation for the spring selections.

The CHAIRMAN. I think we now understand, Doctor, the type of an organization it is and how it proceeds in its business.

Of course, we are now aware that a certain young gentleman in North Carolina who has been awarded one of these fellowships, is one who is very much dedicated to communism. He is the head of a study club, the Karl Marx Study Club, as he calls it, and he is going to appear. He will appear tomorrow. I gather from the newspaper clippings there will be no doubt as to his holding to his convictions as a Communist.

Doctor, it was a rather unfortunate thing that he got into this program; was it not?

Dr. BRONK. It certainly has made a lot of complications in an otherwise pretty straight-line organization.

The CHAIRMAN. I think you will agree that it was unfortunate that he landed in on us.

Dr. BRONK. I would agree.

The CHAIRMAN. How are we going to prevent that from happening again?

Dr. BRONK. Well, I was cognizant of that sort of difficulty when I said that I thought that the Fellowship Board should continually consider this method of selection and identification of individuals. I think that there is one type of information which we may not have had as adequately at the disposal of the Boards as would be desirable, and that is partly because of the fact that in the past we have operated primarily in the field on postdoctoral fellowships. Fellowships have been awarded to individuals who have already received their doctorate. Because of that, they have been in close association with the individual professor under whom they have been doing their research, so that we have had a very good source of information concerning their general qualifications, character, personality, physical stamina, and all of the other elements which contribute to their effectiveness as well as their mental capacity.

When, during the latter part of the war, we began a program of fellowships designed to replenish the pool of scientifically trained men in the country under a grant from the Rockefeller Foundation, these fellowships to be awarded to young men who had been in some sort of war service and had had their scientific training interrupted, therefore involving the appointment of men who had not received their doctoral degree, we became cognizant—I say “we,” because I was a member of that committee—we became cognizant of the fact that it was much more difficult to identify the people who were to be awarded fellowships. In that particular program we had some 2,300 applicants, and we were able to make approximately 190 awards.

So, as I say, it was apparent to us that we were facing new problems in the selection of people; that is one of the reasons why there has been appointed this committee on the identification of scientific personnel, under the chairmanship of Dr. Rulon at Harvard.

That leads me to say that I think we should have a means whereby we can find more information, more pertinent information, regarding the general characteristics of an individual.

The CHAIRMAN. Which would include what?

Dr. BRONK. If you can believe my sincerity, I would say that I made this suggestion long before this case arose; that it would be desirable if we had, in addition to the statements from three scientists who know the candidate, a statement by, I would say, the dean of men, who would have a different sort of basis of appraisal of the character of the individual. Or if the dean of men felt unable to give us a statement concerning the personality and character of the individual, it could be suggested that he designate someone who could give to our board such information.

Now, that will be my personal recommendation to fellowship boards. It may be that we will feel that this information will not be helpful, but I would strongly recommend that that be done, and I would believe that it would be accepted by the fellowship board. That sort of appraisal would, I believe, have given us in this particular case information which was not available to the board.

But I would also like to say, sir, that we believe that our best chance of securing a fair appraisal, a good appraisal, of an individual's qualifications, is to be gained from individuals who know him in the

local institution in which he works. We are a national organization which deals with institutions throughout the country, and we like to place as much responsibility as possible for assistance upon the individuals in the institutions who we assume are best qualified to give us that advice. If in this case we find that we have not been given the information we should, upon turning to three competent scientists, I think it indicates that we should secure information from others, and I believe that my thought of securing information from the dean of men of the institution in which the man has taken his training would satisfy that particular need.

The CHAIRMAN. Well, Doctor, as I get it, you state that greater investigation, or more detailed investigation, is necessary. You thereupon place, it seems to me, a rather sharp restriction on where you go to get that information. Is that not true?

Dr. BRONK. No, I would not put any restriction on it at all. In fact, I am sure that the Boards generally not only welcome, but seek as much advice from as many sources as they possibly can. But if one is going to define a certain individual from whom we should always receive information, I would think that the dean of men would be as good as any one individual.

But, if I were to find that any of our Boards were not heeding any advice they could get, any information available to them from any source, I would be greatly disappointed and very much surprised.

The CHAIRMAN. Let us take Freistadt, for instance. This might be helpful. Now, would you trace for us how he came into the situation and what the steps were that were taken, and what steps you would now add, on consideration of the problem, as new steps?

Dr. BRONK. In answering that question, I must say that I had never heard of Mr. Freistadt until last week. He was a completely unknown individual to me, so I can only answer the question in general terms, as the process would normally be carried out.

He would have received information concerning these fellowships from the announcements which were circulated widely among the universities and colleges of the country. He would then, I presume, have written, and in fact I know he must have written, to our Office of Scientific Personnel, Fellowship Division, for further information concerning the fellowships.

The CHAIRMAN. Where is that office?

Dr. BRONK. In the National Research Council.

The CHAIRMAN. In New York?

Dr. BRONK. In Washington.

He would have received application blanks, on which he would have made application for a fellowship.

The CHAIRMAN. Have you one of those forms with you?

Dr. BRONK. I do not have one with me.

The CHAIRMAN. Could we get one?

Dr. BRONK. I think perhaps there may be one here that Dr. Richards has.

The CHAIRMAN. Is that a blank form?

Dr. BRONK. No; this is the one on Freistadt.

The CHAIRMAN. Doctor, is there any question there, that is designed to elicit this man's, or the applicant's membership in organizations?

Dr. BRONK. That is not on here, to my knowledge. I would be very much surprised if it were. In fact, I am sure it is not.

The CHAIRMAN. Is there any oath of allegiance required?

Dr. BRONK. No.

The CHAIRMAN. There is no question on there designed to indicate his political beliefs? I do not mean as to whether he is a Democrat or a Republican.

Dr. BRONK. Nothing to indicate that explicitly, sir. When I say that, I have in mind a question posed to each of the individuals whom we questioned concerning the applicants: "Is the candidate the kind of person with whom you would like to be closely associated as a professional colleague?" And "Give your judgment of the candidate's character and personality, including a statement of any physical, personality, or character handicap."

The CHAIRMAN. As to these three gentlemen, the professors who answered as they did to those questions, what comment have you to make on that, Doctor?

Dr. BRONK. I can only comment that I would not have answered in the same way myself.

The CHAIRMAN. Pardon me, sir?

Dr. BRONK. I say I would not have answered in the same way myself.

The CHAIRMAN. That is, you see, the problem we are up against. How are we going to keep that from happening? The AEC and its vast appropriations depend, as you and I know, of course, on a Government supported by the people, who must be convinced of the soundness of the program. That does not mean every administrative step has to be taken in accordance with the vagaries or the passing fancy of Johnny Jones at Third and E Streets in Minneapolis; but generally speaking, a decent regard, shall I say, for the opinions of citizens as a whole, has to be had by any democratic government.

Dr. BRONK. I was on the point of saying that I firmly believe—and my faith in American democracy has not yet been shaken so much, although I think we all have it shaken at some times—my faith in American democracy is still so great that I believe that, except in rare instances, when we take into our confidence our fellow citizens, we will get good advice. Sometimes we may be let down, but in this particular situation, for instance, we have over 300 fellowship appointments, now close to 500 fellowship appointments, as you have heard. And there may be other individuals than Freistadt; I couldn't be sure that there are not others that we have been badly advised on, with regard to their candidacy, but I think that in the great majority of cases, our fellow citizens, on whom we lean for advice, are going to play fair and square with us, and are going to give us intelligent and accurate and open advice and assistance.

The CHAIRMAN. How can we avoid having more Freistadts? And certainly I do not want to place a policeman at the elbow of every research student. I think I have some appreciation of what security by achievement means in this field, as opposed to strictly security by concealment. With all that those two ideas connote, and with all the sympathy in the world, I want to know from you how we can practically proceed in such a way as to avoid a man like Freistadt, who is a scandal to the people of North Carolina, and to the people of the country, and a scandal to his fellow students, who, as Congressman Dur-

ham showed me yesterday, wrote in their official paper denouncing him, and I thought very logically, too. There were some more vigorous attacks on him, which were perhaps too much so, but by and large it was a pretty sensible thing. We cannot have scandal in this program.

Dr. BRONK. I don't believe, sir, and I am sure you would agree, that we can be absolutely certain that we can avoid every single instance. I do not believe there is any method of scrutiny which can be absolutely perfect.

The CHAIRMAN. No human institution is that.

Dr. BRONK. No human institution is; yes, sir. I think the individuals who are most dangerous, as I would say, based on my long association with military agencies, are the ones who are best able to hide the sort of thing that Freistadt did not hide. An individual such as he should easily be identified. But the people that I would be more concerned about, and more alarmed concerning, are those who seem to be absolutely clean. They are so shrewd and so able to cover up what they are doing that they cannot be identified, and those are the ones I would be alarmed about. How one is going to find those, I do not know. I think we have to take some calculated risks. I believe we could hedge ourselves around so completely by defenses against individuals who might be dangerous that we could not make any progress at all, and would be unable to move.

So I think, as I say, that we have got to take some calculated risks. That is not to say that we shouldn't do what we can to improve our system of finding those individuals who are most able to make important contributions.

The CHAIRMAN. That risk would be minimized, Doctor, by a most careful examination of the applicant's character; and certainly his belief in the overthrow of the United States Government is definitely a characteristic.

Dr. BRONK. And yet he must have said that he did not believe in that, because I find that he must have taken the oath of allegiance when he became a citizen of the United States. He must have taken the oath of allegiance when he went into the United States Army.

The CHAIRMAN. But, Doctor, would not the most cursory examination at the University of Chicago, where he spent some 2 years, and where he was very actively engaged in promoting the Communist cause, have turned it up?

Dr. BRONK. It certainly would have.

The CHAIRMAN. Yes. You say more care should be taken. At least I certainly agree more care should be taken and more investigation should be made. Now the question comes of "Who should make the investigation," I presume. But at least we are agreed on the fact that we should not be required to educate a fellow like this Freistadt.

Dr. BRONK. But I am confused on that, sir, because I find that the GI bill of rights was providing him money for education, and I personally can't see any difference between providing money under this fellowship program and under the GI bill of rights.

Representative KILDAY. That is a static thing, Doctor. The very idea of service gave him that right.

Dr. BRONK. Yes.

Representative KILDAY. Excuse me, Mr. Chairman.

The CHAIRMAN. That is all right.

Dr. BRONK. And yet insofar as his contribution to science is concerned, I don't know that I see the difference. Because if he was to receive any sort of classified information, he obviously would have to be cleared. But insofar as his eligibility for the education is concerned, it seems to me that he is as dangerous under one category of support as under another.

Senator HICKENLOOPER. Mr Chairman, may I suggest this to Dr. Bronk?

Under the theory of the GI bill of rights, educational opportunities are considered to be an earned matter of right, which has already been earned and paid for. The consideration has been given for that. Under the fellowship program it is a matter of governmental grace. It is extending a gratuity that is not considered to be an earned award, except as such gratuities may develop some potentials. I think there is a fundamental difference. The law recognizes that there are matters of right and matters of grace, and this would, I think, fall under the category of a matter of grace rather than a matter of right. I would consider the GI bill as a matter of right.

Dr. BRONK. I see the distinction. I said I was confused about it, and I think that has clarified that point in my mind.

The CHAIRMAN. That would be like investigating a farmer who is the recipient of an AAA benefit to find out if he was loyal or not. That has nothing to do with it. He refrains, under that program, from planting so much cotton, for example. It is a contract.

Representative DURHAM. Doctor, speaking about the methods of trying to get information on these students, I am going to read from an article which appeared in the Durham Morning Herald. It appears that Freistadt was interviewed, and he wrote this letter to the Tarheel.

Suppose you had had this kind of information, which would have been easy, I think, to have obtained:

He says [reading]:

I criticize our present administration as an economic organization. I have argued that our foreign policy is suicide. I have urged that under socialism the American people could enjoy a standard of living the like of which we dare not dream of now. The right to so argue is a privilege that every citizen enjoys, and it requires a highly distorted reasoning to make disloyalty out of that. I consider myself a loyal citizen of this country. I am bound by my oath of citizenship—

which he said he took while in the Army in 1944 and 1946—

to defend it against any aggressor, and will do so if necessary. I see no contradiction between my loyalty and my membership in the Communist Party. I consider allegations that the Communist Party is under foreign control lies, and until such time as these allegations are proved in court I will judge the Communist Party by its published platform and constitution, to which I subscribe.

If you had known that, certainly you would not have selected him for a scholarship, would you? Do you believe you would, if you had had that kind of information?

Dr. BRONK. If I had been on the Board of Selection, I would say it indicates a person who doesn't think very clearly, and is not likely to be a very good scientist.

The CHAIRMAN. Exactly. He says he is in the pursuit of truth. And what more palatable and obvious factor is there, Doctor, to you and to me, than that the Communist Party in this country is part of

an international Communist Party and an international conspiracy? After all, we need only look at what happened in 1939 and 1940, and the change in party line here, when they changed overnight and the Daily Worker was so embarrassed, as we remember. Then you remember Duclos making the speech in France and Browder immediately getting kicked out.

So if this fellow is so dense as not to see that he must be a boob, and he is not worth anything.

Dr. BRONK. Of course, there is one factor that I find it very difficult to appraise adequately. In fact, I am afraid I would have to say, If I were going to be absolutely frank, that I am not a very good witness in such a hearing as this, because I have certain prejudices, very deep and strong and almost violent prejudices in regard to this whole matter; which does not make me a very good scientist, when I come to talk about them. So I have to try to push those into the background. But, having pushed them as far into the background as I can, I do wonder whether we don't encounter some young chaps who do have a great capacity to make an important contribution to our national welfare, who are experimenting with new ideas, not only in the field of science, but also in the field of social philosophy.

And if they have the capacity to become really able scientists, I would have the faith—or I would have the hope, let me say; perhaps it is a little stronger—that as they develop a little more maturity, they would recognize the fallacy of their point of view and would soon cast it overboard.

I think we have all seen in biographical histories, accounts of individuals who have been radical in early age and conservative later. They develop in that way.

So I think we have to take into consideration what the calculated risk is that we can take in letting an occasional person of this sort come into the program—who I would doubt could do very much harm, or could do any harm at all, except to sound off with a lot of nonsense—in the hope that he will become wiser as he develops, also greater scientific competence. I don't mean to say that he will become wiser politically because he develops more scientific competence, but as he develops scientific competence he is also going to develop the maturity in his social outlook which is going to make him not only a useful scientist but a respectable citizen of the country.

The CHAIRMAN. May I correct one thing I said, or rather, not correct it, but amend it?

I realize that a great artist, for instance, might have unusual political views. My comment on Friestadt is that he finds as objective truth something that is so palpably wrong, as you pointed out, that you did not think he would be a very good scientist.

I do not mean that a great scientist has to be a conformist in his political views, and must think just exactly as I think. I certainly do not mean that. And I want to clear that up: that this instance that Congressman Durham raised, this statement about communism not being a national conspiracy, seems to me to be such a statement as to indicate that he is not very bright.

Dr. BRONK. I agree with you a hundred percent, and I think that our Fellowship Board in this instance scored just about zero. But may I please also say that we cannot hope, even with a distinguished Fellowship Board, to have them bat 1,000. I am afraid they are

going to occasionally strike out, and if they do a good job on the high average, I would feel well pleased.

These are individuals who certainly are devoted to the national welfare. They give their services completely freely, and they will do the very best they can. They will try to improve their methods of selection, and I am sure that you will find that when they come together this summer they will take such considerations into account. I am sure that they will be desirous of improving, in every way possible, and I can assure you gentlemen that they will respect your advice and the thought that you have given to this matter.

Senator HICKENLOOPER. Dr. Bronk, in connection with your discussion of just a moment ago about selecting people of ability for training, I would like to suggest that in this particular matter I think there is a very fine, but clearly defined line of differentiation between what the meat of this particular inquiry is, and the theory of fellowship education generally.

This involves the expenditure of Government money to educate subversives, or other undesirable people.

I do not approach this from the standpoint of discussing what you may do for the National Broadcasting Co., or whatever the other organizations are that you represent, as private ventures. I am not allowing that to creep into my mind in connection with this thing at all. I do think that this involves only the desirability or the propriety of spending public money to educate subversives or potential subversives or other undesirables.

Now, do you draw a distinction between those two approaches to a general fellowship program?

Dr. BRONK. I do. Because I think that where a private agency asks us for advice concerning the identification of individuals to whom they should make available their money, or where they give that money to us to give to certain individuals, as we think best, it is necessary that we discuss with them their standards.

For instance, in the case of Merck & Co., we wish to do those things that Merck & Co. are interested in having done, insofar as we can go along with them.

In the case of the Government, we likewise wish to work in cooperation with Government.

Senator HICKENLOOPER. That leads me to one question that I think is quite important. The National Research Council is, without argument, composed of able and eminent people. So I do not speak so much in criticism of the National Research Council, because I believe it to be true that the members of the National Research Council are interested in educational advancement. Very often, I think, many of those people are not concerned with the social and political views of people; they are interested in their capacity to learn a specialized field and to develop their abilities in that field. Therefore, the National Research Council may well have described this job fully when it said, in effect—

We recommend certain individuals because their record has been good in their particular field of endeavor, in their particular science.

Would it be unworkable in any way, in your judgment, if the Atomic Energy Commission would come to you, as the National Research Council, and say to you, "We would like to use the benefit of your general knowledge in this field to recommend young men or young

women for special training as fellows. But we have certain standards that we would like to suggest to you. First, we do not want people who are immoral, that is, there are certain moral standards we would like to preserve. Secondly, we do not want people who are subversive in their views, or reasonably potentially subversive in their views. Those are two standards we would like to maintain."

Would there be any difficulty on the part of your National Research Council in recommending people, and then having them subjected to those other two tests by the Commission or its agencies?

Dr. BRONK. I can't see any difficulty with that. I think our technique would have to be modified, because the appraisal would have to be done in a fragmented way, perhaps. But any criteria which was set, we would certainly consider, and I can't conceive of any possible difficulty with the procedure you have suggested.

Senator HICKENLOOPER. May I go just one step further, in this discussion here?

Would you think that the National Research Council would be offended if the Atomic Energy Commission said to it: "We do not want immoral people and we do not want subversives in this program, but we will assume responsibility for the examination into those phases. What we would like your help on is the recommendation of capable people, and we hope you will not be offended if somebody you recommend is found by us to be not the type of individual morally, or from the standpoint of loyalty or otherwise, that we would like in this program?"

Do you believe your group would be offended by that?

Dr. BRONK. I certainly don't think they would be offended. They might find it difficult to operate if the procedure were going to be carried out in a certain way.

Because I want to be entirely fair to the Atomic Energy Commission, in saying that after hearing the debates and discussions of the five fellowship boards last spring, I took the time to sit with each of the Boards and heard their discussion of the general problem that they are now facing, as a new type of responsibility. And on the basis of those discussions, I wrote to the Atomic Energy Commission and said that I believed that I had interpreted accurately the general opinion, if not the unanimous opinion—because there may have been several individuals who did not feel so strongly—as being that it would be very difficult to operate the program if each applicant were to be investigated by the Federal Bureau of Investigation before the Fellowship Board was to go into action. I also had very strongly the impression that the members of the Boards felt that that would be an unwise thing to do. Because, if I can interpret their feeling correctly, it was that if they did not take that stand they would be encouraging a line of procedure which might have very far-reaching implications in the whole field of education. They were thinking in terms of the proposed National Science Foundation.

And one of the reasons why, I may say, I was able to get as many top-flight scientists in the country to take on this very heavy responsibility and a lot of hard work was because they recognized that they were taking a first step; that they were having a part in helping to determine policies which might be very much more widespread than just this program; that they might be laying the foundation of philosophy, so to speak, with regard to the operation of a broad national

fellowship program under the National Science Foundation. I believe I interpret their opinion correctly when I say that they felt that they did not want to be party to any recommendation which would imply that no individual should be supported without FBI clearance. I now exclude the GI bill of rights, because I have been corrected on that and see the case quite clearly. But they did not want to be a party to endorsing any procedure which would involve Federal Bureau of Investigation clearance of any persons who in the future was to receive Federal benefit for scientific education. But that is past history.

Now, what they would feel about the situation at the present time, I don't know. I am sure that they would be glad to discuss this whole matter with the representatives of your committee and of the Atomic Energy Commission, and I am sure you would find them desirous of working as seemed to be satisfactory to the majority of those concerned.

Senator HICKENLOOPER. Well, I may suggest, Dr. Bronk, that with regard to the matter of investigation of these people, or the inquiry that was mentioned a moment ago, it appeared yesterday in connection with Freistadt in the hearings, that a simple telephone call to the Federal Bureau of Investigation would have developed this information. The fact of the matter was that eventually the Federal Bureau of Investigation telephoned the Commission and said "We have this information on this man."

That, in that case, would not have entailed any additional extensive investigation. But this is an isolated case, and there were probably peculiar circumstances surrounding it.

But it occurs to me that there could be no reason why the National Research Council should not be perfectly able to exercise the function for which it is peculiarly adapted, which is the gaging of the ability of an individual as a potential doctor or as a potential specialist in some field. That is the field in which the National Research Council is well qualified. The National Research Council, of course, is not well qualified to conduct an investigation into other matters; but I fail to see why, in the case of an expenditure of public funds, the National Research Council cannot do the job it is qualified to do, which is to evaluate the mental potentials of these people in their specialized lines, and why that would be interfered with if two other very important categories, morals, and subversive attitudes, could be looked into reasonably, as a matter of assurance. I do not know just what the answer to that would be, but it would seem to me that some very adequate inquiries into the two categories of morals and subversive attitudes could well be worked out, which would be reasonably satisfactory.

Dr. BRONK. I like that remark particularly, because it seems to me that we are all interested in doing the same sort of thing. And certainly the National Research Council has very deep in its heart the national welfare, and I am certain that we can discuss this matter with representatives of the Atomic Energy Commission. I am certain that we can work out a method of procedure that would be entirely satisfactory to those who have the interests of the nation at heart. There may be differences of opinion as to how the thing should be done from the standpoint of details, but I can't believe that there is any fundamentally insoluble problem here.

Senator HICKENLOOPER. Then let me delimit the problems involved here, Dr. Bronk. This is my personal view; I cannot announce it as the view of everybody. I think we must consider that in private foundations the money that is used by the private group is the responsibility of that private group. They are spending their own money.

In the case of public activities, not only is the Congress the trustee for the manner in which public funds are used, but the Atomic Energy Commission, as an administrative branch, is a trustee for the public, who can only speak through the Congress, and must have their affairs administered through an administrative agency.

So we are dealing with that responsibility as to the use of public funds here, and, we are not dealing with the field of education generally, nor are we dealing with the freedom of education. I do not think anyone has tried to raise the question here of the limitation of the general freedom of education or the ability of the young man or young woman to get an education, or of colleges to teach all comers who come to learn. It is only the question of the use and the appropriation of public funds by the trustees of the public.

I am fully aware that it presents problems, but I am also fully aware that it presents areas of great concern to the people for whom we are those trustees.

Dr. BRONK. Do you think that the people who are particularly critical of this particular case adequately realize—if they don't, I think we have done an inadequate job in telling the whole story—that these individuals are in nowise going to have any information concerning the area of the Atomic Energy Commission that any other person could not get out of textbooks, and also that they are not being trained for specific subsequent employment by the Commission?

Senator HICKENLOOPER. Yes; I think many people do realize that. I think many people have not had that full understanding, but I do not think that is the question, Doctor. I think you can say it just in a nutshell: I do not believe the American public will stand for the education of a Communist with public money.

Dr. BRONK. So the same thing would be true of the National Science Foundation?

Representative KILDAY. That would be making more efficient the activities directed toward overthrow of the Government.

Senator HICKENLOOPER. I believe that really is the issue. It is not a question of freedom of education here. It is not a question of curtailing the curriculum of your university or anybody else's university. It is not a question of shutting the doors of public institutions to those who come in under our whole system and come to learn. It is not that at all. It is the question of whether or not we are going to let down the bars, and say that we will use public money to educate people who believe in communism.

The CHAIRMAN. Senator, would you allow me to ask you this question?

I think perhaps you will want to develop it. How do you differentiate between your statement just made—and I know there is a differentiation that can be made—how do you distinguish between what you have just said, and participation of the high schools of the country in the \$300,000,000 Federal-aid-to-education program? Do you not think that should be developed for the record?

Senator HICKENLOOPER. Well, there you are supporting an institution, the institution of education, of which the citizen, the resident, can partake. In the aid to education you are not specifically subsidizing an individual, supporting him and encouraging him; you are subsidizing and supporting the whole institution and the area of education.

The CHAIRMAN. In which there is compulsory attendance.

Senator HICKENLOOPER. Yes. But it is not a specific subsidy to the individual.

I may say this, just so that I may not be misunderstood, Dr. Bronk. We have all, on this committee, had a tremendous interest in the whole operation of this program. Loyalty matters have come before us, and so on. I want to say again, as I have said repeatedly before, that I think the record of patriotism, loyalty and undeviating devotion to duty of the rank and file of the people who have engaged in this program is remarkably high. I am sure no other group of people in the United States could exceed it; perhaps very few groups could equal its record. It is not the question that there is any mass distrust in this thing, but by the same token, it happens to be a very vital field, where emotions are high and apprehensions are high.

Dr. BRONK. And we want to protect the opportunity of these people to give the service of which you just spoke. So I quite agree with you.

Senator HICKENLOOPER. I think we have gone a long way. It just comes right down to this point: The affirmative subsidization with knowledge, and with Government funds, of a subversive, whose basic principles are directed toward overthrow of the existing Governmental forms of the United States. The comparison is small indeed, of course, but the very, very small number involved, certainly would suggest that such individuals could well be eliminated without affecting the overwhelming number against whom no serious objection could be raised at all, and to whom encouragement should be given.

Dr. BRONK. What I would like to see done is the working out of a means for selection which would meet the needs of the situation without having to go all the way down the road in the investigation of every person to whom we are going to give Federal support for education, as possibly under the National Science Foundation or some other agency; and when we do not know where the road is going to lead us. It may take us into difficulties which are so much greater than we can possibly conceive of that we ought to be very sure we are not taking a step which is finally going to put us too much under a type of control that we would all regret. That is why I would like to cooperate with you gentlemen in seeing if we can't work out something which meets the needs of this situation. I don't mean the particular instance of Freistadt, but I mean the program we are dealing with.

I understand that Dr. Richards made this suggestion yesterday. I wonder whether the requirements that they take an oath of loyalty would satisfy the needs of the situation, coupled with this much greater scrutiny which I will strongly recommend, irrespective of what the outcome of this issue is, with regard to getting from individuals other than those merely qualified to judge their intellectual competence, some appraisal of the character and personality of the individuals concerned.

Senator HICKENLOOPER. In the question of the oath of loyalty, Dr. Bronk, I am merely repeating what I believe has been reliably stated by various responsible groups in our country; that a part of the Communist philosophy is to swear great allegiance to certain forms when their secret intent is to destroy them. Would you go so far as to say this: Would you think that it would be ruinous or offensive to require that a questionnaire be responded to by the individual as to whether or not he belongs to any one of a certain number of organizations, and containing other information touching upon his background and associations, such a document to be under oath, so that he would be subject to punishment if he perjured himself?

Dr. BRONK. Personally, I would see no objection, but I think there are implications there that would require that this would have to be considered by the members of the boards and the Council as a whole, in order to see what it would do to the value of the program.

Senator HICKENLOOPER. I am merely trying to draw a distinction between what I believe would be the province of the Council, in a field where the Council is a specialist, and another province which is separate and apart from that. The Council is a specialist in attempting to evaluate the mental capacity of the student. The Council is not equipped and is not trained to investigate into the social and political views of an individual, with the possible exception of investigations in economics, scientific matters, things of that kind. But in the province of science, the Council is interested in the capacity of that particular individual to do a job along that particular specified line, and the Council may be out of its element when it undertakes to investigate and evaluate political connotations.

I am wondering if there is an area where the Council can do a job that it is equipped to do; and if the agencies representing the people may be able to do another job on another phase of that which they are equipped to do; with the result of in some way arriving at a satisfactory medium.

Representative KILDAY. Doctor, basically, what you fear is an infringement on academic freedom; is it not?

Dr. BRONK. Yes. I am not quite sure that I know what academic freedom means, but I think we have a vague feeling about it. That is certainly part of it. And as we all do, I like to see personal freedom, personal liberty generally, maintained, just as far as possible, without infringing on the security of our country.

Representative KILDAY. Of course, it is a very well established principle in the field of education that there shall be academic freedom on the part of the professor. But do you not think there is a distinction here, when a man applies for and receives public money? Do you not think there is a distinction between that individual and the person who goes to school on his own or receives whatever family assistance he might get? All of us, as holders of public office, are precluded from lots of things. There are many things that we cannot do that we could do if we were private individuals. And when a person accepts public money, he assumes a different status, and it is not an infringement of academic freedom to affirm that. I agree with the Senator completely that your field is not to determine the loyalty of people, or things of that kind. You are to evaluate the academic and scientific potential of the individual. But it would not

at all infringe upon academic freedom for you to say "Well, now, here is an individual who has an outstanding potential in his field" and then leave it someone else to say whether he should receive the fellowship.

In other words, there were 216, as I understand, selected this year. Your organization would not object to saying: "The Commission says we have 216 vacancies. Give us the names of 300 men. From that number we will select." You would not object to that, would you?

Dr. BRONK. I think it would depend on what it would do to the value of the program as a whole. And what I have in mind is that if the type of added criteria to be placed on these individuals was such as to reduce the contribution to the scientific advancement of the future which the National Research Council desires to achieve, or such as seriously to impair it, then it might be that the members of the board would feel that they would not be making a sufficient contribution to be worth the serious difficulties which they brought into the program, but I am merely trying to interpret the remarks that I heard around the table last spring.

Representative KILDAY. If they are all as practical as you are, I do not think that would take place. Over 500 applied. You selected 216. Would not the same thing be true there? There were a number of men who felt that they were qualified, whom people recommended, and who were not held to be qualified.

Senator HICKENLOOPER. I want to ask one question, and then I hope I will be through.

The National Research Council has been operating for about 30 years, I think. And the total fellowship awards in those 30 years have been about 1,500, as I wrote it down here.

Now, does that include the AEC fellowships?

Dr. BRONK. No, sir.

Senator HICKENLOOPER. So that that is in addition to the AEC fellowships?

Dr. BRONK. That is in addition; yes, sir.

Senator HICKENLOOPER. Do you have about five or six private agencies or foundations that ask you to serve them in that capacity?

Dr. BRONK. That is correct.

Senator HICKENLOOPER. And they each put a definite limitation on the number of fellows that they will take?

Dr. BRONK. In terms of the money that they make available for the fellowships.

I might say in that connection, and I think you would be interested to know, that in our relationships to the Rockefeller Foundation in the 3 years I have been chairman of the council, I have made it a point to discuss with the officers of the foundation such matters as the amount of stipend we will pay and the number of fellows we will take, and what would be the influence of raising the stipend, because I feel that we are working with them. We are cooperating with them in this operation. We are told that the money is ours to spend as we will, but nevertheless we welcome their advice as to how to do it.

Senator HICKENLOOPER. This is the point I would like to get a little better developed here, in the operation of the private foundations.

Do they say to you, each of them, "Now, we have just so much money" or do you go to them and say, "We have some likely people, and we need some more money?"

Do they accede to those requests?

Dr. BRONK. In some cases, yes. The money is given to us in a certain amount, arrived at by mutual discussion. In several instances we have had so many good applicants, that we have gone to the agency and said, "We have more than we are able to give fellowships to, whom we think deserve fellowships. Do you think you could increase the grant slightly?" That has been done.

Senator HICKENLOOPER. Have they done that so that you could take care of those, as a rule?

Dr. BRONK. That is correct.

Senator HICKENLOOPER. The point I wanted to get at is this: In 30 years there has been a total of 1,500 young people that have been considered capable and worthy of fellowships, under that kind of an arrangement. But here, certainly, within less than a year's time, we find a third as many, that are suddenly discovered to be brilliant and potential trainees in the atomic energy program, a third as many as the private foundations have considered to be worthy of fellowships in 30 years. It seems to me, in other words, that this program of the AEC is certainly jumping out as a full-grown child in less than a year. And I am wondering why the sudden expansion of the number of urgently desirable trainees would have developed here.

I may just go further, so that I can get my entire thinking on this before you here. I sometimes wonder whether the ready availability of public funds may not have had some influence in the discovery or the putting on the rolls of a tremendous number of newly uncovered ability.

Dr. BRONK. Well, I think I can give some answer to that.

Senator HICKENLOOPER. In other words, I do not see why there has been this change, if 50 a year has been the average in the past. It seems to me that 10 times that many in 1 year would bear some inquiry as to the reasons why the potential had jumped up 10 times in 1 year, when public money has become easily available.

Dr. BRONK. The factors involved there, sir, are these: The 1,500, approximately, that I referred to were all for postdoctoral fellowships. They did not include predoctoral fellowships, the training of people who are in their graduate training.

Representative KILDAY. What is a predoctoral fellowship?

Dr. BRONK. A predoctoral fellowship is a fellowship given to an individual for advanced instruction and research leading to the award of a doctor's degree. A postdoctoral fellowship, to which I have referred, in the case of these 1,500 to whom I have alluded—

Representative KILDAY. Let us take the case of a second-year medical student. Would he be included?

Dr. BRONK. It does not include professional students in medicine.

Representative KILDAY. Who are these people, then?

Dr. BRONK. These are people who are prepared to do research or to do advanced teaching in the field of agriculture or biology, or in the preclinical sciences, such as biochemistry, anatomy, chemistry.

Representative KILDAY. Would you say those people would be those who would impart their knowledge to others as professors?

Dr. BRONK. Those who are going to go out to engage in research to such an installation as the medical laboratory at Wright Field—research people or teachers.

So these 1,500 to whom I have alluded were fellowships given to people who had already taken their graduate training, had already

been given their Ph. D., and were being given specialized training for advanced work.

It is because of that type of training, we like to believe, that we have had the great advance of science which has taken place in this country. Our former fellows, I might say, include such men as Dr. Arthur Compton, chancellor of Washington University, and Nobel Prize winner, Dr. Robert Oppenheimer, director of the Institute for Advanced Study at Princeton, Dr. Lee DuBridge, president of the California Institute of Technology, and many other distinguished scientists.

Representative KILDAY. Of course, on that point, Doctor, I do not think you will find any disagreement among the committee, as to the advisability, the propriety, of the fellowship program. I think that that is definite. I do not know of anyone here on the committee who would question it at all.

Dr. BRONK. We appreciate that very much, sir.

Senator HICKENLOOPER. Personally, I have repeatedly stated that I think the fellowship program is utterly sustainable and justifiable. I have some views as to its limitations, phases as to which I have been disillusioned.

Dr. BRONK. I do too, sir.

Senator HICKENLOOPER. But as to the philosophy of the program it is utterly sound, and I have been in support of it at all times, and I expect to continue supporting it.

Dr. BRONK. Coming back, may I go into this question as to the number, somewhat further?

The figures for the Atomic Energy Commission-supported fellowships, include, you see, in addition to those that fall in this category of which I have spoken, the postdoctoral fellows, also predoctoral fellows, young men who are being given their basic advanced training for research and are doing research preparatory to their doctorates. Why we need to provide such fellowships at the present time is a problem that is complicated. I know that there is great difficulty in maintaining our training in graduate schools and universities throughout the country unless we are prepared to support the men for that training.

Representative KILDAY. Right now your men are older, though. They lost a year or 2 or 3 years in the Army.

Dr. BRONK. That is certainly part of it, sir; and a very important part. I think also there is the matter of the higher cost of living; and partly because it has become a custom, a man comes to a graduate school nowadays expecting to be supported, in order to get this training.

Representative ELSTON. Doctor, I would like to ask you this question: You indicate some apprehension, I believe, that a loyalty check of these students might interfere with the program and might not make it operate well. I am wondering what you think about the attitude of the 100-percent-loyal American boy that has tried to get one of these fellowships and has been turned down as a Communist. What do you think of his attitude, and what do you think about the possible interference with the program by reason of the attitude he may assume as a result?

Dr. BRONK. Well, I think he would feel very much the way I do, sir.

I have a young man taking his doctorate with me, who graduated at Hamilton College, and was reported to be one of the three best men that they had graduated from their department of physics in the memory of the head of the department, and he was turned down.

Representative PRICE. For this same fellowship?

Dr. BRONK. For this same fellowship; in a different field, by a different board. But I am afraid I had to take it in as good a spirit as I could, because I recognized that no board could do a better job. And I think they made a bad mistake on this fellow, Greengard, in my department.

The CHAIRMAN. What university?

Dr. BRONK. He was from Hamilton. He is now at Johns Hopkins.

They made a mistake, I think, but I am sure they are going to make mistakes. I will find the money for him somewhere else.

Representative ELSTON. I do not see any particular reason for shedding crocodile tears about how the boys in the fellowship program might feel if their loyalty is checked, because it is my opinion that if you took in all the boys who want scientific training, the vast majority of them, very close to 100 percent, would not object to a loyalty check. Do you know any boy who is 100 percent loyal to America who would object to that kind of a check of his record?

Dr. BRONK. I don't think so, sir.

Representative ELSTON. If you do not think so, then what objection is there to it?

Dr. BRONK. Well, I am trying to recall the objections I have heard in the past, because I am not here to speak as an individual, but as a representative of an organization.

Representative ELSTON. I would like to get your views as an individual, too. I think that you could enlighten us a great deal.

Dr. BRONK. There is no point in getting into the practical aspects of the situation, but the fellowship applications come in along about the first of the year. The awards have to be made by the 15th of March, if the people are going to be able to make their plans for the subsequent year and be admitted to the graduate schools to which they go. In that period of time, the fellowship boards have to study the case and how to have a thousand people—we anticipated even more applicants than that—in that period of time, I would think would be very difficult from a practical standpoint. But I take it you would rather not deal with the practical issues, but would prefer to let that be handled by those who would be required to administer it.

Representative ELSTON. My idea is not necessarily that your organization conduct the loyalty check. But after you have made your selections of an adequate number to fulfill the requirements of the Atomic Energy Commission, let those boys then be checked, to see whether or not they meet the requirements. Let the FBI do it. The FBI would not take forever to make the check. They could have checked Freistadt in a few minutes. It would not have taken long to do it.

And let me ask you this: How many applications did you receive, all told, for this fellowship program?

Dr. BRONK. I think that this year it was in the neighborhood of between five and six hundred. It was not as high, as I say, as we had anticipated.

Representative ELSTON. And did you go over all of them?

Dr. BRONK. Oh, yes. Every single one of them was very carefully studied by each member of the board, under which his particular field of study fell.

Representative ELSTON. How many members were on that board that makes the selection?

Dr. BRONK. There are five, usually, on each of the boards.

Representative ELSTON. And that means, then, that five persons passed on these applicants?

Dr. BRONK. That is correct.

Representative KILDAY. These boards meet, do they?

Dr. BRONK. Yes. They meet sometimes twice for consideration. The full records, as we have them are circulated previously, so that they can study them, and then they come together for mutual discussion of the qualifications.

Representative ELSTON. Who makes the assignment to the university or college?

Dr. BRONK. You mean who writes to them?

Representative ELSTON. Yes. Who places these boys?

Dr. BRONK. They indicate to which university they wish to go, and we respect their desire.

Representative ELSTON. And you let them go just wherever they want to go?

Dr. BRONK. In some instances, if we feel that the type of work that they wish to do cannot be done there effectively, because of information which is known to us, we advise them of that. But that is a very rare situation.

Representative KILDAY. If the gentlemen will yield.

Mr. Freistadt selected the University of North Carolina and refused to make any second selection.

Dr. BRONK. He chose the University of North Carolina; yes. We have high regard for their scientific competence.

Representative KILDAY. I believe he said he wanted to be with Mr. Rosen.

Representative ELSTON. Do you think now, Doctor, as a citizen, that the Atomic Energy Commission should be spending the taxpayers' money to educate a boy in scientific subjects unless the Commission can use the boy after he gets through with his course of study?

Dr. BRONK. I do, sir; because I do not believe it is possible for a young man to say just what will be the development of his interest and competence. I am sure that there will be some whose line of interest will develop in such a way that it will not be directly related to the Atomic Energy Commission field.

Representative ELSTON. I can understand that, on the matter of subjects. But on a matter of loyalty to his country?

Dr. BRONK. Well, I think that would involve the broader question as to whether we should use people who are not loyal to the country.

Take the case of a man trained under such a fellowship, and who was, as it later developed, and to use a phrase that I used in a letter I wrote to Mr. Wilson last year:

A rare individual who was trained under an Atomic Energy Commission fellowship, but who could not, for some unforeseen reason—

and I would like to stress that word "unforeseen" because I want to emphasize that we didn't want to bring in people of this sort—but who could not for some unforeseen reason be cleared—

such an individual would be available for scientific work under some other agency or private institution or organization, not requiring clearance, and would thus free another man for AEC employment.

In other words, by this fellowship program, we add to the pool of scientifically trained personnel from which the Atomic Energy Commission can take out individuals, but perhaps not the same ones that they put in. We therefore make it possible for the manifold scientific operations of the country to be continued, in private industry, in private universities, in Government laboratories, which are doing work of a nonclassified nature, such as certain fields in the Department of Agriculture, and at the same time be able to have the Atomic Energy Commission's needs satisfied.

Representative ELSTON. You were not referring in your letter to the question of loyalty, were you?

Dr. BRONK. Oh, yes; because I say "but who could not for some unforeseen reason be cleared."

Representative KILDAY. For employment, I believe you implied.

Dr. BRONK. Yes.

Representative KILDAY. You meant as employees of the Atomic Energy Commission?

Dr. BRONK. If they were to be members of some Atomic Energy Commission establishment staff, then obviously they would have to be cleared. If they could not be cleared for that, they would not be lost as a whole to the Nation, because they could be used for some other purpose.

Representative KILDAY. But you regarded the fellowship as employment, did you not, Doctor?

Dr. BRONK. No, sir.

Representative KILDAY. You did not?

Dr. BRONK. We did not.

The CHAIRMAN. Mr. Elston, would you mind my making a suggestion?

That is a short letter. It is dated in July 1948. It is about three paragraphs long, addressed to Mr. Wilson, the General Manager of the Commission, and signed by the doctor. In it he reports on his conversations with these boards. It might be a good idea, if you do not mind, to have him read it into the record right now.

Representative ELSTON. I think that would be a good idea.

The CHAIRMAN. Will you go ahead and read it now, Doctor?

Dr. BRONK (reading):

The fellowship boards of the National Research Council which have assumed a large measure of responsibility for the Atomic Energy Commission-National Research Council fellowship programs, have completed their initial selections of candidates. On the basis of this experience, one important problem has emerged concerning which we would be glad to have your advice and ruling: the policy of the Atomic Energy Commission regarding security clearance of fellows:

On the basis of my attendance at the meetings of the five fellowship boards, I would say that it is the general, and probably the unanimous, hope of the members of the boards that a man should not be barred from participation in the fellowship program because he cannot be cleared. It is recognized that access to certain information which might be desired during the course of some fellows' work would require clearance, but it is felt that serious obstacles would be encountered with unfortunate consequences, which the mere participation in academic study and research under these fellowships were made conditional upon security clearances.

The members of the boards realize that inability to be cleared might disqualify a fellow for subsequent employment by the Atomic Energy Commission. How-

ever, they have expressed the thought that the training of such an individual would add to our pool of scientific personnel from which the Atomic Energy Commission will draw, that is to say, a rare individual who was trained under an Atomic Energy Commission fellowship but who could not for some unforeseen reason be cleared—

meaning subsequently—

would be available for scientific work under some other agency or private institutions or organizations not requiring clearance and would thus free another man for AEC employment.

Representative ELSTON. Do you know what persons cannot be cleared by the Atomic Energy Commission? You knew, when that letter was written, what was meant by "clearance"?

Dr. BRONK. Well, I assumed that it involved many different criteria. I assume that there were different degrees of clearance; as we had during the war, for instance. I had men on my staff in the work with the Air Forces who could be cleared for certain things but could not be cleared for others.

For instance, I remember one man in a program with which I was associated who could not be cleared for overseas duty. But he had a commission, a relatively high commission, and carried out important work. But he could not be cleared for overseas duty, because of certain involvements.

Representative ELSTON. Of course, that might mean physical reasons, or otherwise. But being cleared by the Atomic Energy Commission would be a matter of their loyalty to this country, their 100 percent loyalty to this country. If they were not loyal, they could not be cleared. I take it from your letter, then, that when you are talking about persons who cannot be cleared by the Commission, you are referring to people who are not 100 percent loyal to this country?

Dr. BRONK. Who are not judged to be; yes, sir.

Representative ELSTON. And yet it is suggested that they participate in the program?

Dr. BRONK. As far as the training is concerned.

Representative ELSTON. Well, what kind of an answer did you get from the Atomic Energy Commission to that letter?

Dr. BRONK. I am sorry. I don't have the further correspondence.

The CHAIRMAN. It is being looked for right now, Doctor.

Representative ELSTON. You did get an answer?

Dr. BRONK. I presume I must have, sir.

Representative ELSTON. Can we insert the answer in the record, Mr. Chairman?

The CHAIRMAN. Yes. I am having it looked for right now.  
(The letter referred to is as follows:)

OCTOBER 8, 1948.

Dr. DETLEV W. BRONK,  
*Chairman, National Research Council,*  
*Washington, D. C.*

DEAR DETLEV: This is in reply to your letter dated July 27, 1948, in which you request information concerning the policy of the Atomic Energy Commission in regard to security clearance in the fellowship program administered by the National Research Council.

After careful consideration of this matter, the Commission has determined that, in accordance with your recommendation, security clearance should not be required unless the fellow will have access to restricted data or will work in a Commission installation where security clearance is normally required. In cases where the

candidate's application indicates that clearance will be required, it is suggested that no award be made until the outcome of the security investigation is known. The Commission will, of course, continue to look to the National Research Council to make appropriate inquiry, in accordance with your regular practice, into the character of the persons who apply for the AEC fellowships.

In addition, it is our view that in the event there is a prospective fellow who has a questionable record, we should consider together with you the most appropriate action to be taken in the light of all the circumstances of the case.

We hope that this statement as to our policy may be helpful to you in assuring the success of the fellowship programs which are so important to the continued progress of atomic energy work.

Sincerely yours,

[S] Carroll L. Wilson,  
CARROLL L. WILSON,  
*General Manager.*

Senator HICKENLOOPER. Mr. Elston, if I might suggest: Clearance under the act goes to three things, loyalty, character, and associations. I mean, those are the three categories in which examination is made as to clearance, and as far as Dr. Bronk's statement of a moment ago is concerned, under the Commission there are no degrees of clearance. That is, what they call a "q" clearance is clearance stating that a person is eligible, if necessary, to all classified information.

Representative KILDAY. What are those three conditions, Senator?

Senator HICKENLOOPER. Loyalty, character, and associations.

Representative ELSTON. Associations with whom?

Senator HICKENLOOPER. That is what the act says, you see.

Representative ELSTON. It means associations with disloyal persons. In other words, a person may not be a Communist himself, but he may associate with Communists.

Senator HICKENLOOPER. It may go to a certain category of morals.

Representative ELSTON. Or it might be as to members of subversive organizations.

Dr. BRONK. Of course, I would like to say that it is my wish to stress as strongly as I can—again I must interpret—that I don't think that these fellowship boards had the slightest desire to encourage, and in fact I would take oath that they didn't have any desire to encourage, anything of a subversive nature.

As for the things that they would have been concerned about, take for instance this matter of association.

If I were responsible for a highly classified project, I would not want to have certain people associated with that project who, on the other hand, I might be quite happy to have participate in the teaching functions of the university. The reason why he might not be satisfactory for work on this highly classified project could be because of lack of discretion, associated with people who might have inadvertently succeeded in getting from him certain types of information which he had not intended to disclose. We all know that there are such people who are not sufficiently judicious in their associations, to be known as highly reliable individuals. But that same person might be extremely loyal by every criterion except his judgment as to whom he associated with. And I would think that the boards would feel very hesitant about saying that such an individual should not be trained scientifically, because as he got older he would develop more judgment as to whom he should associate with and what he said under circumstances where he might be surrounded by people who are not entirely competent.

You see, it was not a black and white thing with regard to this clearance matter that they had in mind.

Representative ELSTON. You are not dealing with high-school students here, you are dealing with boys in college, and Freistadt was 24 years of age. I do not think that you can go along on the assumption that they will change their spots after a time.

If they are Communists, the probabilities are that they are going to remain Communists, and they are going to remain loyal to Russia and not to the United States.

The CHAIRMAN. Of course, Louis Budenz did not.

Representative ELSTON. Well, there are exceptions, of course. But we should not spend the taxpayers' money to develop the exceptions, and that is what this program would do and what this policy would do.

I do not believe it is in the record yet, Doctor, who the five persons are who passed on these applications.

Dr. BRONK. Would you care to have them, in all of the five boards?

Representative ELSTON. The five who pass on these fellowships.

Dr. BRONK. Well, there are five different boards. There is one for postdoctoral research in the medical sciences. Do you want the members of that committee?

Representative ELSTON. Let us take the field of physics. That is the field in which Freistadt was assigned.

Dr. BRONK. The members of that committee comprise the Fellowship Board for a Predoctoral Research in Physical Sciences, and they are Dr. Henry A. Barton, director of the American Institute of Physics; Dr. John C. Bailar, Jr., professor of chemistry, at the University of Illinois; Dr. Tom W. Bonner, professor of physics at Rice Institute, Houston, Tex.; Dr. J. William Buchta, professor of physics and chairman of the department of physics at the University of Minnesota; Dr. G. A. Hedlund, professor of mathematics of Yale University; and Dr. Charles C. Price, professor of chemistry and head of the department of chemistry at the University of Notre Dame.

Representative ELSTON. Well, Doctor, how did these men get together and pass on these applicants? They are widely separated.

Dr. BRONK. They are.

Representative ELSTON. Did they meet at times in Washington, or some other place, and pass on these applications?

Dr. BRONK. Usually in Washington; yes, sir.

Representative ELSTON. How many meetings did they have, to your knowledge, to pass on these applications?

Dr. BRONK. This committee has met quite frequently for long periods of time. This spring they have met twice, and I know on one occasion they met for 2 days.

The CHAIRMAN. They do not personally look at the applicant?

Dr. BRONK. They do not see the applicant, personally, but they use, for instance, the individuals to whom they write for advice, as their agents. And the agents are in practically every instance known personally to one or more members of the Board.

Representative ELSTON. Did they write to these persons who have signed these references? Or are these references given by the applicant in his application?

Dr. BRONK. These individuals are written to by the fellowship office, not by the candidate. The candidate in most instances sug-

gests individuals who know him, but unless the members of the board also know the reference, they choose someone else. In other words, they have a direct contact through the individuals to whom they write.

For instance, one of the references in this case is a man who took his degree at Cornell University. He would certainly, also because he was a physicist, as was the head of the department, Nathan Rosen, be known to Dr. Barton, who is director of the American Institute of Physics and has very wide contacts with physicists throughout the country.

Representative DURHAM. It would look like it would have been wise for them to get a recommendation from the University of Chicago, because of the fact that he has only been at the University of North Carolina 6 months. He came down there in October.

The CHAIRMAN. Did he start his activities right away, Mr. Durham, do you know?

Representative DURHAM. Oh, yes; he began writing for the Tarheel and set up the Karl Marx Club and proceeded.

Representative KILDAY. Mr. Chairman, I hope this will not devolve into a question as to just Freistadt.

Representative ELSTON. Was there any letter written to the institution itself, the university president, or any person who has access to university records, asking for an opinion as to the character and qualifications of the student?

Dr. BRONK. Yes, sir. In this case the Fellowship Office wrote to the professor of physics, who would certainly have had all of the records concerning this man available to him, and also to the associate professor of physics; and questions concerning his character were very specifically put to these individuals, and, as I say, it has been my intention, in the process of continually servicing and, we hope, improving the method of identifying and evaluating candidates, to secure advice from a member of the university staff, who would be more immediately concerned about the personality and character of the individual, rather than with his mere intellectual attainments. That is why I suggested the dean of men or some other individual of that category whom he would suggest.

Representative ELSTON. Since you do not yourself see the applicant, then the selection of the applicant is largely made by the persons whom you contact?

Dr. BRONK. That is correct, sir. In the case of the predoctoral fellows. In the case of the postdoctoral fellows, where the number is much smaller, the process is very much more direct.

Representative ELSTON. And in this particular case it was three persons?

Dr. BRONK. That is correct, sir.

Representative KILDAY. There were three persons who sponsored him?

Representative ELSTON. Yes.

Senator HICKENLOOPER. It seems inconceivable to me that anybody at the university there would not have known of his Communist leanings. I do not know how any professor could have reported this without feeling at least some responsibility in his own conscience to call attention to the fact that this fellow had been vigorously active along that line.

Representative ELSTON. Actually, the students knew it, Senator. If the professors did not know it, the students, at least, did.

Senator HICKENLOOPER. The men who recommended him did not know it.

Representative ELSTON. And he wrote articles in the school publication. Perhaps the professors do not read the school publications.

The CHAIRMAN. Mr. Price?

Representative PRICE. No questions.

The CHAIRMAN. Mr. Cole?

Representative COLE. Mr. Chairman, first I would like to inquire whether what I have in mind appears already in the record. If so, I will not press it.

Does the record indicate what standards the Commission has established in its directive to the Research Council with respect to this assignment?

Dr. BRONK. We have had very frequent and intimate conversations with representatives of the Commission, so that the development of the program has been done on a cooperative basis.

Representative COLE. Apparently, then, it has been quite informal; by oral discussion. There has been no formalizing of the directive by the Commission to the Research Council?

Dr. BRONK. There has also been, in addition to these many discussions, which have laid the foundation for the evolution of the program, an exchange of correspondence, such as the one letter which I read. There is, of course, the formal contract between the Atomic Energy Commission and the National Academy of Sciences, which states certain definite things.

Representative COLE. Does any of this correspondence which was exchanged between the Commission and the Council set up the standards by which the Council is to make the selection?

Dr. BRONK. I would say, "Yes." I hesitated a bit, because I was trying to interpret what "standards" would mean.

Representative COLE. Has the Council set up any standards of criteria for the selection of these fellows, other than what is contained in the communications to which you have referred, between the Council and the Commission?

Dr. BRONK. Not except in the sense that, through the long years of operation of the program, standards have been established by almost an unwritten law, or a tradition, if you will.

In addition to that, each Board necessarily established certain standards in determining whether they will take this individual or that individual, or whether these are the top 10 or another group are the top 10. So there necessarily have had to be standards, but not on a hard and fast basis.

Representative COLE. From that, I take it, then, that the Council, in the selection of these Atomic Energy fellows, is following the same traditional standards which the Council has used in the selection of fellows for other purposes?

Dr. BRONK. That is correct.

Representative COLE. Then apparently the Council does not recognize any distinction between the nuclear-processes fellows and the other types of scientific students?

Dr. BRONK. The general standard being that of getting individuals of as high a degree of intellectual competence as can be found, and

choosing from the total number of applicants those who are adjudged to be the most capable and most promising.

Representative COLE. At any place along the line, either in the correspondence with the Commission, or in the traditional standards which the Council follows, is it required with respect to fellows for this program, that they must be citizens of this country?

Dr. BRONK. That is correct, sir. I believe that is specifically stated in the announcements, and that is adhered to in the determination of the awards.

Representative KILDAY. Freistadt was naturalized in 1944, I think.

Representative COLE. Was that requirement that they be citizens imposed by the Commission? Or is that one of the traditional requirements of the Council?

Dr. BRONK. It is not a traditional requirement for all fellowships, no. It was a requirement that was agreed upon by the Atomic Energy Commission and the National Research Council in conference.

Representative COLE. Apparently that is the only prerequisite established as a standard in the selection of these fellows, that can be used as a guide as to the fellows' loyalty?

Dr. BRONK. Except the additional ones of choosing individuals that the Boards feel are going to be effective contributors to national welfare through their scientific ability and training.

Representative COLE. Who places the fellows after they are selected?

Dr. BRONK. They choose their own institutions. They, themselves, choose the institution to which they wish to go. And it would be only in a rare case that we would advise them to go elsewhere; because, in the first instance, we would feel that we were interfering with the prerogatives of the universities of the country, if we were to advise a man not to go to Yale, but rather to go to Harvard, because we think Harvard is a better institution than Yale. There are members of the council who think that, but there are others who disagree with them.

Representative COLE. Who determines the type of studies that the council pursues? The Council, or the Commission?

Dr. BRONK. The candidate indicates the type of program he would like to follow, the courses he would wish to take, and the type of research he wishes to engage in. If this seems to the Board to be adequate, it is endorsed. If they feel that he could more profitably to himself, and more profitably to the advancement of the field into which he wishes to go, do otherwise, he is so advised, and he may accept that advice or reject it, as he wishes. If he rejects it, he might be rejecting the opportunity for a fellowship, because it would rest with the Board to determine whether or not what he proposes to do is a good type of training, and is in a good field of research in which to engage.

Representative COLE. You are familiar with the provisions of the Atomic Energy Act with respect to research assistance, are you not, doctor?

Dr. BRONK. Not in detail, sir, but in general.

Representative COLE. Well, I hate to read them, but it would seem to me that I should inquire if the purposes spelled out in section III (a) of the Atomic Energy Act, under which this program is justified, which sets forth the types of research in which assistance can be given, are

used by the Council in the criteria for determining the type of studies which these fellows shall pursue?

Dr. BRONK. Definitely.

Representative COLE. And is the selection of fellows limited to types which are spelled out in III (a)?

Dr. BRONK. That is certainly the intention, although, as I read this again, I recall now the section to which you refer, and I would say it was very broad indeed.

For instance, section III (a) (3) covers "utilization of fissionable and radioactive materials for medical, biological, health, or military purposes"; which, of course, opens up broad areas of medicine and biology.

Representative COLE. But they are all related to fission, to nuclear processes, are they not?

Dr. BRONK. Yes.

Representative COLE. Yesterday Mr. Lilienthal referred to some fellowship engaged in study of the cosmic rays, which according to Mr. Lilienthal, has no relationship to the Atomic Energy program.

The CHAIRMAN. I do not think he said that.

Representative COLE. At least that was the impression I got.

Dr. BRONK. In fact, I was just at the University of Colorado, sir, where I was told of a program of research that they are doing under support of the State of Colorado in the field of cosmic rays, and I remember being much impressed by a discussion of how this related to the Atomic Energy Commission's program.

Representative COLE. Is a study of the cosmic rays one of the activities that can be cataloged under section III (a)?

Dr. BRONK. It is a long time since I have been a physicist, but I would have thought so.

Representative COLE. It has been much longer since I have been.

Dr. BRONK. As I say, I would think it is. I speak as a layman.

Representative COLE. Of course, it is the purpose of the Council to limit the selection of its fellows to those types of studies which are authorized by the law.

Dr. BRONK. Perhaps I could give you a specific instance to show the sort of judgment which is applied to such applicants.

A young man at Harvard had a graduate student who was beginning his research with a study of the auditory mechanism. He proposed to use certain radioactive materials, incidentally, in this investigation.

I was asked what I thought about it. I said, "I don't know; I am merely the chairman. If I were on the Board, I would say that it did not fall in the category which is properly supported under this program, but the surest way for you to find out the opinion of others who are better qualified to judge than I is to have him apply."

He did apply, and was declined on the grounds that this was merely an incidental relationship; it was not a basic relationship with the Atomic Energy Commission program. He was an excellent young man, and it was a good field of research, and one that certainly should be supported, but under other auspices than this.

I think that insofar as I know, the Boards have been very careful, have leaned over backward in trying to be sure that the scope of the Atomic Energy Commission responsibility—let's take the field of mathematics. There was a person who was going to devote himself

to the theory and the design of highspeed calculators. It is a broad field. It isn't only related to the Atomic Energy Commission, but it is highly important for the Atomic Energy Commission work. It was therefore decided that it was proper to train a number of individuals and have them do research in this field, so that they could help solve the problems that the Atomic Energy Commission needs to have solved.

Representative KILDAY. The point is that the program is so new that you do not know what might affect it.

Dr. BRONK. That is true, sir. That is another thing that we want to appraise in our meeting each year. We want to determine whether or not we are choosing wisely as regards individuals and whether we are emphasizing wisely these fields.

Representative KILDAY. And that would justify the broad interpretation of the cold letters of the statute as it has been read. I agree with you.

Representative COLE. What is the total aggregate expenditure for this program.

Dr. WARREN. The aggregate expenditure is, for the years 1948 and 1949, which were left together because we were just getting it together, in the spring of 1948, \$1,430,000 for the biological sciences, and in 1950 there has been requested \$2,560,000.

In the physical sciences, it is approximately in the same order, I believe about \$1,300,000.

(See Reconciliation of Obligations for Special Training Activities to Program Basis, appendix, p. 159.)

Representative COLE. That would be a total, then, annually, of five to six million dollars?

Dr. WARREN. A total when the program gets rolling of approximately \$5,000,000.

Representative COLE. Is there any commitment required of the fellows to whom a scholarship is given that his services will be available to the Government, to the Commission, either directly or by assignment, after the study has been completed?

Dr. BRONK. That is not stipulated.

The CHAIRMAN. Senator Knowland?

Senator KNOWLAND. Doctor, I regret that I was delayed over at the White House at the presentation to General Clay. Mr. Cole was delayed at the same place.

Maybe the ground has been covered, but laying aside either the desirability or the lack of it from the point of view of your group of having an FBI investigation, can you see any basic reason why a question should not be asked in the questionnaire that is presented to the people who want to take advantage of the fellowship: "Are you now or have you ever been a member of the Communist Party?"

Dr. BRONK. I can certainly see no objection to asking a person what it is desired to learn from him.

Senator KNOWLAND. Taking a situation which may be somewhat hypothetical, suppose that question were asked on a questionnaire, and then there were five or six people who came up for consideration. Their academic standing, we will say, was approximately the same. One of them answered that he definitely was. Obviously, he would not be available for the Commission if ultimately they wanted to draw on this reservoir.

Can you see any objection, under those circumstances, and with the limited amount of funds available, to the Commission saying: "Well, in our judgment, due to the fact that we want to draw from this reservoir, and since their academic standing is presumably the same, we would prefer to have people who are useful to the Commission, inasmuch as these are Commission funds that are to be used, rather than someone who obviously could not be useful to the Commission"?

Is there any objection from your point of view to that?

Dr. BRONK. I can't see any objection, because, although it is stated, and I think it is desirable, that there be no commitment on the part of the individual that he will accept Atomic Energy Commission employment, it seems to me to be entirely reasonable, other things being equal, to choose people from those who would be available for employment.

Senator KNOWLAND. Of course these are atomic energy funds that are provided by Congress to the Commission. The program was to create a larger reservoir of people in this field. We understand, of course, that there are many related fields, and we cannot always tell just who may be useful to the program. But since we are trying to develop a larger reservoir, it is a little difficult for me to see why someone would be selected who obviously could not be used, when there must be many young men in the country of equal or greater capabilities, who could perhaps be more useful to the Commission in the long run.

Dr. BRONK. I think that in a general consideration of the fellows, as they appear for award of various fellowships, if we found, let us say, an individual in the field of biology who was a brilliant individual, but was one of these people that I would describe as a screw-ball, and worse, but so brilliant that he should certainly be trained, in the hope that he would see the light, in the hope that he could make a contribution that would be of national benefit despite his warped judgment in certain directions, and if he had applied for an Atomic Energy Commission fellowship, we would, I would say, and I am speaking from personal impression, refer his case for consideration to another board, if he properly fell in the area of that board, in view of the fact that this board would not ever be concerned about his subsequent employment under conditions where he might have the desirable characteristics of being clearable.

For instance, we could refer him to another board, which might be glad to consider his case and might be able to award him a fellowship under their board, in order to save any possible embarrassment such as has arisen.

Senator KNOWLAND. That is the point I am getting to now. I think pretty generally all of us have been favorably disposed to this fellowship program in the atomic energy field here. But it seems to me that great harm may be done to the program by many such cases as the one that was before the committee yesterday.

Now, could not the Commission, in laying down a general directive to you, say, as they have said in the case of citizenship, apparently: "We want to be sure that the people who are trained under this fellowship program will be available to us in case we want them and would like them to come with us, and they would like to come with us."?

Now, that would be a relatively simple reckoning, but it seems to me it would almost automatically take care of the case such as the one we were discussing yesterday.

Dr. BRONK. Of course, what the implication of all this is, with regard to the wider aspects of the control of people who are to be educated is the thing that I find very difficult to think through as we are sitting here talking. That is why, as I have said several times before, if we can, in the light of this experience, in the light of these discussions, with you gentlemen, which I have found extraordinarily helpful, and in consultation with the Atomic Energy Commission, improve the criteria, and if we can work out a basis of selection which will leave the maximum degree of freedom of the individuals for future operation in the country to the advantage of the country, and still achieve the general purposes which we have in mind, I think that is highly desirable; and I am sure it can be done, by consideration and exchange of views, and working out the details.

Senator KNOWLAND. The only thing that confused me a little, yesterday: Had this particular case, to be specific, been a case where the young man was in the top 2 percent, where he was so outstanding in his field that there was no one who was in the same category, I could have understood the selection, though I might still not have agreed with the final determination made. But from the statements that were read off the record the other day, he was not in that very top bracket; which means that a lot of other people must have been passed over who otherwise could have had this opportunity, and it just seems to me, since there were many other people of unquestioned loyalty who could have had the opportunity and might have developed into far better scientists than the one that was selected, that it is not an unreasonable question to be put on the questionnaire in this particular field of atomic energy.

Dr. BRONK. As I have said before, I think that this was a poor selection. I frankly don't feel embarrassed about it, because I think that one or two or maybe 5 or 10 cases that might appear out of 500 is a darned good job.

Having been concerned with the selection of people for military duty, I could be embarrassed at some of the selections I have made, some of the commissions I have recommended. But we had a job to do, and I think we did a pretty good job, and we were continually improving our selection procedures there, as we are here.

The CHAIRMAN. Doctor, we have a practical situation to face.

The Senate Appropriations Committee started this morning to consider the appropriations for the Commission. One of the items in the appropriation is money for this program. Your expressed intention to confer with your people and again with the Commission to see what can be done is, of course, very welcome and highly commendable. We are faced, however, with the situation that the Appropriations Committee will have to pass upon this, and do it almost immediately, within the next few days.

I am wondering if, pursuant to your intention, such a conference could be held in the very near future. What do you think about that? Mechanically is it possible?

Dr. BRONK. I would like to say it was. But when I think of my past experience of trying to get five or six people together at a mutually possible date and extrapolate that to getting together some 50 people—well, I will certainly do the best I can, without jeopardizing any possible success that we hope to have come out of such a consideration.

As I say, the conference I was proposing had nothing to do with this, per se. It was just a natural, normal, periodic review of where

we are going and what we are doing. This would properly be one consideration.

The CHAIRMAN. Might I fairly summarize your testimony by saying you are of the opinion, in this particular case now under consideration, where a poor choice is made, that some technique should be worked out to avoid a repetition of this unfortunate situation?

You, however, do shy away from the customary FBI investigation of these people, and you would prefer, if you had your own preference, to conduct a more detailed and more careful scrutiny of the applicants yourself. Is that your attitude?

Dr. BRONK. That is correct, sir, with one amendment. I would hesitate to say that this is a poor selection until I had had a chance to discuss the matter with the board and let them present any evidence which I do not have available, which would support their choice.

The CHAIRMAN. But you do have the statement that the young man made, in which he stated he believed in the principles of the Communist Party, that he was an active worker in the vineyard, that he did not believe it was part of an international combine that is hostile to our way of life and our institutions?

Dr. BRONK. On the basis of what I heard from that published report, I would say he was not a clear thinker; and because he was not capable of a rational analysis of a pretty obvious situation, I would not have thought that he had demonstrated any high degree of scientific judgment.

Senator HICKENLOOPER. Dr. Bronk, just one more question, to wind this thing up.

I do not recall, not having taken a note at the moment, how many had applied for these fellowships, altogether?

Dr. BRONK. My recollection, off the cuff, is that there were approximately between two and two and a half times as many applicants as there were those awarded fellowships. Is that your recollection, Doctor?

Dr. WARREN. My memory is 535, but I am not sure of it.

Senator HICKENLOOPER. That number applied. And how many were awarded?

Dr. WARREN. The number was 216 or 215.

Senator HICKENLOOPER. They are on now, on the fellowship program?

Dr. WARREN. This year. There are 497 in the total program.

Dr. BRONK. Last year and this.

Senator HICKENLOOPER. And do you recall roughly how many applied for fellowships?

Dr. BRONK. It would be, for those 2 years, I would say, approximately 1,200.

Senator HICKENLOOPER. Have any of those who have applied for fellowships and who have received recommendations been turned down?

Dr. BRONK. Oh, yes, indeed. You mean any that have applied for fellowships and were supported by people to whom we wrote, and who were turned down?

Senator HICKENLOOPER. Yes.

Dr. BRONK. They certainly have been; yes, sir.

Senator HICKENLOOPER. Could you give me some idea as to the reasons for turning them down? I mean, some categories of reasons

for turning down those people who had been recommended for fellowships?

Dr. BRONK. I know of one case, an individual who looked promising; but the individuals to whom we wrote for advice, said that they did not feel that he had as yet demonstrated originality, and they were not sure that he would have an adequate degree of imagination to do significant research. That is the type of information which would be considered as not supporting him, despite the fact that the academic record was very good in this particular case.

Senator HICKENLOOPER. And do you have other categories of refusal? I mean, just as they occur to you at the moment?

Dr. BRONK. Yes, sometimes a referee says that a man is pretty good, in fact, quite good; but does not have the ability.

If the man was outstanding, we would ignore his inability to get along with other people; but if he is only pretty good, and is difficult from that standpoint, that might be a basis for rejection, as compared with another.

Of course, it is always a question of this fellow or that; so that it is necessarily a shifting basis of acceptance.

Senator HICKENLOOPER. Can you recall any other categories? I know you are probably not prepared to go into detail on this, but can you recall other categories besides those two that occur to you as being reasons for refusal of scholarships?

Dr. BRONK. I am really completely unprepared. I happen to remember these two because they are specific cases that I was aware of. But not having worked as a member of any one of the boards, I would be very glad to secure that information, but—

Senator HICKENLOOPER. Of course, the thing that interests me is this: You have some 497 that have been accepted and 700 that have been refused. Yet we have heard repeatedly that the test and refusal of maybe one or two out of a hundred on the basis of their communistic or subversive ideas, may wreck the whole program. I am wondering about the seven or eight hundred other young men, who have applied and have failed to meet mental qualifications and all those things. I am wondering what that will do to the program, and what the psychology running through the whole thing will be, if they are pinned down for some such reason as that they cannot get along with somebody, or because they may not have evidenced enough stick-to-itiveness, when they see, as they already have, and as they probably will in the near future, that people of a subversive turn of mind are accepted in the program. I have heard, not in connection with this, necessarily, but in connection with other activities, in the case of certain selections in other places, that people have facetiously or laughingly said, "Well, I guess I had better join the Communist Party, so that I can get a job, or hold it, here in this agency." Or "In this group."

It would seem to me that there would be quite a field for speculation in this matter of turning down seven or eight hundred for other reasons, and then having people with subversive views selected in the program.

Dr. BRONK. Well, the reason for rejection in every case that I would know of is because the man did not have as high intellectual quality, did not demonstrate as great a degree of ability to do good research, as did another. Now, when it comes to two people who have about the same degree of scientific competence, then other factors must

necessarily come into consideration; and the ability, for instance, to direct scientific work, the ability to interpret work adequately, the ability to work hard, are matters which must be considered; and I would certainly say that information with regard to character would be taken into consideration in that connection and weighted.

Senator HICKENLOOPER. Doctor, please do not misunderstand me. I am not saying that every person who applies is entitled automatically to be taken into the fellowship program. Manifestly you are going to have to turn down a great many, and manifestly you want the better ones. But I am confused in my own mind as to the reasoning that is behind the contention that the turning down of a very few because of subversive views would tend to honeycomb and wreck this whole program, and I think the record shows throughout all this project that there have been very few, almost an infinitesimally small number, who have been found to have subversive views. And it would seem to me that the turning down of the seven or eight hundred young men for various shades of reasons would completely throw the program out of the window, if there is any real support to the idea of the program being shaken because we eliminate a few with subversive views. I mean, the two philosophies do not quite square.

Now, there may be good and sufficient reasons for it. I do not say that there are not. I know that you must turn down people, because the people who apply may not be able to do the job; but to use the argument on the one side, which you may not necessarily have used, that we should not question too closely into the subversive ideas of these people and should not dare bottle them up too much because it would foul up the whole program, and then to turn hundreds of them down because of other reasons, with which reasonable people might disagree on occasions, would seem to me to be not quite compatible as an argument.

Dr. BRONK. I would certainly not say that an investigation into a person's political beliefs would wreck this program, not for a moment. But what would be the implication of deciding whether a person should receive Federal support for education on the basis of whether or not he held a certain political belief or not is a question which seems to me to be of such far-reaching significance with regard to our whole national future that I would not wish the National Research Council to take a stand which would lead in that direction. Nor would I wish it to oppose it, if that were, in the view of others more intelligent and capable than we, the thing that should be done. I just do not think we are competent, along that line.

Senator HICKENLOOPER. When I agree with you on the matter of competency, I do with the utmost respect, on the theory that it is not your field. Your field is education, the evaluation of the abilities of men and women to learn.

Then we get back to the suggestion I made a while ago that certainly it should not be offensive if the National Research Council stuck to its forte, to its strong field, which is the evaluation of capacity and potential, leaving to some other group the responsibility of saying whether, in other very vital areas, this student measures up to a desirable goal or a desirable standard.

Dr. BRONK. I think you would find, sir, that the scientists of the country generally would feel that they also had something to contribute in the matter of advice, as to the effect of political philosophies as to

whether or not a person can do useful scientific work. I think they would feel that they would have some competence to appraise the matter of how far such beliefs would affect their scientific ability generally. I think that perhaps they would have some competence to assess what are going to be the ultimate implications of this type of scrutiny. But they would be only one of many groups who could contribute to that sort of evaluation. They would have a type of background and attitude which should certainly be supplemented by other attitudes.

Senator HICKENLOOPER. Oh, I agree that there are many factors which the evaluation group could take into consideration. But when I talk about other fields being left to other groups that are more competent or practiced in that field, I am talking about the mechanics of acquiring the truth about the information which goes into the evaluation. In other words, the question of the facts upon which subversive charges may be made can be developed by groups that are equipped to do that; and after that information has been developed, I grant you that probably the National Research Council group would certainly be well equipped to take into account those facts, if they have all the facts. But they cannot evaluate that field of subversiveness if they do not have the facts upon which to go and are in many cases not equipped to gather those facts. If the facts are gathered, then certainly I think they would be entitled to take into consideration that phase as well as some others, even though their special field is the capacity of the individual. But it is on the mechanics of the fact gathering that I say the National Research Council is undoubtedly not equipped to perform. They are not set up to investigate people, with the exception of the laboratory or the school where they see them work. In that field they are uniquely equipped.

I think that is all, Mr. Chairman.

Senator KNOWLAND. Just one other question:

Of course, from the purely scientific point of view, I would suppose that Dr. Curie in France may be the equal or superior of any person who could be selected to set up the atomic energy program of that country. There may be others who are equally capable, I do not know. But there is a matter of national policy involved as to whether a known Communist should head a country's atomic energy program; and I think on that question of public policy there are other factors, including the defense of the nation and the effect upon the country of possible leakages of information, as to which others have a responsibility. But, from a merely scientific point of view, perhaps half a dozen active Communists might possibly do just as good a job in this atomic energy field as those who were not Communists. Yet I do not think your board would suggest that in furtherance of the pure scientific point of view we should ignore this other factor.

Dr. BRONK. Of course, in that situation, there is available a large amount of information which we would not and could not under the law make available to a person of such political beliefs as those of Curie. But as to the matter of whether or not, if Curie were a young man just about to begin on a scientific career, it would be wise, under the French Government, to bring him into the program you see, it is stretching the case; but in France, if he were going to be educated, he would have to be educated at Government expense, I take it, under the present situation, because they do not have private universities.

Should he, therefore, be denied the education which would make him the sort of scientist that he is today, well, that is a broad question, but it is a question which will increasingly face us, I think, in this country. I wouldn't be wise enough to have the answer myself.

Senator HICKENLOOPER. Of course, under our system, Doctor, he is not denied an education.

Dr. BRONK. Curie is not; that is right.

Senator HICKENLOOPER. This is only the question of using Government funds to support a subversive in an educational endeavor. If the Government does not support him, he has countless universities and colleges and special places where he can go and get his education. Education is not denied to a Communist in this country. It is the question of the use of Government funds to support that education.

Dr. BRONK. Well, I think there is a broad issue there, and you have stated it very well.

The CHAIRMAN. Doctor, I want to present to you the committee's thanks. I think I can speak for the committee in thanking you for your appearance and your very helpful testimony.

We had hoped to be able to have a confirmation hearing on Dr. Smyth and Mr. Dean this afternoon at 2:30, but I am advised that Dr. Alan Gregg, who is Chairman of the Advisory Committee on Biology and Medicine for the Commission, and was connected with the Rockefeller Foundation, is here. He cannot be here tomorrow.

Dr. Gregg wishes to talk to us about this matter. So I will ask Dr. Smyth and Mr. Dean to be present this afternoon, and we hope that perhaps we can get on with it after we have heard Dr. Gregg.

So at 2:30, Doctor, if you could be here, we will continue. And, until 2:30, we will declare the meeting in recess.

(Whereupon, at 12:50 p. m. the committee recessed, to reconvene at 2:30 p. m. this day.)

#### AFTERNOON SESSION

The committee reconvened at 2:30 p. m., upon the expiration of the recess.

The CHAIRMAN. The meeting will come to order.

A very distinguished American, Dr. Robert Oppenheimer, has addressed a letter to me bearing upon the subject which we are discussing which I think it would be well to have read for the record. Will you read it, Mr. Borden?

Mr. BORDEN. The letter, dated May 14, 1949, reads as follows:

#### DR. J. R. OPPENHEIMER'S LETTER ON FELLOWSHIP PROGRAM

DEAR SENATOR McMAHON: From the press, and directly from the Atomic Energy Commission, I have learned of the recent discussions about the Commission's fellowship program, which raise the question of whether candidates for fellowships supported by funds from the Commission should or should not be subject to investigation and clearance procedures. It seems to me that this question, and the implications of the decisions here taken with regard to the Federal support of science and education generally, are closely related to many of the great issues on which you have taken so constructive and farseeing a position. I am writing to you in the hope that in one way or another it may prove helpful to you to have an expression of my views. The question at issue clearly does not present some of the grave and often tragic aspects that the maintenance of security on secret, technical work has brought so prominently to the forefront.

For this reason, I have come to believe that we can and should deal with it unequivocally.

(1) The present situation, as I understand it, is this: The Atomic Energy Commission has advanced funds to the National Research Council, and has asked the National Research Council to use these for the granting of fellowships. In making this request, the Commission has asked the Council to pursue its traditional methods of selecting fellows. In this selection, considerations of scientific and intellectual competence play a decisive part. Considerations of character are not excluded, but, in the past, no effort has been made by the National Research Council to determine the political views, sympathies, or associations of candidates. My understanding is that the Commission has accepted this procedure and has endorsed it. With the basic wisdom of this decision, I fully agree.

(2) In considering the issue, we need first to ask ourselves what effects we can anticipate if from time to time young men and women who are Communists, or who have communistic sympathies or associations, are in fact granted fellowships. The fellowships are, of course, in fields where no access to restricted data will be needed or granted, and there can be no question of any jeopardy to security. What is more, there is no direct commitment, and no implication, that recipients of the fellowships will later be engaged in secret work. The Commission does not require this, nor do the research fellows. As a matter of fact, only a small fraction of the scientists of the country can or should be engaged in such secret work. The Scientific Panel of the Secretary of War's Interim Committee at one time estimated that even in the fields of the greatest relevance not more than 15 percent of our scientists would be associated with the atomic energy programs; and of these, of course, many will be concerned with their nonclassified aspects. The actual practices of the Commission bear out these predictions. Thus, one must ask the question of whether it is a proper charge upon the Federal Government, and upon the Atomic Energy Commission in particular, to support the training and research of men who will not be directly involved in the work of the Commission. It is the Commission's opinion, and this is an opinion fully shared by the General Advisory Committee, that the answer to this question is in the affirmative. For basic work in science, in aspects which are not and may not be under the direct control of any one Federal agency, is nevertheless a major source of our scientific progress, of invention, discovery, and technical leadership.

There are many examples of discoveries basic to the present work of the Atomic Energy Commission which were in fact made by Communists or Communist sympathizers. Of these many examples, we may cite a famous one: The major—one might almost say the only—present peaceful application of atomic energy rests on the preparation and use of artificial radioactive materials, which were discovered by Joliot, who is a Communist, and by his wife, who is a Communist sympathizer. It would be folly to suppose that the United States would be the stronger, or our science and industry the more vigorous, if this discovery had not been made. It would be contrary to all experience to suppose that only those who throughout their lives have held conformist political views would make the great discoveries in the future. The people and the Government of the United States have a stake in scientific discovery and invention; and it is for this stake, rather than as an act of benevolence toward the recipients of the grants-in-aid, that one must look for justification for having a fellowship program at all.

(3) The argument given above would seem to me a cogent ground for maintaining the Commission's policy, even if the determination of loyalty and reliability could be made by the most straightforward and satisfactory methods. As you well know, the actual procedures which have been employed, and which perhaps must be employed, in order to establish the loyalty of an applicant, are far from simple and far from satisfactory. They involve secret, investigative programs which make difficult the evaluation and criticism of evidence; they take into consideration questions of opinion, sympathy, and association in a way which is profoundly repugnant to the American tradition of freedom; they determine at best whether at a given time an individual does have sympathy with the Communist program and association with Communists, and throw little light on the more relevant question of whether the man will in later life be a loyal American. It would be foolish to suppose that a man against whom no derogatory information can be found at the age of 20 was by virtue of this guaranteed loyalty at the age of 30. It would be foolish to suppose that a young man sympathetic to and associated with Communists in his student days would by that fact alone become disloyal, and a potential traitor. It is basic to science and to democracy alike that men can learn by error.

(4) My colleagues and I attach a special importance to restricting to the utmost the domain in which special secret investigations must be conducted. For they inevitably bring with them a morbid preoccupation with conformity, and a widespread fear of ruin, that is a more pervasive threat precisely because it arises from secret sources. Thus, even if it were determined, and I do not believe that it should be, that on the whole the granting of fellowships, or, more generally, of Federal support, to Communist sympathizers, were unwise, one would have to balance against this argument the high cost in freedom that is entailed by the investigative mechanisms necessary to discover and to characterize such Communist sympathizers. This is what we all have in mind in asking that these intrinsically repugnant security measures be confined to situations where real issues of security do in fact exist and where, because of this, the measures, though repugnant, may at least be intelligible.

You and I have had occasion to discuss in the past how central a place the control of atomic energy occupies in the preservation of the basic freedoms of inquiry, freedoms essential at once for scientific progress and for the preservation of our democratic institutions. It is because I believe that the issue which has been raised here bears directly on the maintenance of freedom of inquiry that I hold it so important that it be wisely resolved.

With every warm good wish,

ROBERT OPPENHEIMER.

(See also telegram from Dr. James B. Conant, president, Harvard University, Cambridge, Mass., appendix, p. 159.)

Senator HICKENLOOPER. Mr. Chairman.

The CHAIRMAN. Senator Hickenlooper.

Senator HICKENLOOPER. I would like to make a comment or two at this point following Dr. Oppenheimer's letter.

It would be much more satisfactory if Dr. Oppenheimer, since he has seen fit to write a letter on this subject, were here so that some of his views could be examined and perhaps enlarged in the light of various ideas. He is not here, however, and I shall not undertake to answer his letter nor to comment on his letter detail by detail.

In the first place, I will say that there is no one that I know in public scientific life for whom I have a greater regard than Dr. Oppenheimer, because he is truly a great scientist and a great man. He does have, and I hope to call the attention of the committee at a later date, some erroneous assumption in his letter. Among other things, and I will say this to preface this a little bit more, that we are spending \$5,000,000,000 last year on European recovery; we are spending \$5,500,000,000 this year on European recovery, and we have spent money on Greek-Turkish aid and have poured money into China, all to implement one thing in the language of the President of the United States; to contain communism.

We are spending billions of dollars each year, in the language of the administration, to contain communism. This matter at issue before this committee I envisage as being an issue directly on either the containing of communism or the prevention of the use of a small amount of money to advance the education of subversive people.

Now I merely put that in to show that we are spending billions on the one hand to contain it and perhaps missing the point in a smaller amount of money on the other hand. But, as I recall it, Dr. Oppenheimer said in his letter that the Commission turns over money to the National Foundation, or Council, and that they are to pick fellows. That may be in effect what happens, but the basic responsibility is that the Commission is the only one that has a right to support or designate these fellows, and the National Council is only invited to aid the Commission, and it cannot be said that the Commission is legally or otherwise turning over money.

The Commission is merely enlisting the advice and counsel of this very eminently qualified group in this field.

I believe he mentioned something about a Communist, Dr. Curie and his wife discovering something. As far as I can see at the moment, that is not particularly applicable unless one wants to go further and say that because a Communist discovered something, therefore, we should turn the world program over to Communists. I want to make a careful reading of the letter, and I may be in error about that.

I have in mind a number of instances also where young people who gave practically no promise, who would not be considered for a moment as recipients of more specialized education, have nevertheless gone on to confound their superiors in later years and do some of the greatest things that have ever been done, but those things would be denied access to, on fellowships or things of that kind, because they had certain deficiencies, let us say, at the time of their selection which could be the deficiencies of education, application, or anything of that kind which made them undesirable for the program, and yet they have confounded their critics of the early days by going ahead and making some truly great contributions to the public good.

Therefore, the chance elimination of some individual who might by some activities in the future contribute something, it seems to me, is not a particularly strong argument.

I shall not ask for his presence here because I know Dr. Oppenheimer's views. As I say, my admiration for him is of the highest; I think he is thoroughly zealous in his interests, but I do feel that I would feel much more satisfied in my own mind were we to canvass some of these situations with him rather than have an ex parte letter here. I do not insist that he come at all, because it would probably reach no good purpose or final conclusions if he did.

The CHAIRMAN. It was not my purpose to have an ex parte statement in the record without any opportunity given before the committee, if they so desire to examine him. However, I thought that his eminence is so great—his reputation is so great—in this field that the record would not be complete nor would I be justified in withholding a letter of this kind from the record.

Senator HICKENLOOPER. Very proper.

The CHAIRMAN. If you feel that it would be well to have him here, I feel certain he will be willing to come. Mr. Borden, if you will communicate with Dr. Oppenheimer this afternoon and see when he can come, so that we could arrange to hear him, I would appreciate it.

Senator HICKENLOOPER. As far as I am concerned, Mr. Chairman, I have talked with Dr. Oppenheimer on several occasions. I think I know about what his views are and I have no particular desire to cause him inconvenience or to take his time. He has many other things to do. If he would like to come and amplify his letter further, certainly I would be one, as a member of the committee, who would make him most welcome. But if he does not feel that it would add anything to what the letter has to say, I would not be critical of his decision.

The CHAIRMAN. All right; we will put it up to him.

Dr. Gregg?

**STATEMENT OF DR. ALAN GREGG, DIRECTOR FOR MEDICAL SCIENCES, ATOMIC ENERGY COMMISSION**

The CHAIRMAN. Dr. Gregg, gentlemen, is the head of the Advisory Committee on Biology and Medicine to the Atomic Energy Commission. He is an official of the Rockefeller Foundation.

Dr. GREGG. That is right.

The CHAIRMAN. What is your title, Doctor?

Dr. GREGG. Director for Medical Sciences.

The CHAIRMAN. He is a very well-known educator, scientist, and he has asked to be heard on this matter and we are very glad to have him with us.

Doctor, you know what we are discussing and we would be interested in your observations.

Dr. GREGG. Thank you, sir.

I think I might begin by saying that my comments are going to be given from the standpoint of an individual and do not involve the foundation. They do, however, rest on the certain measure of experience that I have had in the foundation. I have been in the Rockefeller Foundation since 1919 and have been in touch with the Fellowship work of the foundation since 1922.

The first meeting of the National Research Council Fellowship Committee in Chemistry and Physics I attended in 1922. I have had 3 years of service in Brazil and then I was in Europe for the foundation running the fellowship program in medicine from 1924 to 1931. In that European assignment I visited all of the countries of Europe, including Russia once during that period and later once again.

I have been pretty familiar with the program of fellowships which the foundation has administered, some local, that is, for use in the place where the man was found, so to speak, of where he took his fellowship and continued there.

But, the majority are traveling fellowships where they went to another country for a period of 1, 2, and sometimes 3 years.

Now in a good deal of the discussions that I hear in various places, and I have not heard anything here to the contrary, or seen in the papers anything to the contrary, I think that it is a very inadequate statement of what happens when a man is given a fellowship to say that he is given a fellowship. I think it is inaccurate because the real job of any organization that runs fellowships is to find ability and they are darned lucky if they can find it.

I remember once a young Hungarian who had had a foundation fellowship with the Rockefeller Foundation and was returning to Hungary. He came in to see me in the Paris office and he gave me a little sentence or two, a very formal and polished "Thanks for the opportunity," that he had had in America to study physiology for a couple of years. I noticed something queer about him when he said it. The words were perfectly formal and the expression was truculent and unhappy. I thought I understood what was happening so I said to him, "Say, do you know what betting is?" He was a little bit puzzled; that was a word which he had not learned and I then explained to him in French. He said, "I think I understand."

I said, "How do you think I earn my living?"

He said, "I don't know unless it is directing this foundation." I said, "No, I earn my living by betting on young men. What do you

think would happen if I made a lot of bad bets?" He said, "I don't know." I told him I would get fired. He did not know what that meant so I told him and explained that. I told him, "You expressed some gratitude to me and I would like to tell you that 2½ years ago I decided to place a bet that you would do well on your fellowship and I have had a letter saying that you have made good on my bet and if you have any expression of gratitude it should go to the foundation because you have redeemed the bet I made on you."

Now I tell that story simply to bring out the fact that when any agency, private or public, gives a fellowship, they are giving it for a purpose and when they find the right kind of brains and character where does the gratitude flow? It must flow in both directions or it is not a satisfactory arrangement. They are lucky to find persons of ability and character and it is not any condescending matter of allowing yourself to be proselytized by one person or not and call it a fellowship. It is a genuine business of going into the market to find ability and talent and character and when you can find it you can be jolly grateful that you can find it because if there are not any people like that you cannot do any business at all.

I want to point out in addition, and I think it is well to repeat the axiom, that this condescension on the part of the Government to give these young men an opportunity is seriously inaccurate and almost to the point of being quite a false view of the situation. We are looking for brains and we are looking for character and when we can find them, it is as good as a good business deal with both sides profiting. Now why do I bring that out? I bring that out because if you are looking for something and it is not a buyer's market but it is a seller's market; in other words, if you are looking for exceptionally good brains and they do not grow on every bush, you have to consider the circumstances that influence the hunt and if you throw out certain conditions that diminish the likelihood of finding able young men for any reason whatsoever, you have narrowed your market; you have reduced your chances and you have failed in your special obligation to find men of ability.

Now, I would not care to open a fellowship program under circumstances that would dissuade a seriously large number of applicants from applying. I would not open with a note of distrust for the simple reason that young men who have their careers to make are pretty concerned about it and if they suspect something that they do not like and can go elsewhere, and thereby avoid it, you will not have them nibbling at it and you will not have a chance to get them.

Senator HICKENLOOPER. Would you amplify that, Doctor, "go elsewhere." Where?

Dr. GREGG. They would go to university positions that do not lay down peculiar requirements or they would go into some other calling that does not call for something that is radically distasteful.

Now I have had some contact with advertising people in connection with the Advertising Council and I have learned a lesson that I think is a good one from them. There is an amusing contrast between the ordinary academic mind and the advertising man's mind. The academic fellow cares about whether he said something exactly and if he can quote you exactly what he said and it is complete and accurate he is happy. The advertising man does not care about what he says, he cares about what he is understood to have said. Sometimes you

can say that in the nice sense and sometimes you can say it in a not-so-nice sense. He does not care about what he says but what he is understood to have said. It reminds me of the old definition of rhetoric. Rhetoric is the art of conveying conviction without resort to logic.

If that is not a description of advertising I am a plumber. They do care about what they are understood to have said.

I think anybody in a public relationship should care about what they are understood to have said. When you put down an FBI investigation or special security investigation at the beginning of a fellowship as a *sine qua non*, I am convinced that you will cut yourselves off from a good many candidates who will say, "Thank you very much. Don't want to go into that atmosphere anyhow."

You can say, let us forget about them. I am not so sure that you can forget about them and for this reason: I have heard the phrase today "potentially subversive." The great characteristic about youth is that it is potentially everything and I think that to try and guess who is potentially subversive is substantially saying, "Let us try now and guess those people who will not change their views regardless of what happens to them." That is a pretty forlorn hope and it is an unlucky thing to find.

I think the American colonists, in, say, 1770 would not have enjoyed the title of being called potential revolutionaries but thanks to some stupid conduct on the part of King George and his ministers that is just what they were turned into because they were potential revolutionaries and the change came between a loyal colonist and a loyal patriot and it took just about 15 years to make it, but most of it was made by the English attitude above the colonists and not by the colonists themselves. I use that as an illustration. And you can say it is false to argue using that as an analogy, but if you are going to use the phrase "potentially subversive" you have to realize that the Government's attitude in giving scholarships and fellowships is one of the things that is involved in changing that potentiality into a reality because there are plenty of people, young ones particularly, who will revolt at that kind of interference.

There again it does not matter what you say you said, but what you are understood to have said. If this goes out as the attitude that the Government educational dollar, the Federal educational dollar, is going to put that kind of a means test in advance, exactly what you say will not make half as much difference as what you are understood to have said.

Senator HICKENLOOPER. Do you mind my interrupting?

Dr. GREGG. No.

Senator HICKENLOOPER. In the fellowship program you are dealing entirely with potentialities in every phase, are you not? In other words, they are potentially educable?

Dr. GREGG. That is right.

Senator HICKENLOOPER. You are not certain that they will prove to have the ability that you would hope to have so you are dealing with potentialities in the very objectives that you are attempting to reach?

Dr. GREGG. Just as a prospector is.

Senator HICKENLOOPER. So, is there any difference as far as dealing with potentialities on the other end of the scale?

Dr. GREGG. You are dealing with potentialities. What are you going to do with the potentialities, follow a procedure that will turn those potentialities into what you do not want them to turn to?

Senator HICKENLOOPER. It is a matter of betting.

Dr. GREGG. But you do not throw in another factor which is their own understanding of your attitude because it influences the performance. You know, sir, as well as I do, that young men are somewhat restive about authority; that is a characteristic of the young men, as soon as authority steps in first and tells them what to do. On my last visit to Europe this time a year ago, I was not impressed by the number of Communists in Europe; but what puzzled me and interested me was what are factors that convert a man who is on the fence to going over to the Communist side? What are some of the factors? Those factors are disillusionment, cynicism, their dispossession, lack of hope, and their youth because youth has not engaged itself in the long-term undertakings that require stability and you always have your potentialities in youth.

Senator HICKENLOOPER. Just in passing I would like to refer to your reference of a moment ago about your business being one where you bet on results. With regard to a Communist whose principles, so far as we know are the overthrow and the destruction of the type of government that we have, when you bet on him is it not like betting on the horse when you know the jockey has been bought and you know is going to throw that race? Would you bet on that horse?

Dr. GREGG. I would bet on him intellectually.

Senator HICKENLOOPER. Would you bet on the horse where you know the jockey was fixed?

Dr. GREGG. But I do not know that with the same certainty about the young Communist.

Representative DURHAM. Doctor, you may proceed. The Senator has been delayed.

Dr. GREGG. I think that it might be useful for me to go a little more into the details of the kind of effect that comes to a group of young men who may consider themselves for or be asked to consider themselves as candidates for fellowships, the type of fellowship accorded by the National Research Council acting as agent in a certain sense for the Atomic Energy Commission, when among the requirements there comes, and you imagine yourselves in the position of a young man in that circumstance, a request for the information to your political beliefs.

Almost inescapably I think the reaction is, "Oh, this is a political job. What I think about government is apparently going to have something to do with how good I am as a physicist. Well, if that is the kind of general flavor, that kind of fellowship, I know where I would rather go for the fellowship or what I would rather do. They haven't any business asking me about that and whether I am a member of the Communist Party. If that is what is injected in here, that is a foretaste of what the conditions of work will be. I would rather lead a band or do something else, thank you."

That is my estimate of what a man thinks when the first lead-off is, What are your political beliefs? There are those who will say that that is not what we thought America stood for and they will become by that mere maneuver pretty impassionate or dissident against that

particular qualification in regard to a fellowship for scientific work. I do not believe that all these young men who will be taken in will be allowed access to the inner secrets of atomic energy; that is out; that is taken care of in another way.

So, in order to study, we will say, the effect of radiation on plant cells you first have to start off by saying what your political convictions are and what may have been your earlier affiliations. Well; we all know that human beings are somewhat governed by emotions at times and this is a sort of tentative thing for the man and he says, "This is a foretaste and now what are the other strings attached to it?" And there are other alternatives and he does not go on with it.

I had an amusing illustration even at my age. I would suppose that my potentialities are now rather limited but I served for five meetings on the United States Public Health Service Advisory Committee on Mental Hygiene for nothing. I gave up Saturdays and Sundays and I did not take any honorarium and after that I put "record of distinguished service," discommoding myself to that extent when I could have had some per diems.

Then I got a rather curious letter from the Public Health Service saying to please have my fingerprints made and send them back promptly. Also, please tell them under what other names than my own name I had ever been known by. As a matter of fact, when I was in college, I had such a red face that I was known as Pinky, so that is obviously one thing against me. Then my wife refers to me as "the boy traveler." So, I have two strikes there, and what do I think of an organization that does that? I think it is ludicrous.

I have been used by the FBI to give my opinion of the trustworthiness of some of my own colleagues. I do not mind being put through the FBI for my job in the Atomic Energy Commission, because there is a possibility—and I only regard it as a possibility—of my understanding some of the machines that I have seen in the institutions. I think the best guaranty is my ignorance.

But why should the United States Public Health Service in connection with mental disease want to know what my convictions are? I think I have voted for every political party except the Communist Party. But I do not think that my political convictions have much to do with the price of eggs. I went through a sufficient revulsion on that to say, "Oh, maybe they are sending the letter to me because I decline to take pay." Of course, that is a suspicious thing; and that may mean that I am buying my way into the mental hospitals of the United States, so I guess I had better get my pay with all of the rest of them.

I think that is a very serious situation to adopt measures so suspicious and implying so much distrust that a fellow with the best will in the world has that thrown in his face as a starter, and I assure you that young men, when we try to determine that, if they get the very idea that first, last, and all the time it is an appointment in which their political convictions are involved will say, "Thank you very much, we are going somewhere else."

You cannot go into very great detail as to what the subsequent steps are except that an investigation of this kind is going to feed that flame; it is going to pour gasoline on it instead of water on the fire. They are going to say, "Oh, yes; this was a matter of actual investigation. They follow up on these things."

Senator Hickenlooper's analogy to betting on the jockey who had doped his horse, betting on the horse that had been doped, I think, is a false one because the horse's only job is to win the race, and the physicist's job is to contribute to physics. Now the analogy would have been better if he had asked me: Would you bet on a jockey who was divorced or who was a member of some religious faith that has relatively little credence in the United States? Sure, I would bet on the jockey who was a good jockey and I would want a physicist that was a good physicist, provided that he was in a position that had nothing which he could divulge to a foreign power.

Representative DURHAM. You might repeat that for Senator Hickenlooper when he comes back.

Dr. GREGG. What is really at stake of the most serious moment is this: Here is a move where the Federal Government undertakes to contribute to the education of young men, possibly some young women but young men certainly, and there is a great deal of reserve and fear to put it in its more extreme term, of what this Federal contribution to education is going to amount to and there are those who are on the side lines saying, "Huh, don't you get into any scheme like that. That will eventually be controlled politically. Ability, scientific ability, integrity, is not the thing. What do they ask you first? Why they ask you first to tell all of the names that you have been known under and what affiliations you have ever had and whether you ever belonged to the Communist Party or anything of that kind and even your associations." God knows we cannot always control those, and they also come into the picture.

Now the Federal Government sets up a move of this kind, if you do this, sets up a remarkable state of affairs for all those who believe that the Federal Government should never touch education. I do not see, if the Federal Government takes the position that they have to have an oath of this kind or investigation of this kind on federally supported fellowships, where that particular move stops. How about the State universities? Are you going to give any money to State universities that do not follow this because you will have this slipping in, too? How about your high schools? How about your teachers? Are you going to run a general witch hunt in this direction? I do not see what the limit may be to it.

Of course, this involves a supposition which is a very interesting one to think about. What do you think these fellowships do? Do they indoctrinate people? Do they give an opportunity for indoctrination or are they the examination of scientific evidence? If they are indoctrination, and if we are talking about classes in sociology or classes in governmental theory, it would be one thing. This is a matter of science and physics, and yet this thing jumps in and is pushed in. Where do we stop?

One can only give estimates, and I am quite clear that my estimate is that you will be understood by the educators and by most of the parents who think this thing over, to be putting, for the first time, a sort of political means test into education, and that is going to cause a great big storm. The storm will come slowly; but, like most big things, they come slowly at first and then they develop speed as they come along.

Representative HINSHAW. Doctor, do you mind being questioned?

Dr. GREGG. No.

Representative HINSHAW. Have you read section 3 (a) lately?

Dr. GREGG. No.

Representative HINSHAW. I would like to read it, Mr. Chairman.

Representative DURHAM. Yes.

Representative HINSHAW. The section reads as follows:

Research Assistance. The Commission is directed to exercise its powers in such manner as to insure the continued conduct of research and development activities in the fields specified below by private or public institutions or persons and to assist in the acquisition of an ever-expanding fund of theoretical and practical knowledge in such fields. To this end the Commission is authorized and directed to make arrangement (including contracts, agreements, and loans) for the conduct of research and development activities relating to—

- (1) nuclear processes;
- (2) the theory and production of atomic energy, including processes, materials, and devices related to such production;
- (3) utilization of fissionable and radioactive materials for medical, biological, health, or military purposes;
- (4) utilization of fissionable and radioactive materials and processes entailed in the production of such materials for all other purposes, including industrial uses; and
- (5) the protection of health during research and production activities.

Then it goes on with another paragraph that has to do with how the arrangement shall be made in protection of life and health.

Now, over in section 10 of the act, we find 10 (b), which is the restriction section, and the term "restricted data" and the definition of restricted data. Then section 10 (b) (5) (B) (i), and it reads as follows:

No arrangement shall be made under Section 3—

That is the section we just read and they also refer to section 4—unless the person with whom such an arrangement is made, the contractor or prospective contractor, or the prospective licensee agrees in writing not to permit any individual to have access to restricted data until the investigation and report to the Commission on the character, associations, and loyalty of such individual and the Commission shall have determined that permitting such person to have access to restricted data will not endanger the common defense or security.

There is a good deal of additional language that is connected with what I have read, nevertheless, that indicates what the law passed some years ago in relation to atomic energy intends.

Obviously, it intends to promote research and development and does not mention anything about education. It is research and development, and then it provides for the control of restricted information.

Now, as one who has been associated with these things, do you think that anyone who goes into this program of research and development, of which we now find in part to be fellowships, can engage in these five undertakings or activities under Section 3—namely, research and development in nuclear processes; the theory and production, and so forth and so forth—without running into the business of restricted data?

Dr. GREGG. I should think that that was the responsibility of persons who have him under their supervision and he would very possible run into items, isolated items, but the point is who puts these things together.

He is in no position to put them together.

Representative HINSHAW. Let us take this research fellow that we are talking about and assume that he is engaged in research and let us assume that he has picked one of these items. Pick anyone you like

and then ask yourself the question whether or not that person is going to run into the question of the right to use restricted data in the course of his research. Do you think that he can?

Dr. GREGG. If it is restricted data, it is not his responsibility what is given to him.

Representative HINSHAW. I am not saying that. Do you think he can conduct research in this field without running into the question of whether or not he has the right to use restricted data?

Dr. GREGG. I think he can do quite a lot of work in research.

Representative HINSHAW. What fields?

Dr. GREGG. Principles of radiation to biology, to plants, to genetics, to health physics; there are a great number of things.

Representative HINSHAW. Certain aspects of health physics and certain aspects of biology; obviously he would not run into that?

Dr. GREGG. That is right.

Representative HINSHAW. Practically speaking, then, he is a research fellow who is not to be cleared for the use of restricted data and would have to confine himself to those few items; would he not?

Dr. GREGG. Yes.

Representative HINSHAW. Hence, anybody who wanted to engage in that research would have to pick a specific, small line that would come within that area within which no restricted data would be made available to him?

Dr. GREGG. Even then it is quite possible that he could make a significant contribution.

Representative HINSHAW. I agree with you on that only his field is very limited; is it not?

Dr. GREGG. Yes.

Representative HINSHAW. Unless he should specify that he intends to engage exclusively in those fields, then of course the fellowship would have to require that he be cleared for the use of restricted data?

Dr. GREGG. He would have to be cleared for the use of restricted data.

Representative HINSHAW. So, actually what we are talking about here is a very small field?

Dr. GREGG. On the contrary, you are talking about a very big field for which you are going to pick individuals.

Representative HINSHAW. That is right; you are talking about a very small field of researches, relatively, in comparison to the whole?

Dr. GREGG. No; I would say the unrestricted applications were a very large field.

Representative HINSHAW. Mr. Chairman, in a public meeting by this committee, I do not like to go into a discussion of what biological research is restricted and not restricted; but, obviously in certain work in reactors and so forth, biology does come into it very heavily, and it is quite possible that the Commission would feel, and its advisory committee might feel, that certain data even in relation to radioactive work in biology should be restricted information.

Dr. GREGG. That is quite possible.

Representative HINSHAW. Would not then the controlling group find themselves in the position of worrying all the time as to whether or not a particular student or particular research fellow in this case is entitled to certain of the information?

Dr. GREGG. Yes, but that is their explicit responsibility. You do not head this off by saying, "Let's never take anybody into the employment of General Motors unless he can be president." Gosh, you have to run this thing with a great deal more talent than that would allow you.

Representative HINSHAW. With all due respect to the gentleman, I do not think this relates to the question.

Dr. GREGG. It does because you are saying that we ought to put the smallest grating first, whereas I am saying that you put the narrow grating later, and you use below that grating for purposes not involved in security.

Representative HOLIFIELD. Will the gentleman yield?

Representative HINSHAW. Certainly.

Representative HOLIFIELD. I think we have to consider that the main purpose of the research of the Atomic Energy Commission is for the purpose of developing scientists in this particular line of nuclear science. We are not interested in general science. I am inclined to think that some of your ideas along the line of general science are probably correct, but here we are operating in a restricted field, and are we justified in going out and taking people into this field and spending the Government's money under this act, taking a chance that the money that is spent to produce scientists in this area will later on be nullified because we will have to screen them out?

I am looking at it from a practical standpoint. I am not talking about the National Research Foundation that makes fellowships on all lines of science but the money that is in this particular act and in this section 3 (a), is particularly specified and it says that the research shall be in a particular field for a particular purpose and it would seem to me as though your thought of screening them later for restricted data would come later than it should come.

Now I think on the whole field of scientific research your observations are probably correct but I cannot see why any individual who benefits from Federal funds, and they would consider it a benefit or they would not take up one of these fellowships, should hesitate to take an oath of loyalty to this Government. Each one of the Members of the Congress have to take that oath of loyalty to the Government and we think nothing of it; it is no insult to us. We are rather proud of the fact that we go down into the well of the House every 2 years. We go to a lot of trouble, I might say, and raise our hands and take that oath of loyalty. Most Federal jobs require an oath of loyalty to the Government. Here we are taking the money of all of the people, the tax money, and we are giving it to these young men for a specific purpose and that is to develop them in the science of nuclear experimentation for the purpose of developing this field which is related so closely to the national defense.

Now, why are we imposing upon them any great degree of harm in asking them to answer certain questions which would bring out the fact that they are loyal to the United States?

Dr. GREGG. How significant is the answer to the question providing you happen to be dealing with a real Communist?

Representative HOLIFIELD. A good argument there. Anyhow, I concede that if this person were a Communist, he would probably perjure himself at that point. I will concede that point but he of course subjects himself to the penalties of perjury when he does so.

Dr. GREGG. The answer does not mean very much, his answer.

Representative HOLIFIELD. Neither does my oath of office mean a great deal if I take it in the wrong way when I go down into the well of the House and swear to defend the best interests of this country against foes within and without. I can go down there with duplicity in my heart but yet we have found it to be thought necessary and we all agree it is not degrading in any way.

Dr. GREGG. I think your analogy falls down in one way in that you are taking the oath as a legislator and as a representative of the people and this person is obliged to take an oath of political alinement because he is going to be a physicist.

Representative HINSHAW. I would like to interrupt at this point to say that he is not taking an oath of political alinement except that he is proving to the Government which is about to give him some money for the purpose of developing not only his own ability but ability for the benefit of the Government and stating that he will not in anywise aline himself with any foreign power. I think that the Congress has pretty well demonstrated and the Attorney General is pretty well satisfied that anyone who is a member of the Communist Party is not loyal to the United States but to another government. Do you think that we should proceed to educate people who are loyal to some other government which, as has been stated before, the United States feels, the President feels, and the United States generally, that we should insulate ourselves against?

Dr. GREGG. I think it would be probably the long-headed policy to do that which is not the answer you expected. You have your controls so far as any real danger. You have your controls well above and beyond that.

Representative HINSHAW. I would like to know your reasons for that statement.

Dr. GREGG. For saying that?

Representative HINSHAW. Yes.

Dr. GREGG. You may not like the analogy, but supposing you give a dinner party or dance and down at the bottom you put "R. S. V. P." which means, please tell me whether you are coming or not, and you also add "Please accompany this with a Wassermann test." You are in a nice position to say that you do not want to say that you do not want people at your house that might contaminate your guests. What is the general flavor of that invitation? We would probably have a considerable reduction in tragedies of various kinds if people always accompanied their invitations with things like that but in the long run, it is not the right way to get guests to the party, and if it comes to a question of actually marrying your niece that does come in quite sensibly but you do not screen them the way in the beginning and I think it is foolish to screen them this way in the beginning because the connotation of the screen puts first of all is one that handicaps your choice of persons to serve.

Representative HINSHAW. We require an oath on the part of anyone who is commissioned in the service of the Government, the Army, Navy, and Air Force, and they have no objection to taking that oath of office and declaring their loyalty to this country.

Dr. GREGG. That is right, and there are a lot of people that stay out of those forces.

Representative HINSHAW. Any person that comes here and seeks naturalization for this United States forswears allegiance to any power. The trouble with the United States is that they assume that merely by virtue of birth in this country a person is per se loyal; is that not true?

Dr. GREGG. Yes.

Representative HINSHAW. Anybody else is required to take an oath which, if he violates that oath, subjects him to penalty.

Dr. GREGG. My point is that it is not the number of existing Communists that makes that much difference. It is what you do that turns these young people either in favor of the Government or against the Government, and on that basis I do not believe that it is smart to push as a qualification for a job which has nothing to do with political life a political issue.

Representative HINSHAW. This is not a political issue; it is a loyalty issue.

Dr. GREGG. Call it a loyalty issue.

Representative HINSHAW. You do not care, as I understand it, whether a man be a Socialist, Republican, Democrat, or anything else in the United States except a member of the Communist Party, and be perfectly loyal to the United States; is that not true?

Dr. GREGG. I do not know how true it is. It might be true. I do not think that membership in and of itself in either the Democratic or Republican Party is a guaranty of loyalty to the United States.

Representative HINSHAW. That is very true.

Dr. GREGG. That is just what I mean.

Representative HINSHAW. But you do know that a person who is a member of the Communist Party is not loyal to the United States?

Dr. GREGG. Presumably so. That is presumably correct.

Representative HINSHAW. So that one thing you pretty well know.

Dr. GREGG. As I said, the number of people who are Communists is not the important thing. The important thing is, How many more are they going to get and what do you do to get more converts?

Representative HINSHAW. Do you think to inquire and make inquiry into or require confirmation of loyalty on the part of persons who would receive Government funds for their own education, let us say, and for the conduct of research and development in the atomic energy field is going to make Communists out of people?

Dr. GREGG. Who is going to receive?

Representative HINSHAW. Or who is going to receive.

Dr. GREGG. Yes.

Representative HINSHAW. Do you think that would make Communists out of them?

Dr. GREGG. Yes.

Representative HINSHAW. Why?

Dr. GREGG. Because they immediately see that their political belief is apparently the sine qua non for a political job.

Representative HINSHAW. It is not a political belief, their political belief is the prohibition for a job.

Dr. GREGG. You can have anything you want in this world, only do not forget to pay for it. It is the price tag of this that troubles me. You can work out a perfectly consistent scheme. What will be the price tag? The price tag will be the feeling that the Federal money for education is politically controlled.

Representative HINSHAW. Pardon me. This is for research and development in the field of atomic energy.

Dr. GREGG. If you do not call this education, you and I have already separated.

Representative HINSHAW. I do not think the purpose of the act is to provide education for the people; it is to provide information on the subject of atomic energy that will benefit the United States, and the Atomic Energy Commission is the agency involved.

Dr. GREGG. Research is teaching ourselves without a teacher, and it is a form of teaching and an important form.

Representative HINSHAW. It is also a form which provides information to others engaged in the same undertaking.

Dr. GREGG. It may very well be.

Representative HINSHAW. That is what I get was intended by the act.

Representative HOLIFIELD. We extend an appointment to these boys that go to Annapolis and West Point, which I am told costs the Government about \$30,000 per graduate, and those boys go in with an obligation to the Government to spend at least 5 years in the service of their country. Do you think it is degrading that they should have to comply with a qualification, both of loyalty to their country, oath of loyalty, and of service, minimum service of 5 years, in payment, you might say, or in gratitude, or whatever term you wish to use?

Dr. GREGG. Not in the least.

Representative HOLIFIELD. The Federal money that is spent on their welfare?

Dr. GREGG. They know exactly what they are getting into, but that does not mean that you have the choice of all of the bright young men in the United States to go to West Point and Annapolis.

The CHAIRMAN. Sometimes it seems to us as though we do.

Dr. GREGG. That is fine. In the medical schools at the present time I venture to say that they have more applicants than they do for West Point and Annapolis. Yale has 1,465 applications for 65 openings this next year. If you can match that at either Annapolis or West Point, I will be surprised.

I say you have a duty to get your hands on the best brains that you can find, and not to handicap yourselves by an initial screening which has nothing to do with really serious information that might be imparted and that is restricted information.

I beg you not to do it, but, gosh, you can do it. There is nothing to stand in your way of doing it except that you have a price tag on it. You have a price tag that I think will have some bounces that will not be agreeable to you.

Representative DURHAM. Doctor, on that point, what do you base your opinion on? Have you made a survey?

Dr. GREGG. What do I base my opinion on?

Representative DURHAM. Is it just a personal experience?

Dr. GREGG. I base my opinion on the sensitive frame of mind that a young man is in when he tries to go forward with the only capital he has, which is his mind. If he finds circumstances where he is given a great deal of freedom it appeals to him and frankly we, in the foundation, find that the fellows prefer freedom in the foundation fellowships, over some opportunities, because we give

them freedom. We say that "It is up to you to choose the person you are going to work with; that you can take counsel with your teacher, you can take counsel with us, but the thing is for you to do, not us." That element of freedom appeals tremendously to young men. We do not put any foolish screen at the beginning of looking for candidates. You have to cast a net very far and very free to pick up real ability and you have to give them circumstances that appeal to them. You gentlemen may or may not know it, but the actual restrictions on research work in this field are such as to constitute a handicap in and of itself to a scientific man because he has been brought up all his life to believe that what he can find can be shared and, by gosh, here is a service where you just cannot do that and I want you to realize that you are in a difficult position in terms of reaching ability.

Representative DURHAM. I am kind of basing my opinion on my own family, and it is not from a desire to talk about them that I refer to them.

I have raised five children and three of them are in the field of science, and I never have heard them discuss anything like this, that they would mind having a few restrictions like this placed around them if they had some stipend in gaining further education.

I just cannot imagine one of my children taking such a position, and that is why I wonder whether you have analyzed this field of applicants in a scientific way or whether you have just assumed that this thing might be.

I am one of those who wants to keep education as free as possible. God knows that I want instruction to be perfectly free, and I do not want to do anything to hamstring that.

Here we are faced with a situation where we have a Communist that has been granted a scholarship by the Commission, and it is damaging; it is damaging to the whole program, and I do not care what analysis you make of it. We are facing that situation and we have to solve it.

The country is just not going with us and we have to go to the people and tax them to get appropriations. We have a form of government that we love, and how we can solve it is what I would like to know.

Dr. GREGG. The real safety of the United States in the whole business of atomic energy is going to lie in the number of good minds that are available and well-trained men.

Representative DURHAM. I agree with you.

Dr. GREGG. I would not like to see you put yourself in a position of limiting your recruitment for the future in that direction, the so-called secret end of it; I am not in sympathy with it because I do not think it is the atmosphere in which you get the best science done.

Granted that it is a realistic limitation, I think you have to make every effort to find able young fellows to do scientific work and not handicap yourselves and throw the whole question of Federal support to education into this kind of an atmosphere.

I should say that the supervision of what is restricted and what is not restricted is carefully allocated to people who are responsible.

Representative DURHAM. What has actually thrown it in the atmosphere, Doctor? It is an ideology that takes an oath that they are not going to be loyal to our form of government.

Dr. GREGG. I think a considerable measure of what has thrown it into this atmosphere is a perfectly irrational amount of fear.

I have talked with Communists, gosh, I have argued with them for hours, but I have not yet been infected by their ideas.

Representative DURHAM. Well, we have certainly wasted a lot of money in the last few years on your opinion, then, to try to fight it in Europe.

Dr. GREGG. Not at all. What you are doing in Europe is very sensible.

Representative DURHAM. I hope so.

Dr. GREGG. I am perfectly confident that it is. But it is not being done by the system of giving for the sake of controlling behavior, and when the United States makes any requirement of that kind, independent people anywhere will say "Thank you very much, we don't need your money. You can't buy our opinion."

The biggest factor in Europe has been the CARE boxes; it has not gone through Governments, it has gone from individuals to individuals.

Representative DURHAM. Did we not offer them international control of atomic energy, and do you not think that was fair?

Dr. GREGG. Perfectly fair.

Representative DURHAM. They did not accept it.

Dr. GREGG. It was not taken.

Representative DURHAM. What are you going to do?

Dr. GREGG. Stay as you are on it, but I would not make the confession, would not make a move that to all intents and purposes would indicate that you are so scared that you cannot afford a dilution of one to a thousand of these people.

Gosh, I have seen so many young men turn from radicals to conservatives and so few turn from conservatives to radicals that I do not worry about the passage of time if they are busy with physics in the meantime. I know there will be examples that will be shocking, and terrifying and all that, but, darn it, they do not amount to as big a price as you pay if you go into this fear-stricken attitude of letting nobody even be looked at.

Representative DURHAM. This young man has probably done as much damage as thousands.

Dr. GREGG. We can do a lot more if your reaction is to make some more feel that it is all a political uproar.

As I say, I think you do have a price tag. This is in line with what an old man told a friend of mine:

"Remember, young man, you can have anything in this world, only don't forget to pay for it."

What is the price tag of going into this thing?

Representative DURHAM. It has two price tags on it, Doctor. It has a price tag on the other side, too. It is a two-way price tag, by virtue of the fact that the United States can be attacked by atomic energy as well as defended by it. The safety of the people themselves is involved in this proceeding.

The CHAIRMAN. Are there any further questions?

Representative HINSHAW. No.

The CHAIRMAN. Doctor, I want to apologize for leaving, but we thought that the vote would come at any time and we were delayed.

However, I want to assure you that I am going to read the record of what transpired.

Thank you very much for making yourself available.

Dr. GREGG. Thank you.

The CHAIRMAN. Now, it is 4:30 and I believe that we will have to recess until 10 o'clock tomorrow morning.

I want to extend my apologies to Dr. Smyth and Mr. Dean. I am sure you can see that it was unavoidable. We have scheduled this young man, extended him the invitation, and he is going to be here. Will you be available in the morning, Dr. Smyth?

Dr. SMYTH. Yes.

The CHAIRMAN. And you, Mr. Dean?

Mr. DEAN. Yes.

The CHAIRMAN. We will resume at 10 o'clock tomorrow morning. (Whereupon, at 4:30 p. m. the committee recessed, to reconvene at 10 a. m., Wednesday, May 18, 1949.)

# ATOMIC ENERGY COMMISSION FELLOWSHIP PROGRAM

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WEDNESDAY, MAY 18, 1949

CONGRESS OF THE UNITED STATES,  
JOINT COMMITTEE ON ATOMIC ENERGY,  
*Washington, D. C.*

The committee met at 10:30 a. m., pursuant to adjournment, in room 48-G, the Capitol, Senator Brien McMahon, chairman, presiding.

Present: Senator McMahon (chairman), Representative Durham (vice chairman), Senator Hickenlooper, Representatives Holifield, Price, Jackson, Cole, Elston, and Van Zandt.

Also present: William L. Borden, executive director, and Harold Bergman, deputy director, Joint Committee on Atomic Energy.

The CHAIRMAN. The meeting will come to order.

Mr. Freistadt, will you take that chair?

Will you hold up your right hand, please?

Do you solemnly swear that the evidence that you will give this committee of the Congress is the truth, the whole truth, and nothing but the truth, so help you God?

Mr. FREISTADT. Yes, I do.

The CHAIRMAN. Mr. Freistadt, after consideration by the joint committee, and after action by the joint committee, I dispatched to you a telegram which you received?

## TESTIMONY OF HANS FREISTADT, GRADUATE STUDENT IN PHYSICS, UNIVERSITY OF NORTH CAROLINA, CHAPEL HILL, N. C.

Mr. FREISTADT. Yes, sir; I did.

The CHAIRMAN. I am going to read that into the record.

Since your name was mentioned at an open hearing of the Joint Congressional Committee on Atomic Energy this afternoon, I consider it only fair that you be given an opportunity to testify before the committee at your earliest convenience should you so desire. Please notify me if you wish to testify before the committee and a date will be arranged.

You received that telegram?

Mr. FREISTADT. Yes, sir; I did.

The CHAIRMAN. And you answered it and stated that you wished to come here?

Mr. FREISTADT. Yes, sir; I did.

The CHAIRMAN. I wanted to very carefully and clearly tell you that you are not on trial before this committee for anything. Do you understand that?

Mr. FREISTADT. I understand that, sir.

The CHAIRMAN. This is no persecution session at all. Our idea was that since your record had come into question in connection with the

fellowship program, it was the desire of the committee that you be given an opportunity to explain your connection with that program, and how you came to be connected with it, if you desire to do that.

Mr. FREISTADT. Yes, sir.

The CHAIRMAN. Therefore, the invitation was given to you. And we want it most clearly understood that you were not subpoenaed; that your appearance was not demanded by this committee, but that you were given an opportunity to come, which you have accepted.

Mr. FREISTADT. I understand that, sir.

The CHAIRMAN. Now, Mr. Freistadt, have you some comments you wish to make in connection with your part in the program, or your prospective part in the program?

Mr. FREISTADT. Yes, Mr. Chairman; I have. I have given copies of the statement that I would like to make to the committee secretary. May I proceed with the statement, Mr. Chairman?

The CHAIRMAN. Just a second. Before you start, I note that you state, here:

I'm happy to have the opportunity to appear here at the invitation of Senator McMahon \* \* \*.

It was not quite an invitation. It was an opportunity offered to you to appear. We agree on that, do we not?

Mr. FREISTADT. Yes, sir; we do.

The CHAIRMAN. All right. With that amendment, will you go ahead and make what comments you wish?

Mr. FREISTADT. Yes, sir.

Mr. Chairman, gentlemen of the committee:

My name is Hans Freistadt. I am a graduate student in physics at the University of North Carolina.

For the record, may I state that I was graduated from the University of Chicago with the degree of bachelor of science in June 1946, and with the degree of master of science in August 1948. I am a veteran of World War II, having served for 2 years. I was honorably discharged with the rank of sergeant.

I am happy to have the opportunity to appear here, to state my point of view on the controversy that has arisen over the award of an Atomic Energy Commission award fellowship to me.

Since my views were developed in detail in a letter to Senator Hoey, I should like at this point to read that letter into the record.

DEPARTMENT OF PHYSICS,  
UNIVERSITY OF NORTH CAROLINA,  
Chapel Hill, N. C., May 15, 1949.

HON. CLYDE R. HOEY,  
*United States Senate, Washington, D. C.*

DEAR SENATOR HOEY: It appears that the award of an Atomic Energy Commission fellowship to me by the National Research Council, effective July 1, 1949, has given rise to some discussion and criticism, in view of the fact that I am a professed Communist. I hope that this letter may clarify a few points, and respectfully request that you insert it into the Congressional Record.

The criticism seems to have centered around two points—one, that secrets vital to national defense are being entrusted to a person who has not been cleared; two, that the award of a fellowship to a Communist, alleged to be disloyal and opposed to the American form of government, is a waste of taxpayers' money, especially since such a person would not be hired for secret work with the Atomic Energy Commission.

Such a fellowship award is not a waste of taxpayers' money. The purpose of these fellowships is not exclusively to train scientists for secret work with the Atomic Energy Commission. The fellowships are general academic awards. Their purpose, as I understand it, is to provide a pool of trained scientists to further scientific studies in this country. My personal plans are, upon graduation, to teach physics and carry on nonmilitary research; and inasmuch as I hope to be of some service to this country in that capacity, the money, far from being wasted, will have accomplished its purpose.

It is to the credit of the Atomic Energy Commission that they saw fit to award fellowships in the general interest of scientific research. This contrasts sharply with the position of some who consider waste every penny spent on anything other than perfecting weapons of destruction. Had the fellowships meant that I would have to work on aggressive weapons, I would have declined the fellowship, as such work is contrary to my conscience.

I pay taxes on the same basis as other Americans, and can see no reason why I should not be allowed to compete for such a general academic award on the same basis as other physics students. The fellowships are awarded on the basis of a competitive examination, the student's record, and recommendations by faculty members. Those who suggest that academic awards be given on the basis of political orthodoxy rather than on the basis of scholarship are engaging precisely in the operation of mixing science and politics of which Communists have been accused.

On the question of access to restricted data, may I point out that under the award I will be pursuing work for my doctorate under the same conditions as other graduate students; and that the fellowship specifically provides that it does not entitle the holder to access to restricted data. Neither is it understood that the recipients of such fellowships will later do secret work for the Atomic Energy Commission. My thesis is in the field of general relativity, and has no military or commercial applications of any sort.

I resent the insinuation that I am disloyal to this country, and therefore not entitled to the fellowship. I have never attacked the American form of government, and support the principles of the Constitution of the United States. It is true that I have criticized our present administration and economic organization. I have argued that our foreign policy is suicidal. I have argued that, under Socialism, the American people could enjoy a standard of living the like of which we dare only dream of now. The right so to argue is a privilege that every citizen enjoys. If I were a foreign agent trying to work my way into a position of confidence, certainly the best way to proceed would not be openly proclaiming my beliefs, as I have done.

I consider myself a loyal citizen of this country. I am not a foreign agent; and if at some later time I would be granted access to restricted data, I would not disclose such data to unauthorized persons. The Constitution of the Communist Party provides for expulsion of any member engaging in espionage. I am bound by my oath of citizenship to defend this country against any aggressor; have done so in the last war, and am prepared to do so again, if necessary. I am a citizen by choice, because I prefer this country to all others. I see no contradiction between my loyalty to the United States of America and my membership in the Communist Party. Allegations that the Communist Party is under foreign control are false; they have not, and cannot be, proved in court. If I thought for a minute that these allegations were true, I would resign from the Communist Party. On the basis of the program of the Communist Party and its activities, in which I have participated, I am convinced that the Communist Party is dedicated to the service of this country. I am confident that if my loyalty, or that of the American Communist Party, were examined objectively, rather than prejudged on the basis of misconception, we would be found loyal and devoted Americans.

I regret the commotion and time expenditure that this incident has caused the Congress, the Atomic Energy Commission, and the University of North Carolina; but am compelled to point out that this was a result of the current anti-Communist hysteria rather than due to any fault of mine. I hope that this letter will contribute to clarify matters and bring the incident to a close. I am anxious again to devote all my working hours to my work as a physicist, and some of my free time attempting to convince my friends and fellow students of the correctness of my political views.

Respectfully yours,

HANS FREISTADT.

I would like to add to the issues raised in the letter that my appointment as a fellow and my acceptance of this appointment in the correspondence with the National Research Council is in the form of a contract, and that by canceling the fellowship, it appears to me the Government would be going back on its word.

Mr. Chairman, gentlemen of the committee, I believe the issue is very clear. Should a fellowship award, granted in compliance with all regulations, be canceled because the recipient happens to hold unpopular political views?

I submit that much more than my personal future is at stake here. If a fellowship is to be withdrawn from me because I happen to be a Communist, similar reprisals may be taken tomorrow against a man who is, say, a militant New Dealer, a Progressive, or even a Republican.

Once scientists and science students are discriminated against because of their political views or lawful political activities the whole concept of academic freedom as we have known it is in danger.

I am ready for your questions, Mr. Chairman.

The CHAIRMAN. Senator Hickenlooper?

Senator HICKENLOOPER. Mr. Chairman, I do not care to discuss or interrogate upon any matter of social or political philosophy. I would merely say, as a sequel to that statement that the Communist Party has been declared to be a subversive party by the Attorney General, and I will let that end of it go, there.

I would like to ask Mr. Freistadt a question or two, however, bearing on himself personally.

Where were you born, Mr. Freistadt?

Mr. FREISTADT. I was born in Vienna, Austria.

Senator HICKENLOOPER. And how long did you live in Vienna?

Mr. FREISTADT. About 5 years.

Senator HICKENLOOPER. Then where did you move?

Mr. FREISTADT. I then moved to Berlin.

Senator HICKENLOOPER. How long did you live in Berlin?

Mr. FREISTADT. About 2 or 3 years.

Senator HICKENLOOPER. From Berlin, where did you go?

Mr. FREISTADT. Back to Vienna.

Senator HICKENLOOPER. How long did you live there?

Mr. FREIDSTADT. Just a very short time, perhaps 6 months.

Senator HICKENLOOPER. From Vienna, the second time, where did you move?

Mr. FREISTADT. To France; Paris.

Senator HICKENLOOPER. To Paris. How long did you live in Paris?

Mr. FREIDSTADT. About 8 years.

Senator HICKENLOOPER. Then where did you go from Paris?

Mr. FREISTADT. To Marseilles in the south of France, where I just stayed a short time.

Senator HICKENLOOPER. A matter of months, or weeks?

Mr. FREISTADT. Weeks, probably. And then I came to this country.

Senator HICKENLOOPER. Where did you land in this country? Where was your port of debarkation?

Mr. FREISTADT. In New York, sir.

Senator HICKENLOOPER. What year was that?

Mr. FREISTADT. In 1941, sir.

Senator HICKENLOOPER. After you landed in New York, where did you live? Will you just trace your places of residence?

Mr. FREISTADT. Yes, sir. I lived in Evanston, Ill., for about 6 months; and then in Chicago until my induction into the Army in 1944.

Senator HICKENLOOPER. Did you live with friends, acquaintances, or relatives in this country?

Mr. FREISTADT. I lived with a friend in Evanston and in Chicago. I was under the supervision of the Jewish Children's Agency.

Senator HICKENLOOPER. With whom did you live in Chicago?

Mr. FREISTADT. I had a room. Well, first I lived in an orphan home of the Jewish Children's Agency, and then I had a room for which the Jewish Children's Agency paid.

Senator HICKENLOOPER. Which orphan home was this?

Mr. FREISTADT. Woodlawn Hall, sir.

Senator HICKENLOOPER. You did not live in the home of an individual family, then? Is that correct?

Mr. FREISTADT. My room was in the home of an individual family.

Senator HICKENLOOPER. What was the name of the family?

Mr. FREISTADT. Albert.

Senator HICKENLOOPER. A-l-b-e-r-t?

Mr. FREISTADT. Yes, sir.

Senator HICKENLOOPER. And what was the address?

Mr. FREISTADT. 5221 Woodlawn Avenue in Chicago.

Senator HICKENLOOPER. Was it a Chicago address, or an Evanston address?

Mr. FREISTADT. That was the Chicago address.

Senator HICKENLOOPER. Did you go to any secondary school?

Mr. FREISTADT. Yes, sir. I went for about one semester to Evanston Township High School, and for about one semester to Hyde Park High School in Chicago.

Senator HICKENLOOPER. And did you graduate from either of these high schools?

Mr. FREISTADT. No, sir. I was admitted to the University of Chicago without graduation from high school.

Senator HICKENLOOPER. How were you admitted? On the basis of past record?

Mr. FREISTADT. On the basis of my senior studies in high school; and the high school would not recognize my French records, but the University of Chicago would.

Senator HICKENLOOPER. They recognized your French records and admitted you to study in the University of Chicago based on the French records?

Mr. FREISTADT. And also on the basis that I was doing fairly well in senior subjects at Hyde Park High School.

Senator HICKENLOOPER. Were you given any specific examination, mental examination, for entrance to Chicago University?

Mr. FREISTADT. After admission, to make my admission permanent.

Senator HICKENLOOPER. Did you enter as a freshman at the University of Chicago?

Mr. FREISTADT. As a freshman, sir.

Senator HICKENLOOPER. What year was that?

Mr. FREISTADT. 1942, sir.

Senator HICKENLOOPER. 1942. And you went to the University of Chicago from then until 1946, when you graduated with a bachelor of science degree. Is that correct?

Mr. FREISTADT. No, sir. I was inducted into the Army in 1944.

Senator HICKENLOOPER. What date?

Mr. FREISTADT. June 17, I believe.

Senator HICKENLOOPER. 1944. And how long were you in the Army?

Mr. FREISTADT. Until April 8, 1946.

Senator HICKENLOOPER. During that time, where did you serve? I mean, what was the geographic location?

Mr. FREISTADT. The United States, sir.

Senator HICKENLOOPER. And where? What camps, or what installations?

Mr. FREISTADT. Fort McClellan, Blacksburg, Va., Fort Monmouth, Camp Crowder, Aberdeen Proving Grounds, Fort Eustis, and Fort Sheridan.

Senator HICKENLOOPER. What branch of service were you in or what were your duties in the Army during that period of time?

Mr. FREISTADT. I was first given basic training. Then I was trained in electrical engineering. Then I was trained in communications work. But then it turned out that that specialty was not needed. Then I was assigned to participate in the training program for German prisoners of war.

Senator HICKENLOOPER. Then, after your discharge from the Army, you went back to the University of Chicago, and completed your bachelor of science work? Is that correct?

Mr. FREISTADT. Yes, sir; I did.

Senator HICKENLOOPER. Then did you continue on, after that, for your master of science degree?

Mr. FREISTADT. Yes, sir; I did.

Senator HICKENLOOPER. Was that period uninterrupted? I mean, was it a continuous period of attendance at the university?

Mr. FREISTADT. Yes, sir; it was.

Senator HICKENLOOPER. From the time you came to this country, up to the time you entered the Army, what was your source of income?

Mr. FREISTADT. The Jewish Children's Bureau of Chicago paid for my books and my room and that portion of my tuition which was not covered by the scholarship I had from the University of Chicago. I worked part time to feed myself and clothe myself and for my general expense.

Senator HICKENLOOPER. And other than those sources of income which you have just recited, did you have any other source of income of any kind whatsoever?

Mr. FREISTADT. I believe I once received \$10, or \$50, a small amount, from a friend of my family. I think that is the only thing I recall at this time.

Senator HICKENLOOPER. A friend of your family where?

Mr. FREISTADT. In New York, Sir.

Senator HICKENLOOPER. Did you receive any income or revenue of any kind for any journalistic work, writing, articles, that you might have contributed during that period?

Mr. FREISTADT. No, I don't recall any.

Senator HICKENLOOPER. Sir?

Mr. FREISTADT. I don't recall any.

Senator HICKENLOOPER. After your discharge from the Army, you continued on in college. And what was your source of income during that time, until you got your master of science degree?

Mr. FREISTADT. GI bill, sir, and I also worked part time.

Senator HICKENLOOPER. Was that your sole source of income during that period?

Mr. FREISTADT. Yes, that was my sole source of income. Well, let me add this: I was living in a cooperative in which I received an additional income in a trivial amount, I think \$1 a month, for performing a house function. But that was my only additional source of income.

Senator HICKENLOOPER. What was the cooperative in which you lived during that time?

Mr. FREISTADT. Fellowship Housing Cooperative.

Senator HICKENLOOPER. At the University of Chicago?

Mr. FREISTADT. It was not strictly a student cooperative, but I was going to the University of Chicago.

Senator HICKENLOOPER. What is the address of that organization?

Mr. FREISTADT. 6314 Ellis Avenue. That is still my legal address.

Senator HICKENLOOPER. In Chicago?

Mr. FREISTADT. Yes, sir.

Senator HICKENLOOPER. Then where did you go, after you received your master of science degree?

Mr. FREISTADT. I came to the University of North Carolina.

Senator HICKENLOOPER. Have you been there ever since?

Mr. FREISTADT. Yes, sir; I have.

Senator HICKENLOOPER. What has been your source of income at the University of North Carolina?

Mr. FREISTADT. I am a part-time instructor.

Senator HICKENLOOPER. Have the benefits under the GI bill of rights been totally exhausted now?

Mr. FREISTADT. They have not been exhausted. I discontinued them after I left the University of Chicago. I have about 5 months left.

Senator HICKENLOOPER. So that your sole income at the University of North Carolina is from your earnings as a part-time instructor.

Mr. FREISTADT. Yes, sir.

Senator HICKENLOOPER. And you have and have had no other source of income since you have been at the University of North Carolina. Is that correct?

Mr. FREISTADT. That is correct, sir.

Senator HICKENLOOPER. Now, Mr. Freistadt, you were born in Vienna and lived there 5 years, approximately the first 5 years of your life, you say?

Mr. FREISTADT. Yes, sir.

Senator HICKENLOOPER. Did you live with your father and your mother, or with your family, there?

Mr. FREISTADT. With my father and mother.

Senator HICKENLOOPER. In the family?

Mr. FREISTADT. Yes, sir.

Senator HICKENLOOPER. What was your father's name?

Mr. FREISTADT. Dr. Benedict Freistadt.

Senator HICKENLOOPER. And what was his occupation?

Mr. FREISTADT. He is a journalist, sir.

Senator HICKENLOOPER. Was he a journalist in Vienna?

Mr. FREISTADT. Yes, sir. He was a Berlin correspondent.

Senator HICKENLOOPER. For what paper?

Mr. FREISTADT. For a Vienna newspaper.

Senator HICKENLOOPER. What is the name of the newspaper?

Mr. FREISTADT. I believe it was the Abend; but I am not sure, sir.

Senator HICKENLOOPER. You were quite young at that time, I take it.

Mr. FREISTADT. Yes, sir.

Senator HICKENLOOPER. Then you moved to Berlin. Did your father move there?

Mr. FREISTADT. Yes, sir.

Senator HICKENLOOPER. What was his occupation in Berlin?

Mr. FREISTADT. He was editor of a Berlin newspaper.

Senator HICKENLOOPER. What was the name of that newspaper?

Mr. FREISTADT. Berlin 'Am Morgen.

Senator HICKENLOOPER. Do you know the political complexion or views of the Abend during the time when he was a correspondent for that newspaper during the first 5 years of your life?

Mr. FREISTADT. I believe it was a Socialist newspaper, sir.

Senator HICKENLOOPER. And the newspaper in Berlin: do you recall the political complexion of that newspaper? Will you just name it again? I have forgotten.

Mr. FREISTADT. Berlin 'Am Morgen.

Senator HICKENLOOPER. That means "morning paper"?

Mr. FREISTADT. It means "Berlin in the Morning." It was a strongly leftist paper. I don't know if it represented any party.

Senator HICKENLOOPER. Would you call it a Communist newspaper?

Mr. FREISTADT. I would say that one might say that its general political orientation was Communist. I believe it supported the Communist candidate for President, but again I would like to point out that these recollections are rather vague.

Senator HICKENLOOPER. I understand. You were young at that time.

Then, after 3 years in Berlin, you went back to Vienna. Did your father move back to Vienna at that time?

Mr. FREISTADT. I don't recall whether he moved to Vienna with us, or whether he went directly to Paris.

Senator HICKENLOOPER. But did he go back to Vienna as a journalist, if he did go? Or was that just an interim between the movement from Berlin to Paris?

Mr. FREISTADT. It was just an interim period. It was the time that Hitler had come to power in Germany. And I believe that my father's life was threatened, and he just moved out as fast as he could.

Senator HICKENLOOPER. But eventually, after approximately 6 months' time, you did move to Paris?

Mr. FREISTADT. Yes, sir.

Senator HICKENLOOPER. Your father and your family moved to Paris also; is that correct?

Mr. FREISTADT. Yes, sir.

Senator HICKENLOOPER. What was your father's occupation in Paris during the 8 years I believe you said you lived there?

Mr. FREISTADT. He edited an anti-Nazi news letter in Paris.

Senator HICKENLOOPER. Do you recall the name of that publication?

Mr. FREISTADT. I believe it was Deutsche Nachrichten.

Senator HICKENLOOPER. It was anti-Nazi?

Mr. FREISTADT. Yes, sir.

Senator HICKENLOOPER. Did it support the Communist policies and philosophies, or argue for them; do you know?

Mr. FREISTADT. I do not know, sir. I was very young. I have not read the paper. I was just impressed by its masthead, as to the fact that it was anti-Nazi.

Senator HICKENLOOPER. By the time you left Paris, you would have been about 16 years old?

Mr. FREIDSTADT. About 15.

Senator HICKENLOOPER. I was adding the 5 years in Vienna, the 8 years in Paris, and the 3 years in Berlin. You were approximately 15 years of age when you left Paris?

Mr. FRIEDSTADT. Yes, sir.

Senator HICKENLOOPER. What was the occasion for your family leaving Paris?

Mr. FREISTADT. My family did not leave Paris all together. My father had been in a concentration camp in southern France. My mother had been killed at the bombing of Paris.

Senator HICKENLOOPER. Had he been put there by the Vichy French or by what group of French?

Mr. FREISTADT. He had been put there by the French Government as soon as the war broke out.

Senator HICKENLOOPER. I see. Was he opposed to the Government or was it a political situation?

Mr. FREISTADT. I would guess that it was political. However, the circumstances have never been made clear. There was never a hearing or a trial or any type of charge that explained why he was put there.

Senator HICKENLOOPER. He had been vigorous in his opposition to naziism and the German aggressive policies; is that correct?

Mr. FREISTADT. Yes, he had been.

Senator HICKENLOOPER. Then you came to this country, to New York, in 1941. Is that correct?

Mr. FREISTADT. Yes, sir.

Senator HICKENLOOPER. How long did your father stay in the concentration camp in southern France?

Mr. FREISTADT. He stayed from September 1939 until the time we left on the boat, which was, I believe, April of 1941.

Senator HICKENLOOPER. So he came to this country with you, or you came with him; is that correct?

Mr. FREISTADT. Yes, sir.

Senator HICKENLOOPER. And you both landed in New York on the same boat?

Mr. FREISTADT. Yes, sir.

Senator HICKENLOOPER. Did the remainder of your family come with you?

Mr. FREISTADT. My sister and my father were on the same boat.

Senator HICKENLOOPER. So they landed here at the same time?

Mr. FREISTADT. Yes, sir.

Senator HICKENLOOPER. And did the other members of your family stay in Europe?

Mr. FREISTADT. I just had a few aunts and uncles, and they stayed in Europe.

Senator HICKENLOOPER. Your mother is deceased?

Mr. FREISTADT. Yes, sir; she is.

Senator HICKENLOOPER. On landing in New York, where did your father go?

Mr. FREISTADT. He stayed a few weeks in New York and then proceeded to Mexico.

Senator HICKENLOOPER. Mexico City?

Mr. FREISTADT. Yes, sir.

Senator HICKENLOOPER. Under what sort of passport or permit was he traveling and were you traveling?

Mr. FREISTADT. I was traveling under an affidavit in lieu of passport issued by the United States consul in Marseilles, and I am not sure about my father; but I think he was traveling under a French exit permit.

Senator HICKENLOOPER. And your citizenship at that time was what? What did you claim to be?

Mr. FREISTADT. Austrian.

Senator HICKENLOOPER. You claimed Austrian citizenship.

Mr. FREISTADT. Yes.

Senator HICKENLOOPER. Your father went to Mexico, you say. Where did he go? What city or location in Mexico?

Mr. FREISTADT. Mexico City, sir.

Senator HICKENLOOPER. Mexico City. And how long did he stay in Mexico City?

Mr. FREISTADT. I believe he left last year or the year before last. I don't remember exactly.

Senator HICKENLOOPER. While he was in Mexico City, what was his occupation?

Mr. FREISTADT. He was working on some books. Then he worked as a manager in a silver export and import concern.

Senator HICKENLOOPER. Was that a Mexican concern?

Mr. FREISTADT. It was a Mexican concern, but I think it was owned by a German refugee. And I think he also edited a German anti-Nazi—either quarterly or monthly, as long as there still was a Nazi government.

Senator HICKENLOOPER. What was the name of that publication?

Mr. FREISTADT. I think it was Freies Deutschland.

Senator HICKENLOOPER. Did you visit him in Mexico City during his time there?

Mr. FREISTADT. Yes, sir. I visited him on my first furlough from the Army in December 1944.

Senator HICKENLOOPER. How long did you spend with him at that time?

Mr. FREISTADT. We met in Monterrey. We spent about 3 days together.

Senator HICKENLOOPER. Then you returned at the expiration of your furlough?

Mr. FREISTADT. Yes, sir.

Senator HICKENLOOPER. You said your father left Mexico City. Does that mean the country of Mexico?

Mr. FREISTADT. Yes; he left the country of Mexico.

Senator HICKENLOOPER. In 1947 or 1948?

Mr. FREISTADT. Yes, sir; he did.

Senator HICKENLOOPER. You do not recall with any more certainty the year he left, now?

Mr. FREISTADT. I can try to figure it out. I believe it was the beginning of 1948.

Senator HICKENLOOPER. Do you recall where you were at the time he left Mexico City?

Mr. FREISTADT. Yes, sir. I was in Chicago. I had come back from the Army to Chicago.

Senator HICKENLOOPER. And you were discharged from the Army on what date, did you say?

Mr. FREISTADT. April 8, 1946.

Senator HICKENLOOPER. April 8, 1946. And so it was between that time and the time you left Chicago, in August 1948, that he left Mexico.

Mr. FREISTADT. Yes, sir. He had left.

Senator HICKENLOOPER. And you believe that he left sometime early in 1948.

Mr. FREISTADT. Yes, sir; I do.

Senator HICKENLOOPER. Did you maintain regular correspondence with him?

Mr. FREISTADT. Yes, sir; I write to him.

Senator HICKENLOOPER. Where did your father go from Mexico?

Mr. FREISTADT. He went back to Vienna.

Senator HICKENLOOPER. Does he live in Vienna now?

Mr. FREISTADT. Yes, sir; he does.

Senator HICKENLOOPER. Did your sister accompany him to Mexico?

Mr. FREISTADT. Yes, sir; she did.

I beg your pardon, sir. My sister first stayed with me in this country, and then she went to join him in Mexico at a later time.

Senator HICKENLOOPER. Do you recall about the length of time she stayed in this country?

Mr. FREISTADT. Yes, sir. She left this country to join him in December 1943.

Senator HICKENLOOPER. In December 1943?

Mr. FREISTADT. No, sir; I think it was December 1942.

Senator HICKENLOOPER. And she lived there with your father until he left for Vienna, until he left to return to Vienna, a year or so ago?

Mr. FREISTADT. Yes, sir; she went with him.

Senator HICKENLOOPER. She went back to Vienna with him; is that correct?

Mr. FREISTADT. Yes, sir.

Senator HICKENLOOPER. What is your father's occupation in Vienna? What has it been since he has returned this last time?

Mr. FREISTADT. He is an editor.

Senator HICKENLOOPER. And of what publication?

Mr. FREISTADT. Oesterreichisches Tagebuch and Der Abend.

Senator HICKENLOOPER. Is that two newspapers, or it is a combined name?

Mr. FREISTADT. One is a magazine; the other is a newspaper, for which he had formerly been a correspondent.

Senator HICKENLOOPER. And as an editor in Vienna now, does he support the Communist philosophy, and the Communist policies in Austria?

Mr. FREISTADT. I would say that he tends in that direction. He tends in the direction of supporting the policies of the Austrian Communist Party; in at least as much of the newspaper as I have read.

Senator HICKENLOOPER. Is it not a fair statement to say that those two publications are in fact Communist publications?

Mr. FREISTADT. I don't know, sir, if that is a fair statement. The policies tend in that direction.

Senator HICKENLOOPER. Do you believe them to be?

Mr. FREISTADT. I wouldn't venture a guess. I would say that his thinking very strongly tends in that direction. I have never asked him about his political affiliation.

Senator HICKENLOOPER. Did your father ever go under the name of Bruno Frei?

Mr. FREISTADT. Yes, sir. That is his pen name.

Senator HICKENLOOPER. That is his pen name?

Mr. FREISTADT. Yes, sir.

Senator HICKENLOOPER. But his name actually is Freistadt, the same as yours?

Mr. FREISTADT. Yes, sir.

Senator HICKENLOOPER. Has he gone under the name of Bruno Frei consistently over the years? As a writer?

Mr. FREISTADT. Yes, sir. The story in the family is that when he had his first printed article, the typist made a mistake; and the first article was successful, so he went under that pen name ever since.

Senator HICKENLOOPER. And would you give us the correct spelling of that name, Bruno Frei?

Mr. FREISTADT. Yes, sir. B-r-u-n-o F-r-e-i.

Senator HICKENLOOPER. F-r-e-i is the last name?

Mr. FREISTADT. Yes, sir.

Senator HICKENLOOPER. Did you ever at any time discuss with your father in Mexico, or in correspondence, Communist underground activities in Mexico?

Mr. FREISTADT. No, sir; I did not.

Senator HICKENLOOPER. Do you have any knowledge of whether or not your father engaged in communistic underground, or other communistic activities while he was in Mexico?

Mr. FREISTADT. No, sir; I have no knowledge.

Senator HICKENLOOPER. I believe that is all, Mr. Chairman.

The CHAIRMAN. Mr. Durham?

Representative DURHAM. Mr. Freistadt, you say you were working under a scholarship at Chicago University while you were there?

Mr. FREISTADT. No, sir. At the University of Chicago, I was under the GI bill of rights.

Oh, you mean as an undergraduate?

Representative DURHAM. I understood you to say that you had a scholarship.

Mr. FREISTADT. Yes, as an undergraduate I had a scholarship at the University of Chicago.

Representative DURHAM. Was that a university scholarship, or was it by some private corporation?

Mr. FREISTADT. I had a joint scholarship by the University of Chicago and by the Jewish Children's Bureau of Chicago.

Representative DURHAM. Had you ever made application for citizenship before you went into the Army?

Mr. FREISTADT. No, sir; I had not. I had made application for first papers, though.

Representative DURHAM. What were you when you went into the Army?

Mr. FREISTADT. I was a noncitizen. I had filed a declaration of intention to become a citizen.

Representative DURHAM. When did you file that?

Mr. FREISTADT. I do not remember, sir. I believe it was very shortly after my eighteenth birthday, which was the earliest I could have done it.

Representative DURHAM. Did you file that before going into the Army?

Mr. FREISTADT. Yes, sir; I did.

Representative DURHAM. When did you join the Communist Party?

Mr. FREISTADT. I joined it in 1946.

Representative DURHAM. Where?

Mr. FREISTADT. In Chicago.

Representative DURHAM. And at the present time you are a member of the Communist Party?

Mr. FREISTADT. Yes, sir. I answer the question "yes, I am," without discussing the constitutional issues involved in that question.

Representative DURHAM. What section of the Communist Party do you belong to? Or what unit do you belong to in the Communist Party?

Mr. FREISTADT. You mean what club?

Representative DURHAM. Yes.

Mr. FREISTADT. The Chapel Hill Club.

Senator HICKENLOOPER. Is that at North Carolina or Chicago?

Mr. FREISTADT. At North Carolina.

Senator HICKENLOOPER. What club did you join, or what unit did you join, in Chicago?

Mr. FREISTADT. I joined the University of Chicago Club of the Communist Party.

Representative DURHAM. And you were active while you were there?

Mr. FREISTADT. At the University of Chicago?

Representative DURHAM. At the University of Chicago.

Mr. FREISTADT. Yes, sir; I was.

The CHAIRMAN. Mr. Cole?

Representative COLE. I have no questions, Mr. Chairman. The last two questions asked by Mr. Durham were the only two in which I was interested.

Representative DURHAM. I would like to ask just one other question, Mr. Chairman, before I get away from the matter of scholarships.

How did you approach this? How did you know about the scholarship? Did someone suggest it to you, or did you make application personally, yourself, for the scholarship?

Mr. FREISTADT. I made application, sir, when the announcement was posted at the University of North Carolina.

Representative DURHAM. That was the first time you had any knowledge of it, then? When it was posted?

Mr. FREISTADT. I had known that there were such fellowships in the past, but I had not known how to apply until it was announced.

The CHAIRMAN. Mr. Holifield?

Representative HOLIFIELD. Mr. Chairman, I have no questions, but I would like to compliment the witness on the frankness and candor with which he has answered the questions which other witnesses belonging to the Communist Party have refused to answer.

Of course, that does not mean that I concur with your views, Mr. Freistadt. But I appreciate the candor with which you have answered.

The CHAIRMAN. Mr. Jackson?

Representative JACKSON. You joined the Communist Party in the University of Chicago in 1946?

Mr. FREISTADT. Yes, sir; I did.

Representative JACKSON. What was the date?

Mr. FREISTADT. I don't remember, sir. It was shortly before the summer.

Representative JACKSON. Just after you were discharged from the Army?

Mr. FREISTADT. I would say perhaps 2 or 3 months after I was discharged.

Representative JACKSON. When did you become a citizen of the United States?

Mr. FREISTADT. I became a citizen on August 19, 1944.

Representative JACKSON. You became a citizen in 1944.

Mr. FREISTADT. Yes, sir.

Representative JACKSON. Shortly after you were inducted into the Army?

Mr. FREISTADT. Yes, sir.

Representative JACKSON. You received your citizenship on the basis of your 3 months' service in the Army?

Mr. FREISTADT. Yes, sir.

Representative JACKSON. Up to that point, I mean?

Mr. FREISTADT. Yes, sir.

Representative JACKSON. Did you attend Communist Party meetings prior to your becoming a member?

Mr. FREISTADT. No, sir; I did not.

Representative JACKSON. Never had any connection with the Communist Party?

Mr. FREISTADT. I never had any connection with the Communist Party until I joined.

Representative JACKSON. How long from the time you attended a meeting was it until you joined the Communist Party?

Mr. FREISTADT. It was after I joined that I went to the first meeting of the Communist Party.

Representative JACKSON. Well, I mean, did you just go to the first meeting and then join?

Mr. FREISTADT. No; I first joined and then went to a meeting.

Representative JACKSON. Oh, you joined, and then went to the meeting?

Mr. FREISTADT. Yes, sir. The meetings of the Communist Party of that club were restricted to members.

Representative JACKSON. It was a closed cell or section of the Communist Party?

Mr. FREISTADT. The meetings of that club were restricted to members only.

Representative JACKSON. But when did you first get interested in the Communist Party?

Mr. FREISTADT. Well, I got interested in the philosophy a long time ago.

Representative JACKSON. How long?

Mr. FREISTADT. Oh, I would say ever since I started knowing Communists.

Representative JACKSON. How long ago was that? How old were you?

Mr. FREISTADT. Perhaps 12 or 13. I did not really become convinced of the correctness of the Communist beliefs until fairly late in my Army career.

Representative JACKSON. Not until fairly late in your Army career.

Mr. FREISTADT. When I started reading somewhat more seriously.

Representative JACKSON. Was that prior to your becoming a citizen?

Mr. FREISTADT. No, sir; that was about a year after I had become a citizen that I started reading somewhat more seriously Communist literature.

Representative JACKSON. But prior to your becoming a citizen, you felt that there were some favorable things about the Communist philosophy?

Mr. FREISTADT. I would say I had doubts. I was in the balance. I was listening, but not very seriously, up until late in 1945. I felt there was still plenty of time for me to make up my mind on these things.

Representative JACKSON. Did you know at the time you became a citizen that if you were a member of the Communist Party, you would be subject to possible denaturalization?

Mr. FREISTADT. No; I don't believe I knew that. And I don't believe it is correct, at least under present legislation.

Representative JACKSON. Did you make sure of that before you became a citizen?

Mr. FREISTADT. Could you read your previous question? I am not sure that I followed.

Representative JACKSON. Well, I will restate it. At the time that you became a citizen, did you know that if you were a member of the party at the time that you became a citizen, you might subsequently be subject to denaturalization proceedings?

Mr. FREISTADT. No; I did not know it at the time. But I believe that is correct, contrary to what I said.

Representative JACKSON. Did you know it at the time you became a citizen?

Mr. FREISTADT. No; I did not know it.

Representative JACKSON. Did anyone advise you concerning that fact?

Mr. FREISTADT. No, sir. I was in the Army. I became a citizen without counsel.

Representative JACKSON. No; but I mean prior to the time that you became a citizen, had anyone advised you of the fact that if you were a member of the Communist Party when you applied for citizenship, you might subsequently be subject to denaturalization proceedings under existing Federal law.

Mr. FREISTADT. No, sir. I don't believe anybody advised me of that.

Representative JACKSON. Did you discuss it with anyone?

Mr. FREISTADT. No, sir.

Representative JACKSON. That is all.

The CHAIRMAN. Mr. Van Zandt?

Representative VAN ZANDT. May I ask the witness: How often does the unit at Chapel Hill of the Communist Party meet?

Mr. FREISTADT. About every week, or every other week.

Representative VAN ZANDT. How many members generally attend the meeting?

Mr. FREISTADT. It varies a great deal.

Representative VAN ZANDT. Well, how many members does the unit have?

Mr. FREISTADT. I don't actually know myself the exact number. I would be willing to give you the grapevine report that was passed on to me by the editor of the school paper, who claims to know.

Representative VAN ZANDT. Can you give us that grapevine report?

Mr. FREISTADT. The grapevine report is 38.

Representative VAN ZANDT. Now, when you attend these meetings, do you see 10 there, or 15, or 20, or 5? What is an average number?

Mr. FREISTADT. It is difficult to say. I would say about seven or eight.

Representative VAN ZANDT. Seven or eight?

Mr. FREISTADT. Yes, sir.

Representative VAN ZANDT. I notice in your letter, here, to Senator Hoey of North Carolina, you say:

Had the fellowships meant that I would have to work on aggressive weapons, I would have declined the fellowship, as such work is contrary to my conscience.

Suppose that your country was in need of your ability in this particular field to develop a special weapon in defense of our security?

Mr. FREISTADT. In defense of our security? I would do that.

Representative VAN ZANDT. You would do it?

Mr. FREISTADT. Yes; in defense of our security, I would.

Representative VAN ZANDT. That is all, Mr. Chairman.

The CHAIRMAN. Mr. Elston?

Representative ELSTON. What would be your position if this Nation went to war against Russia?

Mr. FREISTADT. What type of a war, sir? If Russia attacked us? Or if we attacked Russia?

Representative ELSTON. Well, if Congress declared war in any event. If the Congress of the United States, pursuant to its constitutional authority, declared war against Russia, what would be your position?

Mr. FREISTADT. Sir, that depends a great deal on what type of war. If, contrary to what I believe, and contrary to even what Mr. John Foster Dulles believes, the very improbable case should occur that the Soviet Union would attack us, and Congress would declare war under such circumstances, I would with all my strength defend this country. If, however, we go out of our way to attack Russia, in that case, I would not support such a war. I don't believe it will happen. I believe that there are some people who would like it to happen. But I believe that the American people have enough common sense not to attack anybody else.

Representative ELSTON. In other words, you yourself would decide whether or not you would serve this Nation against Communist Russia, depending upon the type of war that was being conducted.

Mr. FREISTADT. I think the events would decide that for me, and I think it would even for the majority of Americans.

Representative ELSTON. You said that you first joined a Communist organization at the University of Chicago?

Mr. FREISTADT. Yes, sir.

Representative ELSTON. What was the name of that organization?  
Mr. FREISTADT. It was the University of Chicago Club of the Communist Party.

Representative ELSTON. What is the membership of that club?

Mr. FREISTADT. I don't know, sir.

Representative ELSTON. Can you approximate it?

Mr. FREISTADT. I would rather not venture a false guess.

Representative ELSTON. Where did they conduct their meetings?

Mr. FREISTADT. Usually at the Book Shop.

Representative ELSTON. On the campus?

Mr. FREISTADT. No, sir; a little off the campus.

Representative ELSTON. Now, to get down to your fellowship application, how did the matter first come to your attention that you might be eligible for a fellowship?

Mr. FREISTADT. The announcements of the National Research Council, acting on behalf of the Atomic Energy Commission, were posted on bulletin boards in the physics department.

Representative ELSTON. And did you write to anybody about it?

Mr. FREISTADT. I asked the departmental secretary if she had any application blanks; which she had. And I filled one out.

Representative ELSTON. You said you had some correspondence with the National Resources Council?

Mr. FREISTADT. No; the National Research Council.

Representative ELSTON. I meant to say "Research Council."

Mr. FREISTADT. That was after the application was granted. It was first in the nature of a telegram informing me that I had been given the fellowship. May I introduce that telegram into the record?

Representative ELSTON. What is the date of that telegram?

Mr. FREISTADT. The telegram is dated March 24.

Representative ELSTON. Would you read it, please?

Mr. FREISTADT. Yes, sir (reading):

H. FREISTADT,

*Department of Physics, University of North Carolina,  
Chapel Hill, N. C.:*

It gives me pleasure to inform you that you have been awarded an Atomic Energy Commission predoctoral fellowship for the academic year 1949-50. Letter follows.

C. J. LAPP,  
NRC—

standing for National Research Council—

Fellowship Office.

Representative ELSTON. What is that name?

Mr. FREISTADT. C. J. Lapp.

Representative ELSTON. How do you spell it?

Mr. FREISTADT. C. J. L-a-p-p.

Representative ELSTON. Do you know what his position was with the Council?

Mr. FREISTADT. No; I have another letter from him, and I believe he just signs it "NRC Fellowship Office."

Representative ELSTON. Now, to repeat, what is the date of that telegram?

Mr. FREISTADT. March 24, 1949.

Representative ELSTON. What was the date of your application?

Mr. FREISTADT. I don't remember, sir. It is in the files of the National Research Council.

Representative ELSTON. Can you give us the approximate time?

Mr. FREISTADT. I would guess it was about a month or two earlier.

Representative ELSTON. A month or two. Did you have any correspondence in that period between the making of your application and the receipt of that telegram?

Mr. FREISTADT. No, sir; I had no correspondence with the National Research Council.

Representative ELSTON. You got a letter from the Council?

Mr. FREISTADT. Yes, sir.

Representative ELSTON. Do you have that letter?

Mr. FREISTADT. Yes, sir. Shall I introduce it into the record? It is rather long.

Representative ELSTON. Suppose you read the letter.

Mr. FREISTADT. Yes, sir.

Mr. HANS FREISTADT,

*Department of Physics, University of North Carolina, Chapel Hill, N. C.*

The letter is dated March 30, 1949. It is written on stationery of the National Research Council.

DEAR MR. FREISTADT:—

Representative ELSTON. Speak a little louder, please. I do not know that all the members can hear you.

Mr. FREISTADT. Yes, sir; I will. [Reading:]

It gives me pleasure to inform you that the AEC Predoctoral Fellowship Board in the Physical Sciences of the National Research Council has awarded you a fellowship for one year to begin at your convenience, between July 1, 1949, and October 15, 1949. This award is made to enable you to pursue study and research in theoretical physics under the guidance of Professor Nathan Rosen at the University of North Carolina.

The award is made subject to the terms of appointment on the back of the enclosed acceptance form. Please study the terms carefully to be fully informed as to the nature of the fellowship contract. If you accept this fellowship under these conditions, please sign and return the form within ten days. An extra copy is enclosed for your files.

The stipend will be paid at the rate of \$1,600 per year, assuming it has been correctly computed from the stipend scale. This amount will be automatically adjusted, with changes in academic status for dependents as indicated in the scale. The members of the Board and the officers of the National Research Council will follow the progress of your work with interest. We trust the fellowship will be of significant assistance to you in preparing for your scholastic career.

Sincerely yours,

HENRY A. BARTON,

*Chairman, AEC Predoctoral Fellowship Board in the Physical Sciences.*

Representative ELSTON. Now, that form that you refer to; do you have it there?

Mr. FREISTADT. Yes, sir; I do.

Representative ELSTON. May we see it, please?

Mr. FREISTADT. Yes, sir [handing].

Representative ELSTON. Mr. Chairman, I assume that form should become a part of the record.

Suppose you read the acceptance, your acceptance.

Mr. FREISTADT. Yes, sir. [Reading:]

FELLOWSHIP OFFICE, NATIONAL RESEARCH COUNCIL,

*Washington, D. C.*

It is sent by registered mail, April 6, 1949, and I mention on the form that I enclose my naturalization certificate with the request that it be returned. [Reading:]

GENTLEMEN: I accept appointment to an Atomic Energy Commission pre-doctoral fellowship in the physical sciences and agree to the conditions set forth in your letter of March 30, 1949, and the terms of appointment printed on the reverse side of this form. I recognize that this fellowship has been awarded for the purpose of enabling me to pursue studies and research on theoretical physics at the University of North Carolina under the sponsorship of Professor Nathan Rosen, as described in my application, except as may be modified by this letter of appointment. Professor Rosen has agreed to receive me in his laboratory, where the necessary equipment and accommodations will be furnished for my work. I understand the appointment is for a period of 12 months and that it carries a stipend of \$1,600 per annum (assuming it has been correctly computed from the stipend scale) to be paid in monthly installments. The first installment is to be sent in care of my scientific adviser, Professor Nathan Rosen, department of physics, University of North Carolina, Chapel Hill, N. C. Subsequent installments will be sent to me at the following address, after the fellowship office has received certification from my adviser that the work has been started: Department of Physics, University of North Carolina, Chapel Hill, N. C.

My present plan is to begin my fellowship work on July 1, 1949. If any change is made in this plan, I will inform you immediately.

HANS FREISTADT,  
*Department of Physics, University of North Carolina,  
Chapel Hill., N. C.*

Representative ELSTON. Now, Dr. Rosen was one of your sponsors; was he not?

Mr. FREISTADT. Yes, sir; he was.

Representative ELSTON. Did you ask him to sponsor you, or was he contacted by the Council?

Mr. FREISTADT. Professor Rosen had agreed to sponsor my thesis before I came to Chapel Hill, and before I ever heard about this Atomic Energy Commission fellowship.

Representative ELSTON. Would you explain that a little more fully? I do not know just what you mean by that.

Mr. FREISTADT. I was at the University of Chicago in 1948 and had heard of Professor Rosen's reputation as a very competent man in general relativity, and had become interested in the matter. So I wrote Professor Rosen from Chicago, asking him if he would be willing to sponsor a doctorate thesis on general relativity at the University of North Carolina. Professor Rosen replied that he would be willing to do so if I would apply for admission to the University of North Carolina, and sent me a form to so apply. I applied for admission, and for a part-time instructorship. Admission was granted. The part-time instructorship was granted. And in September I went to Chapel Hill.

Representative ELSTON. When you became a part-time instructor, were you interrogated with respect to your affiliations with the Communist Party?

Mr. FREISTADT. I was not.

Representative ELSTON. When did you go to the University of North Carolina?

Mr. FREISTADT. In September 1948.

Representative ELSTON. During the time that you were there, you wrote articles for the school publication; did you not?

Mr. FREISTADT. I wrote letters to the editor.

(Laughter.)

Representative ELSTON. And when did you begin to write those letters?

Mr. FREISTADT. Shortly after I got there, I think in October and November.

Representative ELSTON. And in those articles you did not hesitate to indicate that you were a member of the Communist Party; did you?

Mr. FREISTADT. I don't know if I ever said it specifically in any letter, but I took a position that clearly indicated my views; and, at public meetings where I debated, members of the audience asked me if I was a member of the Communist Party, and I replied that I was.

Representative ELSTON. Where were those debates conducted?

Mr. FREISTADT. They were conducted in rooms where student organizations habitually meet at the University of North Carolina.

Representative ELSTON. How many of those debates did you participate in?

Mr. FREISTADT. I would venture a guess of four or five. But it's a very rough guess.

Representative ELSTON. And you did not at any time hesitate to expound your communistic beliefs?

Mr. FREISTADT. I did not.

Representative ELSTON. It was generally known on the campus among the students and the faculty that you were a Communist?

Mr. FREISTADT. Yes. But to anybody who went to meetings and read the school paper, I think that would be known.

Representative ELSTON. Well, publicity was given to the meetings; was it not?

Mr. FREISTADT. Yes, sir; but only at one was it specifically announced that I would be there at the debate.

Representative ELSTON. Did Dr. Rosen know that you were a Communist?

Mr. FREISTADT. I think it can be reasonably presumed that he knew.

Representative ELSTON. Did your other sponsors know it?

Mr. FREISTADT. I don't know if the sponsor who recommended me from Virginia Polytechnic Institute knew about it, but I believe the other sponsor at the University of North Carolina, assuming that he reads the school paper, should have known about it.

Representative ELSTON. Who was he?

Mr. FREISTADT. Professor Bowers.

Representative ELSTON. You, of course, in none of your correspondence with the Council, indicated that you were a Communist.

Mr. FREISTADT. No question as to political belief was asked, and I believe quite correctly, because it has no bearing on the question of the fellowship.

Representative ELSTON. Do you believe in all the doctrines of the Communist Party?

Mr. FREISTADT. I don't know if I believe in all. I believe in all that I am familiar with.

Representative ELSTON. Do you agree with the Attorney General of the United States that one of the doctrines of the Communist Party is to destroy our form of government by force and violence?

Mr. FREISTADT. I know, from being a member of the Communist Party, that that is not the aim of the Communist Party.

Representative ELSTON. You disagree with that?

Mr. FREISTADT. I disagree. If I thought that the aim of the Communist Party was to destroy our form of government, I would not be a member of it.

Representative ELSTON. Do you believe in the capitalist system?

Mr. FREISTADT. I do not. But I don't believe that is part of our form of Government.

Representative ELSTON. Do you believe in the system of private enterprise?

Mr. FREISTADT. On a very small scale. I believe that local grocery stores can be run fairly efficiently privately. But I believe that of enterprises like steel and auto and aircraft and the railroads—if all these were owned nationally by the people, then the standard of living of the American people would be raised even higher than it is now.

Representative ELSTON. I think that is all I wanted to ask, Mr. Chairman.

The CHAIRMAN. Senator Hickenlooper has another question.

Senator HICKENLOOPER. Mr. Elston developed the point that I wanted to cover in my question, but I merely wanted to pursue it one step further.

You have had a lot of association with Dr. Rosen, have you not, at the university, Mr. Freistadt?

Mr. FREISTADT. Yes, sir. I talk to him every week about my work.

Senator HICKENLOOPER. And have you visited with Professor Rosen, speaking about your political views and membership in the Communist Party?

Mr. FREISTADT. Have I talked to him?

Senator HICKENLOOPER. Yes.

Mr. FREISTADT. No; I have not talked to him about the political views. Professor Rosen has urged me to limit my activities to a certain maximum beyond which I would not go, so as not to interfere with my studies, and I fully concurred with Professor Rosen, and have complied.

Senator HICKENLOOPER. Well, now, what activities do you mean? Your social and political activities? I mean, in the broadest sense?

Mr. FREISTADT. In the sense that I should not go to too many meetings, or not spend too much time writing letters to the editor—[laughter], because that might interfere with my academic work. And I have complied with Professor Rosen's suggestions, since I am primarily interested in studying physics.

Senator HICKENLOOPER. But I assume that Dr. Rosen knew of your affirmation that you were a Communist?

Mr. FREISTADT. I believe that is a reasonable presumption.

Senator HICKENLOOPER. Well, can you not be a little more specific? As a matter of fact, without doubt that came into your discussion with Dr. Rosen; did it not?

Mr. FREISTADT. Yes; I think that is quite reasonable.

Senator HICKENLOOPER. All right. That is all.

Representative COLE. Mr. Chairman?

The CHAIRMAN. Mr. Cole?

Representative COLE. Do you know of any other Communists who are members of the fellowship program sponsored by the AEC?

Mr. FREISTADT. No, sir; I do not.

Representative COLE. That is all.

Representative HOLIFIELD. Mr. Chairman?

The CHAIRMAN. Mr. Holifield.

Representative HOLIFIELD. This is a rare opportunity for me to question a man who is admittedly a Communist as to the beliefs of the

Communist Party in America. I have never had this opportunity before, and I wanted to ask you a few questions as to the beliefs of the Communist Party.

Mr. FREISTADT. Before you start, may I point out that I can speak only for myself, and that I cannot presume to speak for the national leadership of the Communist Party.

Representative HOLIFIELD. That will be satisfactory. I want to know your personal experience.

Mr. FREISTADT. Yes, sir.

Representative HOLIFIELD. At any of the meetings of the Communist Party which you have attended, has there ever been any advocacy of force or violence to overthrow the Government of the United States?

Mr. FREISTADT. No, sir; there has not. If any member made such a move at a meeting of the Communist Party, I would move that he be expelled. Because there is a clause in the constitution of the Communist Party—a copy of which I have here, if you would like to see it—which states that advocacy of force and violence is sufficient grounds for expulsion from the Communist Party.

Representative HOLIFIELD. Is there any secret or open advocacy of the theory that a Communist should, if necessary, perjure himself in the furtherance of communistic ideas?

Mr. FREISTADT. No, sir. I have never heard a Communist advocate perjury.

Representative HOLIFIELD. Your testimony before this committee, then, is without any mental reservation as to your position as to principles which would destroy the Government of the United States; is it not?

Mr. FREISTADT. It is without mental reservations, sir; yes.

Representative HOLIFIELD. You believe in Marxism only to the extent of advocacy of the principles which pertain to the economic and political changing of the form of government under which we live.

Mr. FREISTADT. That is Marxism, as I understand it, sir.

Representative HOLIFIELD. Well, you do not subscribe to that part of Marxism and the edicts of the leaders in the Communist Party of Russia which in the past have advocated the overthrow of capitalist governments by force and violence?

Mr. FREISTADT. Sir, whenever a Communist leader has advocated force and violence to overthrow a government, it has been a government in which there are no peaceful and democratic channels for progress. For instance, I think the Nazi government in Germany should have been overthrown by force and violence, because there were no peaceful channels for progress. However, a government such as ours, where there are peaceful channels for progress—well, I see no reason why one should not use peaceful channels for progress, and I think Marx concurs in that view.

Representative HOLIFIELD. In other words, you think that in the United States you have a freedom of expression and assembly guaranteed by the Constitution which makes it unnecessary to advocate the overthrow of the Government by force and violence.

Mr. FREISTADT. Yes, sir.

Representative HOLIFIELD. And therefore you believe that such change in our form of government can be made by peaceful advocacy of a different type of economic and political philosophy.

Mr. FREISTADT. Yes, sir. I believe that as long as the basic principles of our Constitution are respected, we can bring about social and political change by peaceful and democratic means.

Representative HOLIFIELD. I was interested in your theory of determination as to whether you should support this country in the case of war. That theory is also subscribed to, I understand, by the Society of Friends, commonly known as the Quakers, the Mennonites, and other pacifist organizations.

Mr. FREISTADT. I think that we differ with the Quakers on the point of support of a defensive war. The Quakers do not believe in fighting even in a defensive war, while Communists believe in fighting a defensive war. We believe that if our country is attacked, we should defend it. The Quakers believe that not even under such circumstances should one go to arms.

Representative HOLIFIELD. I am glad to have that clarification.

Thank you, Mr. Chairman.

Representative ELSTON. Mr. Chairman, may I ask one more question?

The CHAIRMAN. Before you do, Mr. Price has come in, and I will ask him if he has any questions.

Representative PRICE. Mr. Chairman, unfortunately I was not present at the early part of the session. I happened to be at a meeting of the Armed Services Committee. And I hesitate to ask many questions for fear of repetition, but I would like to ask one or two.

Mr. Freistadt, what was the extent of your military service?

Mr. FREISTADT. I was in the Army from June 17, 1944, to April 8, 1946.

Representative PRICE. What did you do in your military career?

Mr. FREISTADT. I was given basic training. I was trained in electrical engineering and communication work. And I participated in the training program for German prisoners of war.

Representative PRICE. Did you go to any university during the course of that?

Mr. FREISTADT. Yes, sir; my electrical engineering training was given at Virginia Polytechnic Institute.

Representative PRICE. You were in the ASTP program?

Mr. FREISTADT. Yes, sir; I was.

Representative PRICE. And you had considerable educational advantages during that period, in the training that was given to you?

Mr. FREISTADT. For 9 months; yes, sir.

Representative PRICE. When you left military service, what did you do?

Mr. FREISTADT. I went back to the University of Chicago.

Representative PRICE. Did you take up your studies there?

Mr. FREISTADT. Yes, sir; I did.

Representative PRICE. Did you participate in the GI educational program?

Mr. FREISTADT. The GI bill of rights; yes, sir.

Representative PRICE. Have you received benefits under that program?

Mr. FREISTADT. Yes, sir; I have.

Representative PRICE. The point I would like to bring out is that it is just hard to follow the logic of your reasoning, and how you would

think the system of capitalism, such as we have in this country, could be so bad, when it has afforded you such opportunities.

Mr. FREISTADT. I think that the capitalistic system has done great things for this country. However, at the present time, I think it is a handicap rather than an aid to further progress. I think the capitalistic system has never solved the problem of boom and bust, for instance. I think that is a problem that only socialism can solve. I also think that under socialism the Negro people in this country would have greater opportunities.

Actually, I am a scientist, and if I should find that I am wrong, and that the capitalistic system can solve the problem of boom and bust, I might change my mind.

Representative PRICE. I would suggest that you go further in the comparison of the capitalistic system as we know it in this country, and the socialistic or communistic system, based on the results to the common people in Russia today.

That is all I have, Mr. Chairman.

The CHAIRMAN. Mr. Elston?

Representative ELSTON. You spoke of the avenues of peaceful self-expression that are available in this country; and you, of course, have taken full advantage of those avenues of expression, as you have a perfect right to do. Do you think that those same avenues of self-expression are available to the people of Soviet Russia?

Mr. FREISTADT. Yes; I believe they are.

Representative ELSTON. You have not been there, have you?

Mr. FREISTADT. No, sir; I have not.

Representative PRICE. Mr. Freistadt, since you have been in this country, you have had almost all of your educational training at the expense of the country?

Mr. FREISTADT. Yes, sir; I have.

Representative PRICE. At the expense of the taxpayers of the United States?

Mr. FREISTADT. And private organizations and universities. And I hope that as a scientist I will be able to return to this country, in the form of scientific contributions, some of the benefits that I have been given.

Representative PRICE. That is all that I have.

Representative ELSTON. Let me pursue my question a little further.

Do you think that if any person in Soviet Russia takes issue with the Government of that nation it would be permitted?

Mr. FREISTADT. Mr. Chairman, before I answer the question, I would like to point out that I am not an expert on Russia; that I am a member of the Communist Party because of the constructive activities of the Communist Party in this country. All my testimony on Russia would be hearsay, on the basis of what I have read, what I have heard, the conclusions to which I have arrived as a result of analyzing articles.

If I were to answer your question, I believe on that basis that a citizen in the Soviet Union is permitted to take issue with governmental policy.

Representative ELSTON. Openly?

Mr. FREISTADT. Yes; I believe openly.

The CHAIRMAN. Mr. Jackson?

Representative JACKSON. You have indicated the conditions, I believe, in response to a previous question, under which you would

fight in the event of a war on behalf of the United States, and you have limited that to the situation when the United States was attacked. Is that correct?

Mr. FREISTADT. That is correct, sir.

Representative JACKSON. How long have you had those views?

Mr. FREISTADT. I arrived at these views after doing some thinking, when people kept asking me, What would you do in case of war? I came to think: I had better think this thing through at once.

Representative JACKSON. How long ago was that?

Mr. FREISTADT. I think it was after my discharge from the Army, and in fact, even after I joined the Communist Party.

Representative JACKSON. Have you, as a member of the Communist Party, had any question in mind in connection with the statements made by various Communist leaders in countries throughout the world that they would never fight against the Soviet Union?

Mr. FREISTADT. I have read the statements carefully, and what they mean to me is that they will defend their country in case of an attack, but they do not believe that the Soviet Union will attack their country.

Representative JACKSON. Did you read Mr. Paul Robeson's statement?

Mr. FREISTADT. Yes, I read Mr. Paul Robeson's statement.

Representative JACKSON. Do you agree with his statement?

Mr. FREISTADT. I agree with his statement as I understand it.

Representative JACKSON. Well, did you read his statement?

Mr. FREISTADT. Yes; I read his statement.

Representative JACKSON. Do you agree with his statement?

Mr. FREISTADT. I believe that the statement means the same position that I have given here, and as such I agree with it.

Representative JACKSON. You agree with his statement.

Mr. FREISTADT. As I interpret it.

Representative VAN ZANDT. One more question.

The CHAIRMAN. Mr. Van Zandt?

Representative VAN ZANDT. A moment ago I called to the attention of the witness a statement contained in his letter to the Senator from North Carolina, where he says:

Had the fellowships meant that I would have to work on aggressive weapons I would have declined the fellowship, as such work is contrary to my conscience.

You replied, Mr. Freistadt, that you would work on weapons if security demanded it. Now, would you tell us just what type of security?

Mr. FREISTADT. I believe that if my services were needed to defend this country against aggression, I would put my services at the disposal of this country.

Representative VAN ZANDT. Suppose that the Congress of the United States had advance information that we were to be attacked in the next week or so by Russia, and you were called upon to apply your knowledge and ability to a special weapon that was needed immediately. Would you apply it?

Mr. FREISTADT. If the Congress had such information, I would. I am fairly sure, however, that the Congress will not have such information, because on the basis of my convictions about the functioning—

Representative VAN ZANDT. Can you assure us now that Russia has no intentions whatsoever of ever attacking the United States?

Mr. FREISTADT. I cannot assure you, because I am not a member of the Soviet Government. I can say that on the basis of my study of Soviet policy, I am convinced that unless that policy is suddenly reversed, the Soviet Union will not attack us.

Representative VAN ZANDT. One more question, Mr. Chairman.

I notice throughout your letter to the Senator from North Carolina that you made reference to "this country" several times.

Mr. FREISTADT. Yes, sir.

Representative VAN ZANDT. Do you ever use the expression "my country"?

Mr. FREISTADT. Yes, sir. Wherever I have said "this country," one can substitute "my country."

Representative VAN ZANDT. This country has been mighty good to you, has it not?

Mr. FREISTADT. It has been very good, sir, and I hope to be able to serve it as a physicist.

Representative ELSTON. Mr. Chairman, may I ask one more question?

The CHAIRMAN. Yes, Mr. Elston.

Representative ELSTON. I would like to have your interpretation of the difference between an offensive and a defensive weapon.

Mr. FREISTADT. That is a very touchy question, and I have to confess that I have not given this particular matter sufficient thought.

Representative ELSTON. Well, you stated in your letter something about an offensive weapon. "Aggressive weapon" was the term that you used.

Mr. FREISTADT. Yes, sir. Let us put it this way. I think that weapons the primary use of which is destruction of civilian population—those I would term aggressive. Weapons the primary purpose of which is defense of this country, such as radar screens, I would term defensive.

Representative ELSTON. In other words, by "aggressive weapons" you mean any weapon capable of taking life.

Mr. FREISTADT. Not just taking life, but of such a nature that its primary application would be destruction of civilian populations.

Representative ELSTON. Would that include airplanes?

Mr. FREISTADT. No; it would not include airplanes.

Representative ELSTON. Military airplanes?

Mr. FREISTADT. No; I don't think so. Because those could be used to repel an invasion.

Representative ELSTON. Just one other question, and I am through.

Do you consider that there is any connection between the Communist Party of this country and the Communist Party of Russia?

Mr. FREISTADT. I am sure there is not. If I thought for a minute that there were, I would leave the Communist Party.

Representative ELSTON. Did you read any further evidence of it in the fact that recently when the leadership of the Communist Party in America was disapproved by Communist Russia, the leader was removed and another one installed?

Mr. FREISTADT. I have followed the policies of the Communist Party in this country for the last 4 years, and no such thing has occurred, to my knowledge. You may be referring to the removal of Earl Browder.

Representative ELSTON. Yes.

Mr. FREISTADT. He was removed upon discussion and criticism by a convention of the American Communist Party by majority vote.

Representative ELSTON. And you do not think that the Communist Party of Russia had anything to do with his removal?

Mr. FREISTADT. I don't believe it had.

Representative ELSTON. That is all.

Representative PRICE. Mr. Freistadt, getting back to the line of questioning of the gentlemen from Pennsylvania, Mr. Van Zandt, when he asked for the distinction between "this country" and "my country," you perhaps have not gone deep enough into the study of American history to know of some of the statements of our great patriots, but there are some that are carried on the mastheads of some of the American newspapers, and one in particular, the most outstanding, is to be found on the masthead of the St. Louis Post-Dispatch, which reads:

My country! In her intercourse with foreign nations may she always be in the right; but my country, right or wrong.

I assume that you do not hold with that spirit of patriotism.

Mr. FREISTADT. My attitude toward that statement is the same as that of President John Quincy Adams: "I disclaim any patriotism incompatible with justice."

Representative VAN ZANDT. Mr. Chairman, may I make one statement?

I think it is a downright shame that a young man of his ability is indoctrinated with the philosophy that he tells us about today.

Your ability should be applied to your country, so as to make it a better country, rather than to tear it down through the philosophy that you are indoctrinated with.

Mr. FREISTADT. I hope to make it a better country, sir.

The CHAIRMAN. Are there any further questions?

Dr. Richards has spoken to me about a letter which he wished to have placed in the record. It will be inserted in the record at this point.

(The letter referred to is as follows:)

NATIONAL RESEARCH COUNCIL,  
OFFICE OF SCIENTIFIC PERSONNEL,  
*Washington, D. C., May 18, 1949.*

#### MEMORANDUM

To: Dr. Alfred N. Richards, president, National Academy of Sciences.

From: M. H. Trytten.

Subject: National Research Council Fellowship Office.

The evidence presented to the fellowship committee, on which the selection of Mr. Hans Freistadt as an Atomic Energy Commission fellow was based, was not complete. It represented the usual type of evidence on which universities base their selection of graduate students and on which former National Research Council programs have depended.

It was realized, when the Atomic Energy Commission program was undertaken by the National Research Council, that it would be desirable to have additional bases of judgment. Accordingly, for candidates considered this year, a series of tests were administered to all candidates by the Educational Testing Service of Princeton, N. J. This organization is recognized as being a leading testing organization in the field of education.

The test consisted of three parts. The first part was a general aptitude test for the studies at the graduate level and consisted largely of quantitative material designed to measure the individual's competence in such fields as mathematics

and allied quantitative fields. Mr. Freistadt's score, in this examination, was high placing him in the upper 6 percent of all candidates examined.

The second part of the test was designed to measure the academic aptitude of the individual in handling verbal matters. Mr. Freistadt's score on this was high although not as high as on the quantitative test. He ranked in the upper 27 percent of all candidates on this test. It should be remembered that Mr. Freistadt's native language is not English; this is generally considered a handicap.

The third part of the test was that part of the graduate records examination corresponding to his major and minor field. The graduate records examination is administered widely to college graduates throughout the United States. In the field of physics, Mr. Freistadt's score placed him in the upper third of all Atomic Energy Commission fellowship candidates who took this examination in physics. However, the candidates were in general a superior group. Compared with all college graduates who have taken this examination, Mr. Freistadt ranked in the upper 2 percent.

In his minor field of mathematics, he ranked among the upper 8 percent of college graduates, who have taken the graduate records examination in this field.

The CHAIRMAN. This meeting is now adjourned, and the committee will go into executive session.

(Whereupon, at 12 m., the hearing was recessed, subject to the call of the Chair.)

## ATOMIC ENERGY COMMISSION FELLOWSHIP PROGRAM

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MONDAY, MAY 23, 1949

CONGRESS OF THE UNITED STATES,  
JOINT COMMITTEE ON ATOMIC ENERGY,  
*Washington, D. C.*

The committee met at 2:30 p. m., pursuant to call, in room 318, Senate Office Building, Senator Brien McMahon, chairman, presiding.

Present: Senator McMahon, Representative Durham (vice chairman); Senators Knowland and Hickenlooper; Representatives Holi-field, Price, Cole, Elston, and Van Zandt.

Also present: Senator Ferguson; William L. Borden, Executive Director, Joint Committee on Atomic Energy.

The CHAIRMAN. The committee will come to order.

Is Dr. Edelman with us?

Dr. EDELMAN. Yes, sir.

The CHAIRMAN. Doctor, would you mind coming up and sitting in this chair, here?

Dr. EDELMAN. Might I have permission to have my brother sit with me?

The CHAIRMAN. Of course. Is your brother an attorney?

Dr. EDELMAN. Yes, sir. But he is here just in friendly support; not as a legal representative.

The CHAIRMAN. Doctor, we have been following the policy in these hearings of swearing the witnesses. Would you mind holding up your right hand? I will swear you. Do you solemnly swear that the evidence that you will give in this hearing shall be the truth, the whole truth and nothing but the truth, so help you God?

Dr. EDELMAN. I do.

The CHAIRMAN. Doctor, you have been referred to over the radio and in the public press and in a subcommittee hearing in the Committee on Appropriations as being one of those persons who has received a fellowship from the Atomic Energy Commission through the National Research Council on their recommendation. It has also been stated that in the opinion of some Senators, you should not have been awarded that scholarship because of your alleged membership in the Communist Party.

I noted that you expressed not only a desire, but a willingness to come before this committee; and it is our policy to permit any person who feels himself aggrieved in this respect to have the opportunity and the courtesy of presenting publicly his particular story and his explanation of the pertinent facts.

Now, Doctor, you are an intelligent man. You know what "pertinent facts" means. Without anything further, unless some other member of the committee has something further to say to you, I would like to have you go ahead and state to us your background, your

educational background, how you happened to come in contact with this, your previous education, and anything else pertinent to the issue that you wish to state.

You may proceed.

**TESTIMONY OF DR. ISIDORE S. EDELMAN, ATOMIC ENERGY COMMISSION POSTDOCTORAL RESEARCH FELLOW IN THE MEDICAL SCIENCES, RESEARCH FELLOW IN SURGERY, HARVARD MEDICAL SCHOOL, BOSTON, MASS.**

Dr. EDELMAN. Yes, sir.

Mr. Chairman, I wonder if it is permissible—I don't know exactly what the procedure is in these cases—for me to submit letters from friends that were given to me, who have known me over a number of years, as part of the record.

The CHAIRMAN. Of course.

Dr. EDELMAN. I have some of these letters here.

I heard that some of my colleagues from Montefiore Hospital in New York had wired you, and I had hoped that the wires could be entered into the record with these letters.

The CHAIRMAN. We will be glad to enter into the record any commendatory communications that you wish to have entered into the record.

Dr. EDELMAN. Thank you, sir.

(The material referred to will be found in the appendix at p. 161:.)

Dr. EDELMAN. It is rather difficult for me to do anything other than to tell my life's history, since I have never received any official notification that I was either under suspicion or that I had not been cleared, or that there was any security question involved in my case.

There were quite a number of inaccuracies, misstatements of fact, in the original news story that appeared.

The CHAIRMAN. That is why you are getting an opportunity, if that is so, to come here and correct them.

Dr. EDELMAN. I would like first to tell my own life's history and whatever seems pertinent, and then perhaps go on to the material that was published, if the committee is interested in that phase. I guess that would be about it.

Well, I was born and raised in New York City. I attended high school there, at Boys High, which is in Brooklyn. I graduated in 1937, in June. I entered Brooklyn College in September of 1937; attended classes there from September 1937 to September 1939. At that time I was a premedical student. I had no interest in political affairs especially, and about the only outside activities I engaged in was to participate in the freshman football team.

I transferred to Indiana University at Bloomington, Ind., in September 1939. I received my bachelor of arts there in approximately June of 1941. I started my medical career in September of 1941 at the Indiana University Medical School.

About this time, I became aware that there were many things going on in the world which seemed to me quite chaotic. War was imminent and already brewing in some areas, and I tried to find out something about political questions in that period.

In 1943, very early in 1943, I was at Indianapolis studying in medical school, and I became interested in what the Communist

Party had to say, what their policies were. I had no formal information to give me any complete story on this matter. I attended—well, I received the Daily Worker for a while. I think it was about 3 or 4 months during this period. And at the same time I attended, to the best of my recollection, two meetings.

The CHAIRMAN. Doctor, I do not want to interrupt you, but I should have gotten your date of birth.

Dr. EDELMAN. July 23, 1920.

The CHAIRMAN. Go right ahead.

Dr. EDELMAN. It was not my understanding then, and it is not my understanding now that I was at any time a member of the Communist Party. I was curious. And I did not engage in any activities or attempt to further the efforts of the party in any way. I listened to what they had to say. I thought about it. And it took me a matter of a few weeks, as I remember it, to come to a decisive decision that I could never be an adherent to the Communist philosophy or agree with their theories or practices.

Senator KNOWLAND. Doctor, might I interrupt you at that point? Did you ever file an application for membership in the Communist Party?

Dr. EDELMAN. I believe I did. At the time that I was interested in attending the meetings, I remember something about the application. I believe I filed it. It was not my intention that this was a definitive means of joining. I may even have signed it. I don't remember it clearly. But if I saw the application, I could identify my signature without any difficulty.

Senator KNOWLAND. Were you ever issued a membership card in the party?

Dr. EDELMAN. I don't believe I have ever seen a membership card. I don't believe I know what it looks like.

Senator KNOWLAND. Well, you would know if you had been issued a card, would you not?

Dr. EDELMAN. Well, I am sure I would. I have no knowledge of what it even looks like or what its form is.

Senator KNOWLAND. So at this time, so far as your recollection goes, you do not recall having been issued a card, but you did file an application for membership in the party.

Dr. EDELMAN. Well, I believe that it was filed. I may have signed it. I can't be absolutely certain. I remember now, this is some six or more years ago, that something was said about it, in order to attend the meetings. And I would be quite willing to state definitely whether it was my signature or my application if I saw the card.

Senator KNOWLAND. Were these meetings you attended fraction meetings? Or what type of meeting was it?

Dr. EDELMAN. I don't know what types there are, but what happened was that they had some periodicals and pamphlets and discussed the material in it, and interpreted it, and that was the sum and substance of the meetings. This was part of the reason why I discontinued attendance. Because my entire experience in life has been that you evaluate things for yourself; no one tells you what to believe.

Senator KNOWLAND. Normally, would you not have evaluated prior to signing an application blank to become a member of the party?

Dr. EDELMAN. Well, I just didn't think anything of it at the time. In 1943 there was a lot of sympathy for Russia and the war effort,

and it didn't occur to me that this would in any way be taken as an act on my part that I was doing anything that was wrong.

Senator KNOWLAND. What were the dates of the meetings that you attended?

Dr. EDELMAN. Oh, I don't know precisely. I would say sometime around April of 1943.

Senator KNOWLAND. And how many meetings precisely did you attend, to the best of your recollection?

Dr. EDELMAN. I remember fairly clearly two meetings, and I am pretty sure that there weren't any more than that.

Senator KNOWLAND. Were there any others attending those meetings who were not members of the Communist Party?

Dr. EDELMAN. I would have no way of knowing that. I didn't know any of the others.

Senator KNOWLAND. How many attended each of the meetings?

Dr. EDELMAN. Oh, there were about six people. My wife was with me at the time, I might say, and she was in the same situation that I was in.

Senator KNOWLAND. Had she filled out an application blank also?

Dr. EDELMAN. Well, she believes that we both had application blanks made out, and she isn't any more certain than I am that we signed it, but both of us agree that it is quite possible that we did. We didn't think very much of it at the time.

Well, as I say, since this short interval in which I attended the meetings, I have had absolutely no relations with the Communist Party, and I suppose that I have independently reached my conclusions regarding the Communist philosophy and theory, and what they were talking about, and that was the end of it. As far as my present status is concerned, in April of 1944 I was graduated from Indiana University Medical School. I interned in New York City at the Greenpoint Hospital. Immediately following this, early in 1945, I think around March 1 of 1945, I was placed on active duty with the Medical Corps, and I served for about 10 months in the United States, and about 13 or 14 months in the Panama Canal Zone. I believe that my entire military record was certainly nothing to be ashamed of. I was promoted from a first lieutenant to a captain in a matter of 9 or 10 months, on the recommendation of Col. George G. Hesner.

I went on terminal leave in December 1946; and while on terminal leave I started working as an extern on the cancer division at Montefiore Hospital in New York City.

Six months after I started as an unpaid member of the staff, I was appointed as chief resident of the division and served in this capacity for 6 months. This covered the year 1947.

In approximately October or November of 1947, I had arranged to do a year's research, for the year 1948, with the support of the Dazian Medical Research Foundation, and I wanted to look forward to the continuation of the research during the year 1949.

The CHAIRMAN. What research foundation was that?

Dr. EDELMAN. The Dazian Medical Research Foundation.

The CHAIRMAN. Will you spell it, please?

Dr. EDELMAN. D-a-z-i-a-n.

The CHAIRMAN. Is that a New York organization?

Dr. EDELMAN. That is a private philanthropic foundation which supports people doing research in various projects.

The work that I was interested in doing at the time, and which I did during the year 1948, had to do with kidney function, minerals, and salt metabolism, and the effects of hormones on these phenomena. These particular aspects of medical research, salt and water metabolism and metabolic phenomena in general, are really particularly amenable to the use of tracers; and realizing that, I applied to John H. Lawrence, M. D., of the Donner Laboratory at the University of California. This was around November of 1947, and before the AEC fellowships were announced.

The CHAIRMAN. That is at Berkeley?

Dr. EDELMAN. Yes, sir; that is at Berkeley. That to my knowledge has no relation to Dr. E. O. Lawrence's laboratory, which is a physical laboratory, in which the cyclotron evidently plays a large role. This was a biological laboratory on the same campus.

I at no time applied to do secret research, because I am not competent to do the sort of work that would be of importance to nuclear physics, or atomic energy for any purpose that would be secret. There is no military application in my work, and I never applied to do any secret work. I applied to Dr. Lawrence to do problems in the metabolism of electrolytes and the effect of endocrines on this metabolic phenomenon. And he agreed to have me come to his laboratory. At the same time, he sent me a security questionnaire which I did not hesitate to fill out. If I had wanted to avoid any chance of being discovered because of hidden associations, I could very easily have informed Dr. Lawrence that I had already been asked to take another job at Washington University in St. Louis, and avoided the entire affair. But it never occurred to me that there would be any suspicion in my case. I didn't feel that there was anything particular to hide in my background. And I filled out the questionnaire.

It was at the end of 1947 and early in 1948 that I was sort of keeping my eye out for agencies that would support me during the period of research at Dr. Lawrence's laboratory, and I first applied to the Life Insurance Medical Research Foundation for a grant. It was in March of 1948, I believe, that the Atomic Energy Commission postdoctoral fellowship program was announced. It seemed to myself and to the people at the life-insurance fund that this was an ideal group to ask for funds to support this work, since it would be the application of isotopes to biological problems.

The CHAIRMAN. Doctor, do you mind going back? You said you filled out a security form. You sent it to Dr. Lawrence.

Dr. EDELMAN. Yes.

The CHAIRMAN. Was there a question on there about your past affiliation if any with the Communist Party?

Dr. EDELMAN. I don't remember a specific question of that kind. I believe that they asked me to list my membership in organizations, and I listed those organizations in which I was a member. I didn't list the Communist Party, because I don't believe I am a member or ever have been a member. It just played no role in the matter.

I might say that I believe it was about February or March of 1944 that I heard some gossip around the Indiana University Medical School that I was being investigated. But no one ever approached me; no one ever questioned me. That was the only thing that I heard about it, and I just dismissed it as something that was part of the fact that I had attended these meetings, and that was all.

Senator KNOWLAND. Doctor, at this point in your remarks, could you give us a list of the other organizations you are a member of, or have been a member of?

Dr. EDELMAN. I will try to do so within the limits of my memory.

I believe that when I was in high school—well, at the beginning of high school I belonged to what was called the Buccaneers Athletic Club, which was a neighborhood club. We played baseball and basketball. I believe I belonged to the premedical society in high school, and no other organization.

In college the only organization that I belonged to was the Hillel Foundation, and I was an officer in that foundation. It is a subsidiary of the B'nai B'rith. I was elected to Phi Beta Kappa in college, and I was elected to Alpha Omega Alpha in medical school, which is the national honorary medical fraternity.

In 1947, I was a member of the National Academy of Sciences, but am now inactive in this group, and in 1946 I belonged to the Isthmian Medical Society, which is a branch of the American Medical Society here in the United States. I don't believe that I am a member of any other organizations.

Senator KNOWLAND. Were you ever affiliated with any committees, like the Friends of the Soviet Union?

Dr. EDELMAN. No, sir.

Senator KNOWLAND. Or any others where you might not hold a membership but served on a committee?

Dr. EDELMAN. No, sir. I cannot remember ever engaging in, taking any part in, political problems. As long as I can remember, my main concern in life has been my studies and my work in science. I just had very little to do with politics, outside of this one contact; and I never engaged in any activities at all.

Representative HOLIFIELD. Mr. Edelman, would you mind telling us if you have belonged to any religious groups?

Dr. EDELMAN. Well, the Hillel Foundation is not a religious group, but it is sponsored by the B'nai B'rith, with no religious segments. And my parents and I have always been members of the neighborhood congregation.

Representative HOLIFIELD. Have you participated in any political campaigns?

Dr. EDELMAN. No, sir.

The CHAIRMAN. Have you anything to add, Doctor?

Dr. EDELMAN. Well, did you want me to continue the remainder of this story?

The CHAIRMAN. Yes.

Representative ELSTON. Mr. Chairman, may I ask a question right there?

The CHAIRMAN. Yes, Mr. Elston.

Representative ELSTON. You stated that you never took any part in any political problems?

Dr. EDELMAN. In campaigns, political campaigns. I have listened to, and discussed politics at odd times throughout my life with many friends, and so on.

Representative ELSTON. On the other hand, I believe you said you attended your Communist meetings because you were interested in political problems.

Dr. EDELMAN. Well, I was interested in getting a political education and I am still interested in politics as it affects me as a citizen

of the country, but I have never engaged in any active political affairs. I have never passed out leaflets for anyone or made speeches for anyone or printed articles. Politics is just something that I know about through my daily reading and discussion with friends.

Representative ELSTON. Had you attended any kind of political meetings before you attended the Communist meetings?

Dr. EDELMAN. I had occasionally attended in the past the rallies that were held in the local Democratic Party Club meetings in New York, and I listened to campaign speeches by the local members who were running for various offices.

Representative ELSTON. Was that before or after you attended the Communist meetings?

Dr. EDELMAN. Oh, I would say that that was before, but I have listened to political campaigns and sat in at rallies since then.

Representative ELSTON. You said you received the Daily Worker. How did you happen to receive the Daily Worker?

Dr. EDELMAN. At the time that I was interested in finding out about the Communist Party, I told one of the fellows that I would like to receive it, and he said, "We can arrange it," and it was sent to me. And then, when I finally decided that I had enough, I told them that I didn't want it any more, and it was discontinued.

Representative ELSTON. Who was the party that you asked to send you the Communist Daily Worker? Was it somebody that you knew to be a Communist?

Dr. EDELMAN. Well, I accepted him as such. I believe he was.

Representative ELSTON. Had you associated with him?

Dr. EDELMAN. I met him for the first time at that time.

Representative ELSTON. Where did you meet him?

Dr. EDELMAN. In Indianapolis.

Representative ELSTON. And did you subscribe to the Daily

Worker? Yes; we received the Daily Worker for a matter, I think, six, or something like that, or 4 months. I forget. It was for a very short interval in 1943. I don't know for sure whether it was the Daily Worker or the Sunday Worker, but it was the Daily Worker.

Representative ELSTON. Did you pay for it?

Dr. EDELMAN. Yes, sir; I did.

Representative ELSTON. And had you ever seen any issues of the Daily Worker or any Communist publication before that?

Dr. EDELMAN. Oh, I had seen them about, casually, on newsstands, but I don't remember looking at them seriously until that time.

Representative ELSTON. That was in 1943?

Dr. EDELMAN. Yes, sir.

Representative ELSTON. About the time that you started to go to Communist meetings?

Dr. EDELMAN. Yes, sir.

Representative ELSTON. And as you sit there now, you do not know whether you ever joined the Communist Party or not, do you?

Dr. EDELMAN. I know in my own mind that I never joined the Communist Party. I never accepted myself as a member, and as far as I know I never was a member of the Communist Party.

Representative ELSTON. You were 23 years of age at that time?

Dr. EDELMAN. Yes, sir.

Representative ELSTON. And had had considerable education.

Dr. EDELMAN. Yes, sir.

Representative ELSTON. You knew that the signing of an application, if it were accepted, meant that you went into the party, did you not?

Dr. EDELMAN. That was not my understanding. I made many applications for schools, et cetera, and have turned down the opportunity to attend. I have made applications for jobs, in which they have been willing to hire me, and I have refused them. And it was my understanding then that becoming a member of the Communist Party meant understanding the principles and accepting them. And at the time I didn't understand and didn't accept them, and I never accepted them, and I have had no association with them since that time.

Representative ELSTON. You know that when you make an application to belong to anything, to join anything, you are asking that you be received into that organization; do you not?

Dr. EDELMAN. That is true. Perhaps I was very naive about it, but I felt, at the time, that it indicated that I might be willing to join if I felt it was a good thing to do. But I didn't.

Representative ELSTON. Why did you not wait until you were satisfied, before making your application?

Dr. EDELMAN. I just never thought about it. I mean, I just didn't think about it that deeply. It just seemed like something that was—

Representative ELSTON. Did you read the application?

Dr. EDELMAN. I don't remember the details.

Representative ELSTON. You are not accustomed to signing without reading them, are you?

Dr. EDELMAN. No, sir; I am not. And as I say, I was not sure much to see it. I believe I could identify it if I saw it. I am certain that I didn't sign anything that had any statement that would be disloyal to the United States.

Representative ELSTON. Did your wife sign at the same time?

Dr. EDELMAN. I don't remember for sure whether we signed cards, or whether they were made out for us, or what. We signed that there was a question of applications in order at the meetings, and we both were attending at the same time.

Representative ELSTON. What was there about the principles or doctrines that made you want to attend the meetings?

Dr. EDELMAN. Well, I wanted to find out what they were about, what they had to say. I was interested in philosophy, I was interested in political theory, and I had never had a clear idea of what their principles involved. They talked very idealistically about the best possible world for all people and about all things devoted into a state where everybody would be happy forever, et cetera. I just wanted to find out what it was all about.

Representative ELSTON. Well, you were not old at that time. Were you interested at that time, and while the war was in progress, in what might happen to you in your old age?

Dr. EDELMAN. I am interested in what would happen to me any time. It was because there was a war on that I wanted to find out what some of the things were that people were fighting for. It was the chaotic conditions at the time that aroused my interest in some of these things.

Representative ELSTON. You did not apply for military duty until March 1, 1945?

Dr. EDELMAN. That is not so.

Representative ELSTON. I thought that is what you said.

Dr. EDELMAN. That is when I went on active duty. Around June of 1943, the Army indicated that they would accept volunteers for their specialized training program, and these men would accept voluntarily a commission immediately upon graduation from medical school. As soon as this was announced, I volunteered for this program; and around July or August of 1943, I was inducted into the Army specialized training program, and immediately upon graduation, in April 1944, I was commissioned as a first lieutenant.

Representative ELSTON. In your ASTP program, you pursued your medical course?

Dr. EDELMAN. Yes, sir. We had some degree of military training. We spent a little time at Fort Benjamin Harrison, and we had some drill.

Representative ELSTON. That is all, Mr. Chairman, for the present.

Senator KNOWLAND. Did you attend any meetings subsequent to the time you went into the ASTP?

Dr. EDELMAN. No, sir. I had discontinued attending meetings sometime before. I think it was a month before, or something like that. But I remember at the time that I volunteered that I had already definitively rejected any aspect of the Communist Party program.

Senator KNOWLAND. You have attended no Communist meetings of any type or character since 1943?

Dr. EDELMAN. No, sir. In about November of 1947, Dr. John Lawrence accepted me to work in his laboratory.

The CHAIRMAN. But you never did go to work there?

Dr. EDELMAN. No, sir. As I said before, I never applied to do secret work, but I was quite willing to fill out the security questionnaire that was presented to me. At the time I had no knowledge that any clearance was involved, but that was immaterial.

In March of 1948, the Atomic Energy Commission announced its postdoctoral fellowship program, and I applied for this fellowship. I applied for the fellowship, and I was awarded the fellowship in about May of 1948. The award of the fellowship read—

to work with Dr. John H. Lawrence at the Donner Laboratory, to do research in electrolyte metabolism as they are affected by the endocrines.

Nothing about this would even suggest to me remotely that there were any secrets involved.

And it was in the middle of June 1948—I would like to check this. It was June 15, 1948—that I received a letter from Dr. John Lawrence stating that due to space limitations it was necessary to ask me to work elsewhere. He never mentioned anything to me that my background was being questioned, that they were asking me to go elsewhere because I was a poor security risk. He never mentioned anything about clearance. And the National Research Council, very shortly thereafter, got in touch with me and asked me if I would be willing to work at the Harvard Medical School if the Harvard Medical School was willing to have me. I said I would be delighted. It is an excellent research institution.

In July of 1948, I was interviewed and accepted to work in the institution.

The CHAIRMAN. Was that on the National Research Council's initiative?

Dr. EDELMAN. Yes, sir. Evidently, that was the case. Because they informed me that they would like to have me apply to this particular laboratory to work.

The CHAIRMAN. At Harvard?

Dr. EDELMAN. Yes, sir.

The CHAIRMAN. So when did you go there?

Dr. EDELMAN. I had my interview in July 1948. I began working January 1, 1949.

The CHAIRMAN. At whose expense?

Dr. EDELMAN. Under the Atomic Energy Commission fellowship program, at the Harvard Medical School, as a research fellow in surgery.

The CHAIRMAN. Now, briefly, describe what you did, what kind of work you did?

Dr. EDELMAN. The sort of work that I did, and am doing now is: First, I worked out something which I have just completed, the quantitative determination of deuterium by means of the mass spectrometer. And this first bit of technical work has led up to our present work, which involves the determination of the total body water by the dilution of deuterium oxide, which is commonly known as heavy water. And we are in that phase of research now. We were hoping to go on and extend this work in total body water to the inclusion of electrolyte metabolism and its association with body water.

The CHAIRMAN. Are you working with any other AEC fellows?

Dr. EDELMAN. I am cooperating with a number of fellows, one of whom is an AEC fellow at the same laboratory.

Well, as I say, I began to work January 1, 1949. I at no time had been informed of any official indication that I was under suspicion, and I knew nothing about this entire business in actuality, except for one thing. About 6 weeks ago, I heard, through gossip, that I was being investigated by the FBI in New York; that the FBI was approaching people that knew me in my neighborhood, et cetera. This rather disturbed me, but I thought it might be part of the general security of the program, and that was that. No one spoke to me or asked me anything about this.

Then, last Monday, a newspaperman approached me and said that he had received confidential information that I was going to be named in a committee meeting as a Communist. He said, "There is definite information that you are a Communist, and I want to get your side of the story, so that when I print the story, at the time the committee meets, I will be able to be sympathetic toward you," or something of that sort. And this same newspaperman, who was Mr. William Bradford Huie, broke this story without my ever being approached in any official manner by any official agency, in fact in any manner by any agency, regarding this entire affair. And this is as much as I know about it.

Representative PRICE. What reply did you give to this newspaperman?

Dr. EDELMAN. I told him that I was not a Communist, I told him that to my knowledge I had never been a Communist. And I told

him that I am a loyal American citizen; that I didn't suspect that my loyalty was being questioned, as a matter of fact. He told me that the week end before a press report had been placed saying that there was somebody in an eastern university that was a Communist, and he said they meant me. And I was darn surprised. I was pretty upset by it, and told him that "it's just not true."

I might also add that this original story carried a number of, well, gross mistakes. One was that I applied to do atomic research; which I had never done. That I had applied to use isotopes in medical research. The other thing it said in this story was that I had applied to Dr. E. O. Lawrence, the physicist, to do research, when I had applied to Dr. John Lawrence at the Donner Laboratory, to do research. And as far as the material that he presented as evidence, which I have never seen, and of which I have no knowledge, there were three things. One was that an application was made out for me to join the Communist Party. And I have told you my reaction to that, and what the conditions were.

No. 2 was, according to his information that I was listed as a member of the Indianapolis section of the Communist Party. I have never seen such a list. I didn't know that it was in existence. I never authorized my name to be used. And if I had known my name was on such a list, I would have demanded its withdrawal immediately.

The third charge was that my wife held a party card in the Dave Durand Communist Party Club in Brooklyn. Neither my wife nor I have ever heard of this club before. We have made inquiry to find out where it is, and we found out that it is in some place in the Williamsburg area of New York.

Now, in relation to this piece of information, we are both willing to swear, and we are swearing, that we have never even heard of this club before, that we have had no relationship to it, and that we know nothing about it. And that is the sum and substance of my story, and those are the factual events as they occurred.

Representative ELSTON. Mr. Chairman, may I ask, right there:

You did know, did you not, that you had been turned down for work in the Atomic Energy Commission because you were considered a poor security risk?

Dr. EDELMAN. No, sir. That is absolutely and completely untrue.

Representative ELSTON. Do you have Dr. Lawrence's letter with you?

Dr. EDELMAN. I have a letter here which was sent to me at the time that Dr. Lawrence wrote to me.

The CHAIRMAN. Read it.

Dr. EDELMAN. This says [reading]:

DR. LEWIS H. REED,  
*Chairman, Division of Medical Sciences,  
National Research Council, Washington 25, D. C.*

DEAR DR. WEED: I am writing to you regarding Dr. Isidore S. Edelman, whom you will remember has been accepted to work in this laboratory on an AEC fellowship, with the provision that space were available for him. We now find that due to severe limitation of space, it will be very difficult for us to take Dr. Edelman.

Due to the fact that there are so many institutions in the country where he could work advantageously, I hope you will be able to place him elsewhere.

With kindest regards,  
Yours sincerely,

JOHN H. LAWRENCE, M. D.

Representative ELSTON. What is the date of that?

Dr. EDELMAN. June 15, 1948.

I would like to enter this into the record.

The CHAIRMAN. It will be in the record.

Representative ELSTON. Did you make any inquiry after the receipt of that letter about why you were not accepted?

Dr. EDELMAN. I had been accepted. I was never refused anything as far as I know.

Representative ELSTON. Did you make any inquiry about why they did not continue you in the program, then?

Dr. Edelman. I was being continued in the program. The only thing was that I was an accepted AEC fellow with an appointment at Dr. John Lawrence's laboratory. Dr. Lawrence wrote to me—and it seemed reasonable—"Would you like to work elsewhere, since I don't have enough laboratory space?" I said, "Sure, it's O. K." And they suggested the Harvard Medical School. I said, "Fine. I would love to work there." And I went there. No one told me anything about this being a security matter.

The CHAIRMAN. When was the first notification you had about its being a security matter?

Dr. EDELMAN. The press report. The first notification was when Mr. Huie approached me and told me that I was.

The CHAIRMAN. Can you fix the date of that?

Dr. EDELMAN. That was, I believe, last Monday, at about 4 or 5 o'clock, either Monday or Tuesday. It was very close to the beginning of the week. I am pretty sure it was Monday.

Senator KNOWLAND. Did you tell Mr. Huie at that time that you had filled in an application for membership in the Communist Party?

Dr. EDELMAN. I think I told him that I may have. I spoke with him for some time about many things, and I was quite upset, and I think I may have. His story has been printed, and he quotes me, and that can be read. I told him that I had attended these meetings.

The CHAIRMAN. How many, did you say?

Dr. EDELMAN. Two, to the best of my recollection.

The CHAIRMAN. How many did your wife attend, Doctor?

Dr. EDELMAN. I believe my wife probably attended about four or five.

The CHAIRMAN. Did you say that she was not a member of the Communist Party?

Dr. EDELMAN. I didn't know whether she was a member or not when Mr. Huie spoke to me, or whether she ever had been. She isn't a member of the Communist Party. She has had no connection with the Communist Party since 1943. I spoke to her about the matter after Mr. Huie spoke to me, and she believes that at the time she accepted membership, during this short interval. But she doesn't remember having a party card. And she very shortly after attending, I believe, two or three more meetings, became just as completely convinced as I was; and she withdrew, and she has had no relationship or association since then.

The CHAIRMAN. Is she about your age?

Dr. EDELMAN. Oh, no; she is much—she is  $2\frac{1}{2}$  years younger than I am. She was about  $19\frac{1}{2}$  or 20 at the time.

Representative DURHAM. Was she born in this country?

Dr. EDELMAN. Yes, sir.

The CHAIRMAN. Where was she born?

Dr. EDELMAN. New York City. I have known her since she was a rather small girl.

The CHAIRMAN. Have you any children?

Dr. EDELMAN. I have a son, 4 years of age.

The CHAIRMAN. Are there any other questions, gentlemen?

Representative VAN ZANDT. Mr. Chairman?

The CHAIRMAN. Mr. Van Zandt?

Representative VAN ZANDT. Are you fully familiar with the principles of the Communist Party?

Dr. EDELMAN. I could hardly say that I am an expert. I think that I know enough to know something—to recognize that it is not right.

Representative VAN ZANDT. You are familiar with the principles of the party?

Dr. EDELMAN. Well, I know something about it. I may not know any specific principle.

Representative VAN ZANDT. Do you realize that when you sign an application card you generally affix your signature to the card stating that you believe in the principles of the party and are making application for membership in that organization?

Dr. EDELMAN. That wasn't my understanding at the time. I may have been very naive about it, but that was not my understanding of the situation at all.

Representative VAN ZANDT. When you attended these meetings of the Communist Party, did you take part in the deliberations?

Dr. EDELMAN. I raised some arguments during the course of the meetings, and I believe they were aware that I was opposed to what was going on.

Representative VAN ZANDT. Were the arguments in favor of the Communist Party, or in opposition?

Dr. EDELMAN. In opposition. That is why I discontinued any association, and that is why I did not take up membership.

Representative VAN ZANDT. Do you believe in our present form of government, without any reservations?

Dr. EDELMAN. Absolutely.

Representative VAN ZANDT. Do you believe in free enterprise?

Dr. EDELMAN. Absolutely.

Representative VAN ZANDT. Would you defend this country against enemies?

Dr. EDELMAN. I certainly would. I served before; I would be most happy to serve again, in the event of any emergency whatsoever.

Representative PRICE. You were in the Army, were you not?

Dr. EDELMAN. Yes, sir. I served for 2 years.

Representative VAN ZANDT. That is all, Mr. Chairman.

Representative HOLIFIELD. If this country should become engaged in a war with Russia, would you be willing to defend this country without any mental reservation?

Dr. EDELMAN. Of course. Without question.

Senator KNOWLAND. So far as you know, were there any people who attended these two or three meetings that you may have attended who were not members of the Communist Party?

Dr. EDELMAN. I couldn't say. I didn't know them. I accepted them as being members. My wife and I sat in on these meetings, and I didn't think whether they were or not. They may not have been, but I accepted them as such. I accepted this as a Communist Party meeting and assumed that they were members.

Senator KNOWLAND. So far as you know, is it customary for non-party members to be allowed to sit in on a cell meeting?

Dr. EDELMAN. I don't know what is customary in the procedure. I don't know what the formalities are of these things. I attended the meetings with my wife, I suppose on the basis that we were willing to make application. But I don't know whether these were restricted meetings or open meetings, or what the formalities are in these affairs.

Senator KNOWLAND. If you filled out this application, which you recall doing, though you say you do not recall whether you signed it or not, and if the application stated, as an application normally would, that you were applying for membership and would support the principles of the organization to which you were applying for membership, is it not perfectly reasonable to assume that if the local unit of the party in Indianapolis determined to accept you, you would go on the membership list at Indianapolis without any further action on your part?

Dr. EDELMAN. As I said, I didn't give it such careful thought. My entire attitude in approaching the thing is that this was something that I wanted to know about. There were arguments pro and con. These people argued strongly and at times very convincingly, and I was interested in it. I did not think of consequences, or in terms of commitments, or anything of that sort. I accepted this as a chance to get some information, and I got the information. I disagreed, and that was the end of it. And I have had no association with them since that time.

Senator KNOWLAND. Now, you are an intelligent man. I can understand that if you did not have information and were of an inquisitive turn of mind, you might go out to a book store and buy some books on the subject. I can understand how you might even subscribe to the Daily Worker, and get such printed matter as you cared to read. But that does not quite square with filling out an application for a membership, when the application says in effect, though I do not have one right here before me at the moment, "I apply for membership in the Communist Party and will be bound by its rules, regulations," and so forth, when it is generally assumed that you come under party discipline when you become a member. You were not a high-school youngster at that time. You were a man 23 or 24 years of age. You certainly knew, if you filled it out, that it was a membership application and not merely a request for printed material; did you not?

Dr. EDELMAN. Yes. It wasn't the request for printed material, because the printed material is all contradictory. And I wanted to see the way these people behaved in action; what they actually meant. It is like getting a brochure on a book. The brochure paints a pretty picture, but the book contents may be completely at variance with the picture painted.

I was interested, and did attend the meetings to find out what their actual program was, the way they behaved, what they meant. I didn't know what the exact form of construction was, how they behaved, and what they wanted, exactly.

Senator KNOWLAND. When you finally decided you wanted to get more information, you went to, let us call him for the moment, Mr. X, who you knew was a member of the Communist Party. Did you ask him whether you could attend some meetings prior to filling out an application blank?

Dr. EDELMAN. No, sir. What happened was that I had met some people, and they discussed the Communist Party, and they suggested that—I discussed it with them. I was obviously interested in what they were saying. I questioned them. I argued with them. And they said, "Why don't you join and see what it is like?" or something of that sort.

Senator KNOWLAND. In filling out an application, normally do you not have sponsors, people who can testify to the party as to your reliability, two or more sponsors?

Dr. EDELMAN. Well, I don't know whether they required sponsors, or what. I don't remember the exact details of this thing, this form, and I am sure that I didn't sign anything that was derogatory to the country. At least, is wasn't worded so to me.

Senator KNOWLAND. That is not the question at the moment.

Dr. EDELMAN. I don't know whether anybody else's name is on this application, et cetera, but I could identify it.

Senator KNOWLAND. You know who took your application?

Dr. EDELMAN. Oh, yes.

Senator KNOWLAND. Who was it?

Dr. EDELMAN. Mr. Joseph Friend.

Senator KNOWLAND. Mr. Friend was the man who more or less sponsored you, or at least secured your application; is that correct?

Dr. EDELMAN. Yes, sir.

Senator KNOWLAND. And he was at the University at Indianapolis at that time, was he?

Dr. EDELMAN. Yes, sir.

Senator KNOWLAND. Did he attend the first cell meeting with you?

Dr. EDELMAN. He was present; yes, sir. He was present at both meetings.

Senator KNOWLAND. At both meetings. Did he also take the application of your wife, this same Mr. Friend?

Dr. EDELMAN. I believe so.

Senator KNOWLAND. That is all.

Representative ELSTON. Mr. Chairman, may I ask: It could not be a fact, could it, that you discontinued your attendance at Communist meetings because you went into the ASTP program shortly after that, and you knew that if you were a Communist you would not be accepted in that program?

Dr. EDELMAN. That had nothing to do with it. If I felt that way, then immediately after leaving the service I would have rejoined, and reestablished connections, and gotten into these activities.

Representative ELSTON. Well, you knew that you could not get into the ASTP program if you let it be known that you were a Communist.

Dr. EDELMAN. I did not attend any more meetings at the time, before I ever volunteered for the ASTP program, as far as I remember.

Representative ELSTON. How much time intervened between the last time you went to a Communist meeting and the time that you applied for admission into the Army specialized training program?

Dr. EDELMAN. I don't remember precisely, but I would say it was a matter of a few weeks.

Representative ELSTON. You have shown today that you remember names and dates and incidents very clearly, everything except the application into the Communist Party. Why, do you feel, on a matter as important as that, your memory fails you, and you cannot give all the details in connection with it?

Dr. EDELMAN. I can't give all the details because I don't remember the details clearly. I am quite willing to positively state whether the application is mine, if it can be shown to me, if either a picture of it or a copy or anything of the sort can be shown to me. I would be able to recognize immediately, I am sure, whether it is mine, whether it is my signature, et cetera. And I am not denying the application, nor am I trying to avoid the fact that an application was probably made. But I am trying to express this as best I can within the limits of my memory of the events that took place 6 years ago.

Representative ELSTON. Now, was the application made? Or was it just probably made?

Dr. EDELMAN. I believe it was made. That is the best of my knowledge of the situation. And I would be glad to positively identify it if it could be shown to me, or if it is available. I am not denying its existence. I am merely stating the events as I remember them.

Representative ELSTON. And you say that your going into the Army specialized training program had nothing to do with your discontinuance of attending Communist meetings.

Dr. EDELMAN. No, sir.

Representative ELSTON. You did know that if you made it known——

Dr. EDELMAN. I——

Representative ELSTON. Now, just a moment. You did know that if you made it known that you were a Communist, you could not pursue that program and get a commission in the Army?

Dr. EDELMAN. I had no such knowledge at the time. I don't know it now.

Representative ELSTON. That is, you could not get a commission if the Army decided the matter.

Dr. EDELMAN. Well, I don't know anything about it. When I joined the ASTP, no one asked me whether I were a Communist. When I accepted my commission, no one asked me whether I were a Communist, and when I was separated from the service, no one asked me whether I were a Communist. And I do not know to this date whether that is a problem in accepting an individual as a member of the United States Army or not. I don't know what the policy on that situation is. I still don't know.

Representative ELSTON. Did you continue to associate with this party by the name of Friend after you ceased to go to Communist meetings?

Dr. EDELMAN. I saw him occasionally around town, and spoke with him. I saw him.

Representative ELSTON. For how long a period of time?

Dr. EDELMAN. Oh, during the period that I was in Indianapolis.

Representative ELSTON. And when did you leave Indianapolis?

Dr. EDELMAN. In 1944, around April or May, about May 1, around then.

Representative ELSTON. You continued to associate with a Communist, a known Communist, then, up until the time you left Indianapolis?

Dr. EDELMAN. Well, I didn't associate with him particularly. I didn't go out of my way to find him, especially. I knew him. I spoke with him. I saw him occasionally. And at that time there was no indication that association or anything of that sort was something that had to be hidden, or that there was anything at all wrong with it. We were at the peak of our cooperation with Russia. And I just came to the conclusion that I didn't believe in what they were talking about. But I didn't have any information to indicate that there was a loyalty question involved.

Representative ELSTON. Did he come to your home?

Dr. EDELMAN. He had occasionally, but not very often.

Representative ELSTON. And did you go to his home?

Dr. EDELMAN. Yes, occasionally.

Representative ELSTON. Did you meet other Communists at his home, or did they come to your home?

Dr. EDELMAN. I don't know whether other people that I knew at the time were Communists or not. I didn't know the other people that attended the meetings, and none of the other people where I attended the meetings came to my home.

Representative ELSTON. You say none of the other people came to your home.

Dr. EDELMAN. That is right, sir.

Representative ELSTON. Did you go to the homes of any of the other people who attended the Communist meetings? How many people attended these Communist meetings?

Dr. EDELMAN. Oh, I would say about five or six.

Representative ELSTON. And where were they held?

Dr. EDELMAN. In Indianapolis.

Representative ELSTON. That is a big city. Whereabouts?

Dr. EDELMAN. I mean, in the home of Mr. Friend.

Representative ELSTON. In his home. All the meetings were held there?

Dr. EDELMAN. The two that I attended. I don't know about the others.

Representative ELSTON. Do you remember what the subjects under discussion were?

Dr. EDELMAN. I think—I can't remember for sure exactly what was being talked about. I remember some of the general events of the time. I don't remember the specific discussions. The general events at that time, I believe—they were discussing a military alliance between the United States and Russia, and I believe that at that time they were talking about the dissolution of the Commin—the International Communist Organization.

Representative PRICE. Did Mr. Friend spend his full time as a Communist organizer, or did he have any other occupation?

Dr. EDELMAN. He was a teacher.

Representative PRICE. Where?

Dr. EDELMAN. At Indiana University, extension division.

Representative PRICE. Is he still teaching there?

Dr. EDELMAN. I don't think so. I think he left to take a publishing job.

Representative PRICE. What was the last contact that you had with him?

Dr. EDELMAN. Well, the last personal contact that I had with him was in 1944.

Senator KNOWLAND. Have you received a letter from him since then?

Dr. EDELMAN. I received a Christmas card from him.

Senator KNOWLAND. When?

Dr. EDELMAN. This year.

Senator KNOWLAND. This year?

Dr. EDELMAN. Yes.

Senator KNOWLAND. What about any other communications?

Dr. EDELMAN. I remember no others.

Senator KNOWLAND. Have you received any other letters from any of the other members of the Communist Party in Indiana?

Dr. EDELMAN. No, sir.

Senator KNOWLAND. Or any other place?

Dr. EDELMAN. No, sir.

Senator KNOWLAND. Has your wife, to the best of your knowledge, received any communications from any members of the Communist Party since that time?

Dr. EDELMAN. No, sir.

Senator KNOWLAND. And the only communication you have had with Mr. Friend since leaving Indianapolis is a single postcard, a Christmas greeting card, which you received this last Christmas?

Dr. EDELMAN. I think we received Christmas cards every year. I think so. I am not sure.

Senator KNOWLAND. Outside of the Christmas cards that you received each year since you left Indianapolis, you have received no other communications? The only communications, written communications, telegrams, or messages, are those Christmas cards received each Christmas since 1944? Is that what we are to understand?

Dr. EDELMAN. I believe so.

Senator KNOWLAND. Would you not know if you had received a telegram?

Dr. EDELMAN. Oh, I have no telegrams or anything of that sort. There may have been an occasional letter without any reference to political questions. I don't remember. I would have to ask my wife. I may not have seen them. I was away from home for 2 years during this interval.

Senator KNOWLAND. Would you not know if he had sent some other kind of a greeting or message, even though it did not deal with political questions? If it was a purely personal letter, would you not know whether you had received that or not?

Dr. EDELMAN. Well, I suppose that I would if I had had it just then. We have had letters from many of the people that we have known. His was the only—he is the only one I know of who at that time was interested in the Communist Party, and I don't have any knowledge of whether he is or is not. He may not be.

Senator KNOWLAND. Leaving aside the question of whether he is still a member or not, I want to make it perfectly clear on the record—you are under oath here—as to whether or not you have received any type of a communication other than the annual Christmas greeting cards from Mr. Joe Friend, in the intervening years since you left Indianapolis.

Dr. EDELMAN. Well, I saw his brother in Massachusetts recently.

Senator KNOWLAND. All right. When did you see his brother?

Dr. EDELMAN. I would say about 2 months ago.

Senator KNOWLAND. Had you ever seen his brother at a cell meeting?

Dr. EDELMAN. No, sir.

Senator KNOWLAND. And tell us about meeting Mr. Friend's brother in Massachusetts.

Dr. EDELMAN. He was in Cambridge, and he is studying there now, and he called us and said he would like to say "hello." He came over to our house and said "hello." He told us about the time that he was studying Japanese in the Army, and then we discussed some things about hypnotism, and then he went home. He told me about his brother, and we said that we would write a letter to his brother and say that we saw him, or something of that sort.

Senator KNOWLAND. Did you write the letter to his brother and report that you had seen his brother in Massachusetts?

Dr. EDELMAN. I don't—I think that my wife sent a letter to his brother. I believe she may have.

Senator KNOWLAND. All right. When was that?

Dr. EDELMAN. Oh, I would say about 2 months ago.

Senator KNOWLAND. So at least to that extent, as you can now recall, you have had contact with Mr. Joe Friend since 1944.

Dr. EDELMAN. It wasn't contact. I am not in association with him in any way. I am not in conspiracy with him. I don't know what his politics are.

Senator KNOWLAND. I have not charged you with being in conspiracy with him. I am merely asking so that we can get the complete story on this situation.

Now, earlier, in testimony before this committee, under oath, I certainly had the impression that you were testifying that when 1943 had come and gone, or early 1944, you had left the University of Indiana and had gone into the ASTP; that you had ceased your contacts and associations with known members of the Communist Party. That was the impression that I, at least, had as a member of this committee. Now, since then, not by voluntary action on the part of the witness, but under cross-examination, it now turns out that each year since 1944, you have received an annual Christmas card from him, and in addition to that you have met his brother in Massachusetts and passed the time of day, and in addition to that your wife has written a letter to Mr. Friend reporting on the contact you had had with his brother. Now, what other communication have you had with him?

Dr. EDELMAN. I have had no other communications. I have no knowledge of what Mr. Friend's political position is today. I have no knowledge of what his brother's political position is today. We didn't discuss politics. His brother did not ask me any questions about it, or whether I wanted to do anything. As far as I know, his brother is not a member of any political organizations. And I just had no contact with the Communist Party. This doesn't represent to my mind a contact with the Communist Party.

Senator KNOWLAND. But this is the same Mr. Friend that apparently was doing organizing work for the party and who took your application for membership.

Dr. EDELMAN. I don't know whether he is an organizer. He was the one that I spoke to at the time.

Senator KNOWLAND. That is all, Mr. Chairman.

The CHAIRMAN. How old is Mr. Friend?

Dr. EDELMAN. I don't know precisely. I would say he is about 30-something.

The CHAIRMAN. You are 29 now?

Dr. EDELMAN. Yes, sir.

The CHAIRMAN. You mean thirty-something then, or thirty-something now?

Dr. EDELMAN. I think he is thirty-something now. I imagine he is about 35 now.

The CHAIRMAN. Senator Knowland asked you about getting Christmas cards. Did you send any, that you remember?

Dr. EDELMAN. No, sir.

The CHAIRMAN. The only communication that you remember is this letter from your wife to Mr. Friend?

Dr. EDELMAN. I believe she wrote to him at that time. She said something about writing to tell him about it, and I believe the letter was written.

Representative HOLIFIELD. As to these Christmas cards that you received, did any one of them have the picture of the Kremlin on it?

Dr. EDELMAN. No, sir.

Representative HOLIFIELD. Thank you.

Representative COLE. Mr. Chairman?

The CHAIRMAN. Mr. Cole.

Representative COLE. I understand that the reason you left the party was because after a comparatively brief interval you learned its true nature and were dissatisfied with it, so you discontinued your association. During that time did you learn enough about the members of the party to raise any doubts in your mind as to the loyalty of the members of that party toward this country?

Dr. EDELMAN. At that time no one ever told me anything that was disloyal. But I believe that you can't have allegiance to a system or way of thinking which is represented as a means of changing the Government, and consider that to be loyalty. So I think from the very nature of the principles, this is something that is certainly not loyal to the United States Government.

Representative COLE. Is there any question in your mind now as to the loyalty of an avowed Communist?

Dr. EDELMAN. No, sir.

Representative COLE. There is no doubt?

Dr. EDELMAN. There is no doubt.

Representative COLE. By that do you mean that an avowed Communist is a disloyal person?

Dr. EDELMAN. Yes, sir.

Representative COLE. That being so, do you have any complaint or criticism toward those who view with some doubt the loyalty of any person, even including yourself, who were at one time associated with a Communist group?

Dr. EDELMAN. No, sir. I have no complaint. I firmly believe that it is the responsibility of this committee and all proper authorities to inquire into the matters that are so important to our country.

Representative COLE. Has anybody sought to learn from you the identity of the Communists with whom you at one time were associated?

Dr. EDELMAN. No, sir.

Representative COLE. If anybody did seek to make that inquiry, would you refuse to disclose the identity of the individual?

Dr. EDELMAN. No, sir.

The CHAIRMAN. Are there any further questions from any member of the committee?

Representative VAN ZANDT. Mr. Chairman?

The CHAIRMAN. Representative Van Zandt.

Representative VAN ZANDT. Are you acquainted with any Communists today?

Dr. EDELMAN. Not to my knowledge. I know many people and they may be members of the Communist Party without admitting it to me, but I don't know anybody that I could say is a member of the Communist Party.

Representative VAN ZANDT. Have you visited recently with any of the associates of yours during that period that you were in Indianapolis?

Dr. EDELMAN. No, sir. I have seen friends of mine who had no relationship to the political things; I mean, men who went to medical school with me. I have seen them, and they are still friends of mine.

Representative VAN ZANDT. Well, do you receive any Communist literature today?

Dr. EDELMAN. No, sir. Not a thing. I have not for the last 6 years.

Representative VAN ZANDT. Do you read their newspaper?

Dr. EDELMAN. No, sir.

Representative VAN ZANDT. What type of reading do you employ? What type of book?

Dr. EDELMAN. I have read during the last year almost exclusively in the field of scientific literature. I try to get the New York Times every morning at a Boston newsstand, and I read the Boston Daily Globe every evening, if I can get it. I have read, I believe, one or two novels in this interval period. And that has been the sum total of my reading. I am also a subscriber to the New Yorker magazine.

Representative VAN ZANDT. That is all, Mr. Chairman.

The CHAIRMAN. I might say, Dr. Edelman, that as an American citizen, of course, you have a right to read whatever is in print in any language in which it may be written that you can understand. I want to make it clear that I reserve that privilege for myself.

Mr. Cole, do you have a question?

Representative COLE. Yes, Mr. Chairman. I have no thought of a personal implication in this question, but I am wondering if, during your association with the Communists, you learned that perjury was no deterrent to a Communist in his efforts to achieve his ends.

Dr. EDELMAN. I don't remember that as being a part of a program, or anything of the sort. I was interested primarily in finding out what things like dialectical materialism meant and what their structure was, the way they acted, how they behaved, how they actually functioned. I do not remember anything about perjury at the time. It does not apply to me. I would not perjure myself. If I did, it would probably be the worst thing I would possibly do. It would wreck my career and my family.

Representative COLE. As I indicated when I raised the question, I did not intend that the question would have any personal implications. But from what you have learned since, as to Communists, have you any doubt about the veracity of a Communist?

Dr. EDELMAN. Yes; I have read that one of the principles, one of the present positions, is that perjury is not a deterrent to avoiding any unpleasantness.

Representative COLE. Well, I admire your frankness.

Representative ELSTON. Mr. Chairman, one other question: How long did you read the Daily Worker before you went to a Communist meeting?

Dr. EDELMAN. Oh, I think that the subscription was started at about the same time that I started attending the meetings. I don't remember; maybe it was a few weeks before or a few weeks after.

Representative ELSTON. Well, if it were a few weeks before—

Dr. EDELMAN. I think it was the Sunday Worker.

Representative ELSTON. All right, either one. If it were a few weeks before, the paper itself would clearly indicate the doctrines and the policies and the principles, if any, of the Communist Party, would they not?

Dr. EDELMAN. I don't remember the exact material that was printed. I believe that at that time most of the material that was printed was an excessive attention to the Soviet military events, and also I think at that time they were asking for increasing military cooperation, or a second front. I don't remember theoretical aspects being printed, and that is to the best of my knowledge.

Representative ELSTON. You have kept up pretty well with current events. Do you know what the position of the Communist Party was before Hitler invaded Russia?

Dr. EDELMAN. You mean the period of the Nazi-Russian agreement?

Representative ELSTON. Yes.

Dr. EDELMAN. Yes; I remember that.

Representative ELSTON. You were not in sympathy with their position at that time; were you?

Dr. EDELMAN. Absolutely not.

Representative ELSTON. Well, what made you think they had changed their position, except in their own self-interest?

Dr. EDELMAN. At the time I was speaking to these people about these problems, I believe that they indicated to me that they didn't represent Russia, and that they couldn't account for this period, but they felt that Russia did it just to gain enough strength to beat Nazi Germany. I think that that was a very sad day in the history of the world.

The CHAIRMAN. What was?

Dr. EDELMAN. When any nation would cooperate with Nazi Germany.

Representative ELSTON. Well, considering the fact that she had cooperated with Nazi Germany against this country, or against the other nations that were at war at that time, was that not sufficient to turn you against that country, rather than to make you want to learn more about their political philosophy?

Dr. EDELMAN. I didn't make the inquiries on the basis that I was interested in finding out about Russia. I made the inquiries on the basis that I was interested in finding out about the American Communist Party, or the Communist Party in America. And at the time, they said that they defended the position of Russia, but they said that they were not representing Russia to me, certainly.

Representative ELSTON. You never had any doubt in your mind, did you, that the Communist Party in this country was dominated and controlled by the Communist Party of Russia?

Dr. EDELMAN. I have no doubt now.

Representative ELSTON. Did you ever have any doubt about it?

Dr. EDELMAN. I did then.

Representative ELSTON. That is all.

The CHAIRMAN. Doctor, it seems as though there are no other questions that occur to any member of the committee, and so your appearance has come to a close.

Dr. EDELMAN. I would like to make two statements, if I may.

The CHAIRMAN. You may.

Dr. EDELMAN. I would like to say that I am a completely loyal American citizen. The entire history of my family has been such that we have been extremely grateful and very happy at being here and being citizens of this country. I at no time entertained any disloyal thoughts, and I will not entertain any disloyal thoughts in the future, knowing myself. And that is the situation.

The CHAIRMAN. Thank you, Doctor.

Dr. EDELMAN. The other thing I would like to do is to make a request for the stenographic notes or the record of the meeting, so that I can read it over, look at it, and think about it.

The CHAIRMAN. That is a reasonable request. You will get a copy of the record.

Dr. EDELMAN. Thank you, sir.

The CHAIRMAN. This session of the committee is now recessed, and the committee will now go into executive session for a further discussion of the matter which we took up this morning.

(Whereupon, at 4:10 p. m., the hearing was recessed, subject to the call of the Chair.)



# APPENDIX

## Reconciliation of obligations for special training activities to program basis

	Obligations			Fellowship program basis			
	Total	Activities other than fellowships <sup>1</sup>	Fellowship program	Fiscal year 1948	Fiscal year 1949	Fiscal year 1950	Subsequent
Physical research:							
Fiscal year 1948.....	\$1, 178, 200	\$478, 200	\$700, 000	\$50, 000	\$419, 350	\$230, 650	0
Fiscal year 1949.....	1, 815, 500	545, 150	1, 270, 350	0	0	754, 350	\$516, 000
Fiscal year 1950.....	1, 583, 650	551, 650	1, 032, 000	0	0	0	1, 032, 000
Total.....	4, 577, 350	1, 575, 000	3, 002, 350	50, 000	419, 350	985, 000	1, 548, 000
Biology and medicine:							
Fiscal year 1948.....	497, 500	20, 300	477, 200	477, 200	0	0	0
Fiscal year 1949.....	2, 564, 850	182, 059	2, 382, 800	0	952, 800	1, 430, 000	0
Fiscal year 1950.....	2, 785, 350	225, 350	2, 560, 000	0	0	1, 130, 000	1, 430, 000
Total.....	5, 847, 700	427, 700	5, 420, 000	477, 200	1, 430, 000	2, 560, 000	1, 430, 000

<sup>1</sup> "Activities other than fellowships" includes operating expenses of Argonne National Laboratory and Oak Ridge Institute of Nuclear Studies chargeable to special training, expenses incident to training at the Marine Biological Laboratory, Woods Hole, Mass., and to initiate special training courses at various Commission installations.

TELEGRAM FROM DR. JAMES B. CONANT, PRESIDENT, HARVARD UNIVERSITY, CAMBRIDGE, MASS., TO THE CHAIRMAN, JOINT COMMITTEE ON ATOMIC ENERGY

CAMBRIDGE, MASS., May 18, 1949.

Senator BRIEN McMAHON,

*Senate Office Building, Washington, D. C.:*

According to the account published in the New York Times this morning Dr. J. R. Oppenheimer and President Bronk, of Johns Hopkins University, have made representations to you as to the undesirability of requiring special inquiries and investigations of the political affiliations and views of those holding Government fellowships in pure science. I should like to associate myself with their position as represented in the New York Times. According to my view a clear distinction between those who have access to classified information and those who do not is essential both for the security of secret and confidential information as well as for the well-being of our scientific community. Fellowships which are to be held by students working in a university should be free from the restrictions which we must impose on all who have classified information. To place all holders of fellowships who are working in pure science in open fields on the same basis as Government employees would be to require a vast amount of checking and personal investigation. The atmosphere thus created among students in scientific departments would cause far more disturbance than any possible gain. If occasionally a member of the Communist Party should accidentally obtain one of these fellowships no great harm would result, as any demand on his part to obtain access to confidential information would automatically involve checking and personal investigation. If such a man continues in the field of pure science he may make important contributions and there is always a good chance that, as in the past, a certain number of young Communists would have a revulsion of feeling and leave the party. I trust Congress will not take any action which will of necessity involve proceedings creating an atmosphere of distrust and suspicion in the scientific world as I feel certain the loss to the country will far outweigh the possible hazards involved in the calculated risk of the method now used.

JAMES BRYANT CONANT,

*Member of the General Advisory Committee to the Atomic Energy Commission.*

160 ATOMIC ENERGY COMMISSION FELLOWSHIP PROGRAM

LETTER TO DR. ISIDORE S. EDELMAN ANNOUNCING AWARD OF FELLOWSHIP

NATIONAL RESEARCH COUNCIL,  
DIVISION OF MEDICAL SCIENCES,  
Washington 25, D. C., May 15, 1948.

Dr. ISIDORE S. EDELMAN,  
*Externe and Research Assistant, Medical Division,  
Montefiore Hospital, New York 67, N. Y.*

DEAR DR. EDELMAN: It gives me pleasure to inform you that the Atomic Energy Commission Postdoctoral Fellowship Board in the Medical Sciences National Research Council, at its meeting on May 5, 1948, voted to award you an AEC postdoctoral research fellowship in the medical sciences. This award is made to enable you to pursue your studies on the distribution and rates of excretion of electrolytes, with particular reference to the role of the endocrines, under the guidance of Dr. John H. Lawrence at the Donner laboratory, University of California. Your proposal to take courses in nuclear physics and to obtain general training in isotope techniques during the period of the fellowship has the approval of the Board. However, will you please report to the Board the details of your proposed academic work when you have outlined it?

This fellowship carries a grant of \$3,750 per annum and will be paid to you in 12 monthly installments. In addition to the regular grant, an allowance is made for travel expenses at the rate of 6 cents a mile from your present location to the place where you are to work as a fellow. It is expected that your fellowship will begin on or about January 1, 1949, but you are requested to notify the Fellowship Board at least 1 month prior to the date finally determined. In order that you may receive your regular monthly allowance without delay, please have the investigator under whose direction you are to work notify the Council's Board promptly of the date when you begin.

It is the understanding of the National Research Council that the work which will be carried on under this program of fellowship training will be largely in fields which are not directly concerned with classified information, known as restricted data. If, however, your program of work leads you initially or subsequently into areas where you desire access to data considered by the Atomic Energy Commission to be of a restricted nature, you will be required to submit to those processes of investigation which will enable the Atomic Energy Commission to determine your eligibility for such information. The results of the investigations and action by the Atomic Energy Commission in this regard will be binding upon you. Also, if in the course of your fellowship work on unclassified material any discoveries are made or any data developed that may be considered restricted, you shall promptly inform the Commission and take steps to safeguard all such discoveries or data. In the event doubt exists as to whether any data should be classified as restricted, you should consult the Atomic Energy Commission prior to the use or release of any such data.

With reference to any inventions resulting from work carried on under this fellowship, the following policy of the Atomic Energy Commission shall govern:

"No claim for pecuniary award or just compensation under the provisions of the Atomic Energy Act of 1946 shall be asserted as to inventions made or conceived during the period of the fellowship and the Commission reserves the right to determine the disposition of title to and rights in and to any such inventions."

Some years ago the Commissioner of Internal Revenue advised that sums paid to national research fellows were gifts or gratuities and not subject to income tax. It is believed that this ruling is still applicable. It is our understanding also that, according to a Veterans' Administration ruling, fellows receiving stipends under this program will not be eligible simultaneously for benefits under Public Law 346 (GI Bill of Rights).

Appointments are made subject to compliance with the requirements of the National Research Council as outlined in the enclosed announcement. Please note the instructions in regard to publications resulting from fellowship work.

The enclosed form of acceptance should be signed and returned at your early convenience to our office in Washington.

The members of the Board and the officers of the National Research Council will follow the progress of your work with much interest and hope that the fellowship will be of significant assistance to you in preparation for your career.

Sincerely yours,

HOMER W. SMITH,  
*Chairman, AEC Postdoctoral Fellowship Board in the Medical Sciences.*

LETTERS AND TELEGRAMS COMMENDATORY OF DR. ISIDORE S. EDELMAN

HARVARD UNIVERSITY NEWS OFFICE, *May 20, 1949.*

BACKGROUND MEMORANDUM FOR THE PRESS

Dr. Isadore S. Edelman has been a research fellow in surgery at Harvard University since January 1, 1949.

He was appointed to the research staff of the Harvard Medical School at the suggestion of the National Research Council and the Postdoctoral Fellowship Board in Medical Sciences of the Atomic Energy Commission. He serves under a fellowship administered by these bodies.

Although the Harvard medical school has several research contracts with the Government, it holds no contracts for classified, restricted, secret, or confidential work. All research at the Harvard Medical School is of a nature which permits the general publication of results without restriction.

Dr. Edelman's major problem has been to work out in detail a method for the determination of deuterium (heavy hydrogen) in a mass spectrometer.

The long-range medical target of this research is to add to man's knowledge of surgical disease (cancer, peritonitis, intestinal obstruction, starvation) and to increase man's understanding of the ebb and flow of body fluids.

In accepting Dr. Edelman as a research fellow, the medical faculty passed judgment solely upon his professional qualifications. He came here with good professional recommendations from researchers with whom he had worked, and, in his short service here, he has proven an able, hard-working, and effective researcher whose special training fitted well into the coordinated research programs of the school.

Dr. Edelman was born in New York in 1920 and was graduated from Indiana University in 1941. He attended medical school at Indiana University under the Army's wartime ASTP program and entered active service with the Army upon graduation in 1944.

After a brief period of training in neuropsychiatry, he served in a hospital at Carlyle Barracks, Fort Mead, Va., and then was transferred to the Canal Zone, where he served as ward officer in a neuropsychiatric hospital from 1945 to January 1947. He was separated from the Army with the rank of captain.

After leaving the Army, Dr. Edelman joined the staff of the Montefiore Hospital in New York, where he served successively as externe, chief resident in the neoplastic division, and Dazian foundation fellow for research. On January 1, 1949, he joined the research staff of the Harvard Medical School.

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NEW YORK, N. Y., *May 21, 1949.*

I, Mr. Anna Bear, swear that I am in the retail dress business for the last 14 years. I have been connected with the Brooklyn Philanthropic League and Williamsburg Settlement House for the last 10 years doing charity work.

I have known Dr. Isidore Edelman for the last 10 years. In my visits to his house he has always impressed me as a good and loyal American. He has never shown any sympathy by word or action with Soviet Russia or communism in my long association with him. I have always been against everything that communism and Soviet Russia stands for.

ANNA BEAR.

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BROOKLYN, N. Y., *May 21, 1949.*

*To Whom It May Concern;*

I am a resident of Brooklyn, N. Y., married, father of two children, and am a cousin, through marriage, of Dr. Isidore S. Edelman. I have known Dr. Edelman quite well for the past 12 years and have never heard him express any sentiments against the United States.

I have never known him to be a member of the Communist Party or express any of their ideologies. He is a patriotic citizen whose one consuming desire is to be a good doctor.

Respectfully yours,

JACK LIMITZ.

BRONX, NEW YORK, N. Y., May 21, 1949.

*To Whom This May Concern:*

I, Simon Kinger, residing at 1601 Metropolitan Avenue, Bronx, New York, aged 45, am employed by the city of New York, present borough of the Bronx. I am a civil engineer in the engineering bureau for the past 20 years.

I have known Dr. Isidore S. Edelman for the past 11 years. I am related to him through marriage, my wife being his first cousin. During the years I have known him, the times we have met socially, I never heard him express his thoughts or feelings as being procommunitistic, or pro-Russian. Indeed, he did express himself as being anticommunitistic, and anti-Marxist and anti-Soviet Russia.

I know it was his love of this country, his patriotism for this country, that caused him to enlist in the armed services and to become an officer in our country, to defend this country from totalitarianism.

After this service in the armed forces he became connected with the medical staff at Montefiore Hospital, in the Bronx, studying and doing research work under a Dr. Leuter. There are several other doctors in Montefiore Hospital whom I know personally, who have often said what wonderful work he was capable of performing. It is my humble opinion that Dr. Isidore S. Edelman is first, last, and always an American, and an American we can all be proud of.

SIMON KINGER.

MAY 21, 1949.

I, Bernard Jaffe, being 35 years of age and in the wholesale fruit and vegetable business, swear that I have known Dr. Isidore S. Edelman from early childhood. I am related to Dr. Edelman by marriage, his wife being my sister.

In the numerous times that I have been in contact with him and through actions and conversations, I have been impressed with his firm conviction in the American form of government. He has, in my presence, criticized all forms of totalitarianism, especially that of Soviet Russia. He has been bitter in his criticism of the Soviet attitude toward science and medicine; criticizing the thought control of this dictatorship in all its manifestations. He has mentioned, in my presence, and condemned Communist attempts to regiment science and medicine. He has been unflinching in his condemnation of any attempt to impress such a system upon our free American institutions.

I feel that he is a splendid example of the American way of life and its free institutions.

I have always found him to be a good and loyal American in the fullest sense of the word. He has generally confined himself to nonpolitical discussions and in the few instances that he has discussed Soviet communism he has shown himself to be entirely anti-Communist and anti-Marxist.

BERNARD JAFFE.

BROOKLYN, N. Y., May 21, 1949.

I have known Dr. Isidore S. Edelman very well for the past 2 years. I believe that I have had ample opportunity during our numerous meetings to accurately observe his character, honesty, and sincerity.

With all others who know Dr. Edelman, I share the firm belief that he is an honorable and loyal American citizen, of the highest integrity, incapable of any subversive beliefs or behavior.

Dr. Edelman has never shown any attitude other than repugnance for Communist ideologies. I have repeatedly heard him condemn communism in all its phases. He has often, in my hearing, stated his conviction that there could be no honest or constructive scientific research in any country where scientists are fettered by Communist control.

Dr. Edelman has constantly voiced his devotion to the United States and its democratic institutions.

Such loyal citizens as Dr. Edelman, whose unselfish desire it is to devote his life to medical research, are a credit to our country. We can only show our proper gratitude by helping him to continue his splendid work.

MRS. HELEN L. HALPERIN.

BROOKLYN 3, N. Y., May 21, 1949.

Dr. Isidore S. Edelman has been a frequent visitor to my home since July 1, 1947. During these visits I have had many opportunities to observe, listen, and talk to him and am thus able to evaluate him as to his character, ideals, and political beliefs.

Dr. Edelman has consistently displayed impeccable moral and professional integrity. He has voiced, many times in my presence, his loyalty and devotion to the United States of America and the American way of life. He has expressed himself with great vigor as being opposed to Communist ideologies. He has stated his abhorrence of the curtailment of freedom and liberty in all Communist countries, particularly their stifling of scientific endeavor.

I have no doubt that Dr. Edelman is a loyal American citizen whose brilliant work in medical science will be of great value to our country.

I. G. LICHTMAN, D. D. S.

BROOKLYN, N. Y., May 21, 1949.

My acquaintanceship with Dr. Isidore S. Edelman began 2 years ago.

I have had contact with him on numerous occasions during this time.

Dr. Edelman has never in any way, manner of word or deed displayed any sympathy for any Communist or other subversive ideologies.

On the contrary he has constantly expressed his conviction that this country and its institutions are without peer in this world.

I have been present on numerous occasions when he has expressed vehement contempt of communism, Communists, and Communist sympathizers.

I know Dr. Edelman to be an honorable and loyal American citizen. His desire to devote his life to scientific research in medicine which will contribute to the health and happiness of all Americans is an admirable and laudable one. He must be permitted to continue to do so.

Mrs. IDA B. LICHTMAN.

PATERSON, N. J., May 22, 1949.

HON. BRIAN McMAHON,  
*United States Senate, Washington, D. C.*

DEAR SIR: I have known Isidore S. Edelman, M. D., since 1939 when he first arrived at Indiana University. In fact, he was my roommate during our first year in medical school. During his 4 years in medical school, we were very intimate friends. At no time during our association did he ever in any way show any disloyalty to the United States. His honesty, sincerity, and integrity were known to all. He always believed in fair play, free expression, and true democracy.

I sincerely pray that Dr. Edelman, for the sake of freedom, medicine, and humanity, will be allowed to continue his fellowship.

Respectfully yours,

LOUIS A. ZUCKERMAN, M. D.

NEW YORK, N. Y., May 22, 1949.

HON. BRIEN McMAHON,  
*United States Senate, Washington, D. C.*

DEAR SIR: I have known Dr. Isidore S. Edelman as friend, medical school classmate, and physician since September 1941, when I entered Indiana University as a medical student.

At all times I have known him to be a faithful American, and he has never been guilty of any action or statement which might be considered detrimental or disloyal to our Government.

I am confident that, as a loyal American whose honesty, integrity, and scientific ability are of such high character, he will be permitted to continue his present research.

Respectfully yours,

ARNOLD R. SANDERS, M. D.

BROOKLYN 6, N. Y., May 22, 1949.

*To Whom It May Concern:*

This is written in support of Dr. Isidore Edelman, of Brooklyn, with whom it was my privilege to be associated in 1944 as a member of the house staff of the Greenpoint Hospital of this city.

During the period of our association it was possible to know fully and evaluate Dr. Edelman in many aspects. This man was and is, as far as I am concerned, completely loyal and true to the principles and democratic ideals of the United States of America. Never to my knowledge, by word, or deed, or insinuation, did he show a preference for or leaning toward any foreign or undemocratic ideologies. Most certainly did he not show or voice any leanings toward communism or other undemocratic political belief or teaching.

Dr. Edelman served as a member of the armed forces of the United States of America willingly and without reluctance or reservation of any kind to my knowledge.

In addition, Dr. Edelman is one of the most brilliant and able physicians that it has been my good fortune to work with. He was at all times during our association, willing, skillful, and selfless in the performance of his professional duties. He is the type of individual that I would recommend most highly for a position requiring the utmost in professional ability and moral integrity.

LIONEL KLEIN, M. D.

MAY 22, 1949.

Our names are Irving and Lillian Feldman and we reside at 305 Ocean Parkway, Brooklyn, N. Y. We have been married for 20 years and have two children, 18 and 9. We have known Dr. Isidore Edelman and his wife Florence for the past 6 years. We have met him through Mr. Al Levine, the doctor's brother-in-law. Our relationship has been quite close. We have met Dr. Edelman and his wife socially and have visited him at his home. We have never at any time heard Dr. Edelman or his wife express any remarks or make any statements whatever which could be construed as being procommunist or pro-Soviet Russian.

In our opinion Dr. Edelman is a fine true American and is in every way a loyal American citizen.

LILLIAN FELDMAN.  
IRVING FELDMAN.

MAY 22, 1949.

I, Jerome Rosemarin, residing at 2620 Glenwood Road, Brooklyn, N. Y., have known Dr. Isidore S. Edelman since 1927. I'm married and am employed at the United Jewish Appeal of Greater New York, Inc., 250 West Fifty-seventh Street, New York City.

I was a member of the Army Air Forces and I was overseas for 2½ years.

Dr. Isidore S. Edelman and I were raised in the same house at 612 Marcey Avenue, Brooklyn, N. Y. We attended Public School 54 and Boys High School together.

During all these years I have known Dr. Isidore S. Edelman and his wife Florence to be loyal and patriotic Americans.

I have gone out socially with Dr. Isidore S. Edelman and his wife and I have never heard him or his wife make any statements that were procommunist or express any sympathy toward the Communist Party or Soviet Russia.

I have never heard any of our mutual friends state that he ever made any statements which were against our form of Government.

It is my opinion that Dr. Isidore S. Edelman and his wife are true, loyal Americans.

JEROME ROSEMARIN.

BROOKLYN, N. Y., May 22, 1949.

I, Seymour Deutsch, residing at 297 Lenox Road, Brooklyn, N. Y., being 28 years of age and a public accountant, swear that the following facts are true statements.

I served with the United States Air Force for 39 months in the capacity of navigator with the rank of first lieutenant. Nine months of this time was spent overseas with the Eighth Air Force and I flew 35 combat missions.

I have known Dr. Edelman for about 16 years, grew up with him, went to the same high school, and belonged to the same athletic club.

In all the years of our acquaintance he has never expressed any advocacy for communism and what it stands for. I have always found that he has been against any country whose interests have been or might be detrimental to the interest of the United States.

His primary interest has always been medicine and his medical record attests to the fact that he has succeeded in making a good name for himself in his profession.

SEYMOUR DEUTSCH.

MAY 22, 1949.

*To Whom It May Concern:*

My name is Evelyn Braverman. I live at 125 Lenox Road, Brooklyn, N. Y., and I am married for 12 years and have three children.

I have known Dr. Isidore Edelman and his wife Florence for 4 years, having lived in the same apartment house with them. I have visited them in their home and they in mine.

I have never heard either Dr. Edelman or his wife make any remarks or statements which would in any way indicate that they were procommunist or pro-Soviet Russia. Their reputation in the building was very fine and I never heard anyone say anything bad against them.

I firmly believe them to be true and loyal citizens who are opposed to any principles which are contrary to our form of government.

(Signed) MRS. EVELYN BRAVERMAN.

MAY 22, 1949.

I, Milton Kreps, residing at 2620 Glenwood Road, Brooklyn, N. Y., aged 28, am a traveling salesman in the millinery industry.

I served in the United States Navy as SK(D)1C for 40 months including 20 months overseas in the Pacific.

I have known Dr. Isidore S. Edelman for approximately 18 years. We went to public school together and were very close friends and neighbors.

During all the years that I have known Dr. Edelman he has never in my presence expressed any feeling whatsoever as being procommunist or pro-Russian. Nor have I ever heard anybody who ever heard him say they heard him express any communistic ideologies.

It is my opinion that Dr. Edelman is first, last, and always a fine, upright, and loyal American citizen we can all be proud of.

MILTON KREPS.

BROOKLYN 3, N. Y., May 22, 1949.

HON. BRIEN McMAHON,

*Chairman, Joint Congressional Committee on Atomic Energy,  
United States Senate, Washington, D. C.*

DEAR SENATOR McMAHON: I have known Dr. Isidore S. Edelman intimately since July 1947. I know him to be a good patriotic American citizen and an outstanding scientist. I can wholeheartedly attest to his patriotism, his honesty to himself, his profession, and his country. I know that he is not interested in any party or political ideology adverse to that of the United States. I have personally been present when, in discussion with friends, he made statements that he is opposed to communism, communistic ideology, and Soviet Russia.

I strongly feel that if Dr. Edelman is not allowed to continue with his scientific investigation in his present capacity, it would be of untold detriment to the American way of government, let alone to the advancement of American science.

Very truly yours,

JACOB P. HALPERIN, M. D.

MAY 22, 1949.

I, Aaron J. Landsman, 28, live at 2101 Westbury Court, Brooklyn, 25, N. Y., with my wife and daughter. I work at Kornblau hardware, 2137 Eighth Avenue, New York City.

I have known Dr. Isidore S. Edelman since 1935 when we both went to boys high school together.

In our many discussions I have never heard Dr. Edelman mention anything derogatory about the United States or in any way or by word or deed be sympathetic to the Communists or any procommunist government.

His character is beyond reproach and his medical record speaks for itself.

I've frequented his home and attended social affairs with him. I've never seen him reading or in the possession of any communist periodicals.

I was in the Army for 3½ years and was honorably discharged in 1945. I served overseas in the CBI theater.

AARON J. LANDSMAN.

BROOKLYN 12, N. Y., May 22, 1949.

*To Whom This May Concern:*

I have known Dr. Isidore S. Edelman for the past few years and have worked with him intimately over this period of time.

During my entire professional and social contacts with him I have never had occasion to question his loyalty to America.

I have always been impressed by his intense devotion and interest in science and medicine. I have, on frequent occasions, heard him express an intense distaste for anything remotely related to a Communist ideology.

There is no question in my mind that Dr. Edelman is a loyal American of the highest order.

As a physician, I realize that interruption of his present research problems will be an intense loss to this country and medicine and mankind.

As for myself, I have served more than 2 years of active duty, during the past war, in the United States Army at various stations within the continental limits of the United States and overseas.

I consider Dr. Edelman a fellow American of unimpeachable loyalty.

J. LEONARD BRANDT.

MONTEFIORE HOSPITAL FOR CHRONIC DISEASES,  
New York 67, N. Y., May 22, 1949.

HON. BRIEN McMAHON,  
Senator, Chairman, Joint Congressional Atomic Energy Committee,  
Senate Office Building, Washington, D. C.

MY DEAR SENATOR: On the request of Dr. Isidore S. Edelman, I am sending you the following information from his file in our hospital:

Dr. Edelman applied for an appointment on the house staff of our hospital on December 23, 1946. You are, I believe, familiar with his qualifications and I need only add that his letters of recommendation were of such a high order that we had no hesitation in awarding him an externship on our division of neoplastic diseases for a period of 6 months in the first half of the year 1947. We were informed by one of his sponsors that he "made a distinguished record in college and in medical school." The dean of his medical school told us that he stood eighth in a graduating class of 116 and that he "possesses outstanding ability."

Dr. Edelman was promoted to the rank of resident physician on our division of neoplastic diseases and served in this capacity for the second half of 1947. On his graduation from our house staff he was awarded a Dazian fellowship in the sum of \$1,300 for research work on the medical division of our hospital over a period of 1 year beginning January 1, 1948.

I quote the following from his official record in our hospital:

"Edelman is excellent material. He has curiosity, thoroughness, intelligence, and sound knowledge with a very pleasant personality. I believe that he has a great future."

I owe it to you and to our compatriots to add that Dr. Edelman was highly regarded by all circles in our hospital without exception. My personal impression of him is that of an unusually promising young medical scientist. While we do not know Dr. Edelman's political affiliations, if any, it would surprise and shock everyone on our staff to learn that he had committed himself to communist doctrines. I have been asked by all those who know that I am addressing this letter to you to add that they consider him a strongly patriotic American whose passing interest in foreign ideologies is normal and in no way hurtful to the cause of our country.

Respectfully yours,

E. M. BLUESTONE, M. D., Director.

NEW YORK 67, N. Y., May 22, 1949.

HON. BRIEN McMAHON,  
*Chairman, Joint Congressional Committee,  
United States Senate, Washington, D. C.*

MY DEAR MR. SENATOR: Permit me to bring to your attention and to the attention of your committee a few data which may be of importance in evaluating the case of Dr. I. S. Edelman, now Atomic Energy Commission fellow under investigation:

1. I have known him since January 1947. At that time he came to see me because he wanted to work on the division of neoplastic diseases of the Montefiore Hospital. At that time his record was carefully scrutinized; excellent college record and medical school references, veteran, honorably discharged, having served as an officer and having attained the rank of captain in the United States Army. Upon my recommendation he was appointed as externe on the division of neoplastic diseases. His medical and personal performance were so outstanding that he was promoted after one-half year to the chief residency of the division. In January 1948 he joined the cardiovascular research of our hospital.

2. For 1 year I have had daily contacts with Dr. Edelman and during the second year I had briefer daily contacts with him. My evaluation is based upon these 2 years' experiences. He is an excellent young physician with deep scientific interests and good qualifications. He has shown an unusually kind attitude toward his patients. He worked literally day and night for the sake of the cancer sufferers, neglecting fully his financial and even his personal interests. I beg you to consider that I have seen him fight for the poor cancer patients with unending devotion. I have observed not one utterance which could have been interpreted as disloyal to the Government. I have not heard one comment favoring the Soviet Government or the Communist Party.

3. Your committee as well as I, a private citizen, is intensely interested in human welfare and concerned with the implications of a case like Dr. Edelman. Here is a man who is willing and able to put his talent for the sake of promoting science. As you well know, this means sacrifice for him and his family. Shall we discourage such research talents by exposing such young men to the adverse effects of public suspicion? Unless proven, no compromising statement should jeopardize a man's future. Who is going to risk the harm caused by such publicity? All our attempts have to be directed toward attracting qualified medical scientists to fight human misery.

I am at your disposal, sir; to testify under oath that Dr. I. S. Edelman has proven himself by action and words to be a loyal citizen of America.

I am

Very sincerely yours,

DANIEL LASZLO, M. D.,  
*Attending Physician, in Charge of  
Division of Neoplastic Diseases, Montefiore Hospital.*

MALVERNE, N. Y., May 22, 1949.

HON. SENATOR BRIEN McMAHON,  
*Senate Office Building, Washington, D. C.*

MY DEAR MR. SENATOR: I have known Dr. Isidore S. Edelman ever since January 1947, being closely associated with him during that year, and I wish to underwrite his newspaper statement with regard to his unswerving Americanism.

I first met Dr. Edelman when we were both on the staff of the Montefiore Hospital, New York, where I served subsequent to being graduated from Cornell University Medical College and serving  $2\frac{1}{2}$  years in the Army Medical Corps.

Dr. Edelman and I had several discussions on politics and his open-mindedness and lack of political rigidity left no doubt that Dr. Edelman could not possibly be a Communist. His intellectual integrity is beyond reproach. In addition to being a man of excellent moral fiber, he is also a man of unusual scientific ability. If the fellowship is taken away from Dr. Edelman because of questionable accusations, not only would he suffer but scientific medicine would be deprived of an excellent contributor.

On the above bases, may I urge that Dr. Edelman be given every consideration and that he be allowed to retain his fellowship.

Very truly yours,

ROBERT J. MICTOM, M. D.

NEW YORK 51, N. Y., May 22, 1949.

HON. BRIEN McMAHON,  
*United States Senate, Washington, D. C.*

DEAR SENATOR McMAHON: I have known Dr. Isidore S. Edelman for the full years 1947 and 1948 in almost daily contact when he was a house officer at the Montefiore Hospital in New York City. On no occasion did Dr. Edelman ever indicate in his speech or actions any evidence of disloyalty to the Government of the United States. On the contrary, in many conferences with him I was deeply impressed with his sincerity, high moral character, loyalty, and devotion to duty. As a former commander in the Medical Corps of the United States Naval Reserve I would perhaps have been particularly sensitive to any suggestion of disloyalty on his part. During the period in which I have known him well, however, Dr. Edelman always behaved in an exemplary and loyal manner.

As a young medical scientist he had and continues to show great promise. His originality and ability are of a distinctly superior kind and these, coupled with his hard working habits, give every promise of development of a valuable scientist. It is my firm conviction that disruption of Dr. Edelman's further scientific training and development would be a loss to American medical science.

Very sincerely yours,

H. M. ZIMMERMAN, D. C.,  
*Chief, Laboratory Division, Montefiore Hospital.*

BROOKLYN, N. Y., May 22, 1949.

HON. BRIEN McMAHON,  
*Chairman, Joint Congressional Committee, Washington, D. C.*

DEAR SIR: I am writing this letter on behalf of Dr. Isidore Edelman whom I have known since 1944 at which time he was in interne at the Greenpoint Hospital in Brooklyn.

In all the time I have known him I have never, by word or deed, found Dr. Edelman to be anything but a loyal American. Certainly nothing in my contacts with him would lead me to believe that he has any interest in communism.

Very sincerely yours,

SANFORD KAMINSTER, M. D.,  
*Assistant Professor of Clinical Obstetrics and Gynecology,  
 Long Island College of Medicine,  
 Visiting Obstetrician and Gynecologist,  
 Greenpoint Hospital.*

NEW YORK 23, N. Y., May 22, 1949.

SENATOR BRIEN McMAHON,  
*Senate Office Building, Washington, D. C.*

DEAR SENATOR: Having heard that your committee is investigating the AEC fellowship of Dr. Isidore Edelman, I am anxious to present the following information:

I was associated with Dr. Edelman during the year of 1948, in my capacity as assistant resident in medicine at the Montefiore Hospital, New York. I need not attest to his brilliant scientific capacity, as better qualified persons have already done so.

During that year I remember several (perhaps three or four) lunch-table conversations on political issues in which both Dr. Edelman and I participated. Dr. Edelman always exhibited the lively and informed interest in public affairs which characterize our most useful citizens. He always presented his point of view with two characteristics germane to the present investigation and hearing:

(1) His statements were obviously his own, and they showed a loyal interest in the Government of the United States and in its improvement. Dr. Edelman never presented his opinions in the rigid, stereotyped, and repetitious pattern used by those who are impelled to conform to the Communist stencil. It should be added that because of my own interest in government I am familiar with the usual patterns of Communist thought and speech.

(2) Dr. Edelman always exhibited a temperate interest in the views of others in these discussions, contrary (in my experience) to the inflexible attitude of Communist-minded persons toward dissenters.

Since a letter such as this offers character information, it seems reasonable to indicate something about its author: I am an American-born citizen. My

formal education was at Horace Mann School, New York City; at Harvard College; and at the college of physicians and surgeons, Columbia University. My post-graduate medical training has been at Lenox Hill, Mount Sinai, and Montefiore Hospitals, all in New York City. I served 3 years in the Navy during World War II and hold a Reserve commission. I am not, and have never been, a Communist.

Although this letter is written primarily to support Dr. Edelman, I should like to add my belief that, for the good of the Nation, the criteria for Government support of education and research should permit the inclusion of such men in the program. If we do not encourage and support the cream of our crop, other countries will outstrip us. Second-rate scientists are many; first-rate scientists are few.

Respectfully and sincerely yours,

HOWARD D. ZUCKER, M. D.

BROOKLYN 3, N. Y., May 22, 1949.

HON. BRIEN McMAHON,  
*Chairman, Joint Congressional Commission on Atomic Energy,  
United States Senate, Washington, D. C.*

DEAR SENATOR McMAHON: I have known Dr. Isidore S. Edelman since July 1947. I know him to be a good patriotic American citizen and an outstanding scientist. I can wholeheartedly attest to his patriotism, his honesty to himself, his profession, and his country. I know that he is not interested in any party or political ideology adverse to that of the United States. I have personally been present when, in discussion with friends, he made statements that he is opposed to communism, communistic ideology, and Soviet Russia.

I strongly feel that if Dr. Edelman is not allowed to continue with his scientific investigation in his present capacity, it would be of untold detriment to the American way of government, let alone to the advancement of American science.

Very truly yours,

JACOB P. HALPERIN, M. D.

CEDARHURST, N. Y., May 23, 1949.

Senator BRIEN McMAHON,  
*Chairman, Joint Congressional Committee on Atomic Energy,  
Washington, D. C.*

DEAR SENATOR McMAHON: The recent charges emanating from the Joint Congressional Committee on Atomic Energy questioning the loyalty of Dr. Isidore S. Edelman have shocked me greatly.

I am a colleague of Dr. Edelman's and was closely associated with him professionally and socially from July 1947 to January 1949. During this period we frequently and freely discussed many topics. At no time did he ever give me cause to doubt his loyalty to our country and its Government. It is my conviction that he is a loyal and patriotic American.

I am confident that the accusations impugning the loyalty and integrity of Dr. Edelman will be found false. He should be allowed to continue his important and brilliant work as a research fellow and thus contribute to our Nation's progress.

Respectfully yours,

HAROLD M. GORDON, M. D.

NEW YORK CITY, May 23, 1949.

Senator BRIEN McMAHON,  
*Chairman, Joint Congressional Committee,  
Atomic Energy Control, Washington, D. C.*

DEAR SENATOR McMAHON: As one of those who have had the opportunity of observing the scientific work and personal behavior of Dr. Isidore S. Edelman during the period that he was closely associated with my staff at the Montefiore Hospital, I was deeply shocked by the newspaper and radio reports referring to his alleged connection with a Communist organization and his supposed lack of sufficient loyalty to warrant his clearance for atomic energy research. Having been a willing and enthusiastic sponsor of Dr. Edelman for various positions, including his AEC fellowship, I feel responsible for his performance both as a scientist and as a member of a democratic society.

I do not know the exact criteria employed to determine the degree of loyalty of an American citizen, but I do know that in all my personal association with Dr. Edelman, involving the usual free and open discussions on all sorts of topics with a group of young men who are keenly interested in world affairs as well as in their professional activity, I have never heard him profess any views that might in the remotest degree be considered as subversive or Communist, or whatever other term one may choose to describe disloyal attitudes. As a matter of fact, one of the outstanding characteristics of Dr. Edelman's personality is his sane and measured judgment and his reluctance to take an extreme view on any subject; he always applies the scientific criterion of the validity of the evidence for opinions of others or himself, and carefully avoids drawing conclusions on an irrational or emotional basis. It is inevitable that in a time like this, when various social experiments are being conducted by governments and other groups in various countries, numerous ideas will be discussed among any group of intelligent people. I cannot recall, even during such off-guard conversations as occur over the lunch table, that Dr. Edelman ever manifested any sympathy with authoritarian doctrine or practice, or displayed any more than the normal American's privilege to complain about the status quo. When he did so, it was always in the spirit of examining the situation scientifically, of proceeding to necessary changes and reforms by evolution, and of working within the democratic processes. It would take only a few minutes of conversation with him to realize that he is not easily swayed by hysterical or subtle propaganda and that he has a solidity of character which, of itself, would preclude any possible room for the slightest disloyalty to those American institutions that are worth preserving.

I shall not take up your time with an account of his professional ability, his devotion to the ideals of scientific research for the ultimate benefit of humanity, the universal affection and esteem in which he is held by his colleagues and his teachers, and other attributes of his life and character which I am certain have already been amply elaborated by others. Nor is it necessary for me to emphasize what I am certain has long been apparent to you, namely, that the selection of a man for a scientific research fellowship should be based on merit and aptitude alone and not on his color, creed, race, or legitimate political views. I suppose it is still the privilege of American university students to attend occasional lectures or meetings of various extreme groups, just as it is their right to indulge in the experience of alcoholic intoxication or other activity which every normal youth samples as part of his inborn human curiosity. I would hate to see the day when college students would be hampered in the reasonable expression of their curiosity regarding all human activities by the thought, or the fear, that some day their entire career might be ruined by the public exposure of a long-forgotten experience which has no present relevance.

This happens to be a tough period in American life both as to relations among our own citizens and with those of other countries. The methods of psychological warfare are so highly developed now that it is most important to protect the less experienced or the more gullible of our population against inroads from undemocratic sources. However, to select for this justifiable defense an attack upon an innocent and relatively helpless individual member of the scientific society is to play into the hands of the real enemies of democracy. It's the old story of conviction by smear publicity before a hearing. No public vindication after this publicity will ever completely remove the mud that has been splashed over the character of Dr. Edelman. The only comfort he and his friends may have will be the feeling that in some respects his public investigation will forge one more link in the chain of united resistance of the loyal intellectual community to the onslaught of misguided patriots who, in their zeal to achieve more important ambitions, direct the public's attention to a few scapegoats, and in this way becloud the great issues of the day. As one who has had a great deal of experience in these matters, especially in relation to the control of atomic energy, you will understand exactly what I mean.

Having full faith in the strong sense of justice that motivates the members of your committee, I am certain you will clear Dr. Edelman of any suspicion of subversive activity or interests, and will make every effort to restore him as fully as is possible to his respectable position as a seeker of scientific truth; anything less than this would in the long run be more unfortunate for this country than for him.

Sincerely yours,

LOUIS LEITER, M. D.,  
*Chief, Medical Division.*

NEW YORK, N. Y., May 21, 1949.

Hon. BRIEN McMAHON,  
*Chairman, Joint Congressional Committee on Atomic Energy,  
 United States Senate, Washington, D. C.:*

We have known Dr. Isidore S. Edelman for 10 years and can vouch for his loyalty to the United States Government.

DAVID WEINER, M. D.  
 IRWIN BLEIWEISS, M. D.

NEW YORK, N. Y., May 21, 1949.

Hon. BRIEN McMAHON,  
*Chairman, Joint Congressional Committee on Atomic Energy,  
 United States Senate, Washington, D. C.:*

I have known Dr. Isidore S. Edelman personally and professionally from January 1947 to December 1948 as a member of the house staff of Montefiore Hospital. I can unequivocally state that he has excellent moral character. His material in intellectual honesty is unrepachable. He has during my association with him shown loyalty to the Government of the United States. At no time during this period has he been guilty of subversive activities. He has demonstrated beyond doubt that he has exceptional professional and scientific abilities. I and all persons who have known him strongly believe that he has and will make great contributions to American medicine.

JOSEPH S. KRAKAUER, M. D.

NEW YORK, N. Y., May 21, 1949.

Senator BRIEN McMAHON,  
*Chairman, the Senate Atomic Energy Commission,  
 Washington, D. C.:*

We the undersigned members of the social service department of Montefiore Hospital, New York City, were closely associated with Dr. Isidore S. Edelman, whose appointment to an AEC research fellowship is now being questioned during his residency and research fellowship here. We found him to be not only a man of great integrity and honesty but also a loyal and devoted advocate of American democratic ideals and principals.

MARION THURMAN,  
 BESSIE G. SCHLESS,  
 NANETTE EMANUEL,  
 JUNE DEUTSCH,  
 MOLLIE SKODNIK.

BLOOMINGTON, IND., May 21, 1949.

SENATOR BRIEN McMAHON,  
*Chairman, Joint Congressional Committee on Atomic Energy,  
 United States Senate, Washington, D. C.:*

This message I am sending on behalf of Dr. Isidore Edelman who is currently under investigation by the committee for alleged communistic activity. I knew Dr. Edelman rather well during 1940-42 while he was an undergraduate at Indiana University. He was a brilliant student and of high character during those years. I am confident that he did not have Communist affiliations. Whatever may have been his associations in the intervening years, I have reason to believe that he is not now either a party member or a fellow traveler. I trust that the committee will grant him the consideration due an able scientist and loyal citizen.

HENRY VEATCH,  
*Associate Professor of Philosophy, Indiana University.*

NEW YORK, N. Y., May 22, 1949.

Senator BRIEN McMAHON,  
*United States Senate, Washington, D. C.:*

We the undersigned members and former members of the Montefiore Hospital house staff have been professionally and personally associated with Dr. Isidore S. Edelman during the period from January 1947 to December 1948.

We unequivocally state that by every word and deed he has been consistently loyal to the Government of the United States and that he is of exceptional moral character. His material and intellectual honesty is above reproach. We have never known him to be guilty of any subversive or potentially subversive action. He has always demonstrated to us his profound scientific and professional abilities. He has and will continue to make significant contributions to the advancement of American medical science.

We believe that it would be of untold detriment to our country's progress if loyal individuals such as Dr. Edelman were to be deprived of support in their education and investigation.

Drs. A. Mund, J. Halperin, H. Mark, T. Spaet, S. Mishkin, J. Krakauer, A. Sanders, S. Bernstein, M. Fenichel, A. Kantrowitz, A. Buchberg, H. Gordon, W. Sata, R. Weston, D. Escher, J. Grossman, H. Zucker, S. Eger, W. Ruberman, B. August, R. Mokotoff, M. Fink, H. Blondheim, H. Lichtman, E. Kirsten, J. Parker, E. Cotlove, H. Abrams, E. Polin.

PATERSON, N. J., May 22, 1949.

Senator BRIEN McMAHON,  
*Senate Office Building, Washington, D. C.:*

We the undersigned have known Dr. Isadore S. Edelman as friend and classmate in college and in medical school at Indiana University. We have always known him to be loyal to the Government of the United States in word and deed. His integrity and honesty are beyond reproach. We sincerely feel that as a loyal American he be permitted to continue in his present capacity as research fellow at Harvard University.

ARNOLD R. SANDERS, M. D.  
 JOHN J. NUSSMAN, D. D. S.,  
 LOUIS A. ZUCKERMAN, M. D.

Kew GARDEN HILLS, N. Y., May 22, 1949.

BRIEN McMAHON,  
*Joint Congressional Committee,  
 United States Senate, Washington, D. C.:*

As a former member of the merchant marine I strongly protest your accusing Dr. Isidore Edelman of being a Communist. I have known him for the past 3 years, and he has proven by word and deed to be strongly anti-Communist and a very loyal American citizen. Our country will suffer a great loss if he is deprived of his fellowship.

HAROLD FELDMAN.

NEW YORK, N. Y.  
 May 22, 1949.

Senator BRIEN McMAHON,  
*Chairman, Joint Congressional Committee,  
 United States Senate, Washington, D. C.*

DEAR SENATOR: I wish to inform you that I have known Dr. Isidore M. Edelman intimately for the past 15 years.

I have found him 100 percent loyal to the United States of America and anticommunistic as evidenced by word and deed.

He is a brilliant research student in the field of medicine, and it would be a great loss to the United States to curtail his work because of completely false accusations.

Sincerely,

Dr. BRIER,  
 Bridgeport, Conn.

BROOKLYN, N. Y., May 22, 1949.

HON. BRIEN McMAHON,  
*Chairman, Joint Congressional Committee,  
United States Senate, Washington, D. C.:*

As a personal friend of Dr. Edelman never in the 16 years I have known him has he indicated communistic tendencies. He is a true and loyal American. Please aid him in clearing his name.

SEYMOUR DEUTSCH.

BROOKLYN, N. Y., May 22, 1949.

HON. BRIEN McMAHON,  
*Chairman, Joint Congressional Committee,  
United States Senate, Washington, D. C.:*

I am a childhood friend of Dr. I. S. Edelman. He is not a Communist and has never expressed any feelings toward communism. He is truly a loyal American. Help him so clear his name.

MILTON KREPS.

BROOKLYN, N. Y., May 22, 1949.

HON. BRIEN McMAHON,  
*Chairman, Joint Congressional Committee,  
United States Senate, Washington, D. C.:*

May I urge you to help clear the name of my old friend, Dr. Isidore S. Edelman. He is truly a loyal American and has no communistic tendencies.

AARON J. LANDSMAN.

BROOKLYN, N. Y., May 22, 1949.

HON. BRIEN McMAHON,  
*Chairman, Joint Congressional Committee,  
United States Senate, Washington, D. C.:*

Please help to clear the name of a fine American. I have known Dr. I. Edelman since childhood and have never heard him express sympathy toward the Communist Party.

JEROME ROSEMARIN.

BROOKLYN, N. Y., May 22, 1949.

HON. BRIEN McMAHON,  
*Chairman, Joint Congressional Committee,  
United States Senate, Washington, D. C.:*

During several years association with Dr. Isidore S. Edelman he has repeatedly demonstrated unswervingly loyalty to the United States and contempt of communism and its sympathizers.

DR. ISIDORE G. LIGHTMAN.  
MRS. IDA B. LIGHTMAN.  
MRS. HELEN L. HALPERIN.

BRIDGEPORT, CONN., May 23, 1949.

BRIEN McMAHON,  
*Chairman of the Joint Atomic Congressional Committee,  
Washington, D. C.:*

I have listed Dr. Isidore Edelman amongst my friends for many years and definitely know him to be a true and loyal American.

S. BRIER.

NEW YORK, N. Y., May 23, 1949.

Hon. BRIEN McMAHON,  
*Chairman, Joint Congressional Committee on Atomic Energy,  
 United States Senate, Washington, D. C.:*

We the undersigned members and former members of the Montefiore Hospital house staff wish to have our names added to the following testimonial already sent to you in support of Dr. Isidore S. Edelman. We the undersigned members and former members of the Montefiore Hospital house staff have been professionally and personally associated with Dr. Isidore S. Edelman during the period from January 1947 to December 1948. We unequivocally state that by every word and deed he has consistently been loyal to the Government of the United States and that he is of exceptional moral character. His material and intellectual honesty is above reproach. We have never known him to be guilty of any subversive or potentially subversive action. He has always demonstrated to us his profound scientific and professional ability. He has made and will continue to make significant contributions to the advance of American medical science. We believe it would be of untold detriment to our country's progress if a loyal individual such as Dr. Edelman were to be deprived of support in his education and investigation.

Drs. D. A. SACHS.  
 I. KARRON.  
 C. SHULMAN.  
 J. GOLDSTEIN.  
 J. L. BRANDT.  
 F. WIMPHEIMER.  
 R. MIGHTON.  
 B. SVEDLOW.

BRIDGEPORT, CONN., May 23, 1949.

BRIEN McMAHON,  
*Chairman of the Joint Atomic Congressional Committee,  
 Washington, D. C.:*

I have known Dr. Isidore Edelman a good many years and know him to be a loyal American.

MICHAEL BREINER.

BRIDGEPORT, CONN., May 23, 1949.

Senator BRIEN McMAHON,  
*Chairman of the Joint Atomic Congressional Committee,  
 Washington, D. C.:*

I have known Dr. Isidore Edelman a good many years and have always known him to be a good, loyal American citizen.

PHILIP SPEICHER.

BRIDGEPORT, CONN., May 23, 1949.

Senator BRIEN McMAHON,  
*Chairman of the Joint Atomic Congressional Committee,  
 Washington, D. C.:*

I have known Dr. Isidore Edelman for a good many years and have always known him to be a good and loyal American citizen.

MORRIS SPEICHER.

JACKSON HEIGHTS, N. Y., May 23, 1949.

Hon. BRIEN McMAHON,  
*Chairman, Joint Congressional Committee United States Senate,  
 Washington, D. C.:*

Dr. Isidore Edelman unquestionably patriotic citizen with allegiance only to American Government.

Dr. and Mrs. H. LICHTMAN.

BALTIMORE, Md., May 23, 1949.

Senator BRIEN McMAHON,

*Chairman, Joint Investigating Committee on Atomic Energy,  
Washington, D. C.:*

I have known Dr. I. S. Edelman since 1941. I went to medical school with him and served with him in the Army. Never in our many social and professional conversations did he express disloyal sentiments. I regard him as honest and patriotic.

M. T. EATON, M. D.

BOSTON, MASS., May 24, 1949.

Senator BRIEN McMAHON,

*Chairman Joint Committee on Atomic Energy, Washington, D. C.:*

Regarding case of Atomic Energy Commission fellow, Isadore Edelman, he is outstanding young scientist at present working in my department at Harvard Medical School. I would be glad to come to Washington to testify if this would be helpful to you and the members of your committee. Will await your instructions.

FRANCIS MOORE,  
*Professor of Surgery, Harvard Medical School.*

## ATOMIC ENERGY COMMISSION FELLOWSHIP CONTRACT WITH THE NATIONAL RESEARCH COUNCIL

CONTRACT No. AT-49-1-GEN-150

THIS CONTRACT, entered into this 18th day of August 1948, effective as of January 1, 1948, by the United States of America, represented by the United States Atomic Energy Commission (hereinafter called the Commission) and the National Academy of Sciences (hereinafter called the Contractor), a nonprofit organization organized under an Act of Congress of March 3, 1863 (12 Stat. 806), having its principal office at 2101 Constitution Ave., Washington 25, D. C.

### WITNESSETH THAT:

Whereas, a letter contract effective as of January 1, 1948, which is hereby superseded, was entered into between the Commission and the Contractor, in which it was agreed that negotiations should be undertaken for the execution of a definitive contract; and

Whereas, this contract is entered into under the Atomic Energy Act of 1946 in the interest of the common defense and security.

Now THEREFORE, the parties hereto mutually agree as follows:

### ARTICLE I. SCOPE OF WORK

In accordance with policies and programs from time to time agreed upon by the Commission and the Contractor (including the qualifications and methods of selection of Fellows, the general fields of work to be performed by the Fellows, the amount of fellowship stipends, and other conditions of fellowship awards), the Contractor shall:

- (a) Establish and administer a Research Fellowship Program in the physical sciences related to atomic energy;
- (b) Establish and administer a Research and Training Fellowship Program in the medical and biological sciences related to atomic energy.

### ARTICLE II. TERM OF WORK

(a) The term of this contract shall begin on January 1, 1948, and continue through June 30, 1950, and may thereafter be extended as agreed upon by the Commission and the Contractor. The Commission, by written notice, may terminate the contract in whole or in part at any time.

## ARTICLE III. REIMBURSEMENT FOR COSTS

(a) The Government shall reimburse the Contractor for all direct and indirect costs, determined in accordance with generally accepted accounting principles consistently applied, which are actually incurred by the Contractor in performing the work under this contract. These costs shall include the following:

(1) stipends to Fellows and expenses of Fellows reimbursed by the Contractor;  
 (2) overhead and expenditures for salaries, wages, subsistence or per diem in lieu thereof, services, supplies, taxes, premiums for such bonds or insurance as the Commission may require or approve, transportation and communication, equipment and apparatus, and any other cost which the Commission may approve or ratify;

(3) In the event that this contract is terminated by the Commission, the costs resulting from or attributable to the termination;

(4) any other costs and expenses not otherwise reimbursed, which are actually incurred by the Contractor in good faith arising out of or connected with the work under this contract. Any cost or expense actually incurred and claimed by the Contractor under this paragraph (a) (4) of Article III shall be reimbursed by the Government unless the Commission shall establish that such cost or expense resulted from wilful misconduct or bad faith on the part of some corporate officer or officers of the Contractor, or on the part of a person having general supervision over the work carried on under this contract. Any dispute as to whether such an item is reimbursable shall be determined pursuant to Article VII, Disputes, which determination shall be binding on the Contractor and the Government. The total amount of expenditures under this contract for which the Contractor shall be entitled to reimbursement shall not exceed \$1,177,200, to be a charge such obligatory authority as the Commission may designate.

(b) Reimbursement under the foregoing provisions shall be without duplication of any items.

(c) Any revenues received by the Contractor in connection with work under this contract shall be accounted for by the Contractor and applied by the Contractor in reduction of the cost of work under the contract.

## ARTICLE IV. PARTIAL AND ADVANCE PAYMENTS

(a) Partial and advance payments on account of costs including overhead may be made by the Commission upon application of the Contractor. Advances shall be deposited only with banks which are members of the Federal Reserve System or other banks which are approved by the Commission.

(b) At such intervals as shall be mutually agreed upon, but not less often than once a year, the Commission, in consultation with the Contractor, shall review in accordance with generally accepted accounting principles consistently applied the amount of costs including overhead actually incurred by the Contractor in the performance of the work during the preceding interval. Any excess of payments on account of costs above actual costs including overhead for the same period shall be applied by the Contractor in reduction of the cost of work under this contract or, if the Commission so directs, refunded promptly to the Government. Any deficit in payments to the Contractor shall be paid promptly to the Contractor by the Government.

## ARTICLE V. TITLE TO AND DISPOSITION OF PROPERTY

(a) Except as otherwise directed by the Commission, title to all property acquired by the Contractor, for which the Contractor shall be reimbursed or entitled to reimbursement under this contract, which is not expended in the course of performing the contract, shall vest in the Government when title passes from the vendor.

(b) The Contractor shall not be liable for the loss or destruction of or damage to such property unless the Commission shall establish that such loss, destruction, or damage resulted from the wilful misconduct or bad faith of a corporate officer or officers of the Contractor, or of a person having general supervision over the work carried on under this contract.

(c) Within a reasonable time after the termination of this contract, the Contractor shall render, in accordance with procedures agreed upon by the parties, an accounting of all property not theretofore expended in performance of the contract.

(d) Unless otherwise directed by the Commission, the Contractor may sell or retain any such property upon application of the proceeds of sale or the fair value thereof (to be determined according to procedures agreed upon between the Commission and the Contractor) in reduction of the costs under the contract.

#### ARTICLE VI. RECORDS, INSPECTIONS, AND REPORTS

(a) The Contractor shall maintain such accounting and other records as the Commission may require or approve.

(b) The Commission may inspect such records, and may also inspect all activities and facilities of the Contractor relating to work under this contract and to the activities of Fellows.

(c) The Contractor shall make such reports concerning its activities and progress under this contract and require such reports from Fellows concerning their activities during the period of their fellowships, as the Commission may from time to time require.

#### ARTICLE VII. DISPUTES

All disputes which may arise under this contract, and which are not disposed of by mutual agreement, shall be decided by a representative of the Commission duly authorized to supervise and administer performance of the work under this contract, who shall reduce his decision to writing and mail a copy thereof to the Contractor at its address shown herein. Within thirty days from receipt of such notice, the Contractor may appeal in writing to the Commission, whose written decision or that of its other designated representative or representatives or board thereon shall be final and conclusive. Pending decision of a dispute the Contractor shall diligently proceed with the performance of this contract.

#### ARTICLE VIII. PATENTS

(a) The Contractor agrees to award fellowships subject to the following conditions:

(1) That no claim for a pecuniary award or just compensation under any provisions of the Atomic Energy Act of 1946 shall be asserted by the Fellow as to any inventions or discoveries made or conceived during the period of a fellowship; and

(2) That the Commission reserves the right to determine the disposition of title to and rights in and to any inventions or discoveries made or conceived by the Fellow during the period of the fellowship.

(b) The Contractor agrees to assist the Commission in securing from Fellows necessary technical information concerning such inventions or discoveries.

#### ARTICLE IX. DISCLOSURE OF INFORMATION

(a) It is understood that disclosure of classified information relating to the work under this contract to any person not entitled to receive it, or failure to safeguard all top secret, secret, confidential and restricted matter that may come to the Contractor or any person under its control in connection with the work under this contract, may subject the contractor, its agents, employees, and subcontractors to criminal liability under the laws of the United States. See the Atomic Energy Act of 1946 (Public Law 585, 79th Congress). See also Title I of an Act approved June 15, 1917 (40 Stat. 217; 50 U. S. C. 31-42), as amended by an Act approved March 28, 1940 (54 Stat. 79); and the provisions of an Act approved January 12, 1938 (52 Stat. 3; 50 U. S. C. 45-45d), as supplemented by Executive Order No. 8381, dated March 22, 1940 (5 F. R. 1147).

(b) The Contractor agrees to conform to all security regulations and requirements of the Commission. Except as the Commission may authorize, in accordance with the provisions of the Atomic Energy Act of 1946, the Contractor agrees

not to permit any individual to have access to restricted data until the Federal Bureau of Investigation shall have made an investigation and report to the Commission on the character, associations, and loyalty of such individual and the Commission shall have determined that permitting such person to have access to restricted data will not endanger the common defense or security. The term "restricted data" as used in this paragraph means all data concerning the manufacture or utilization of atomic weapons, the production of fissionable material, or the use of fissionable material in the production of power, but shall not include any data which the Commission from time to time determines may be published without adversely affecting the common defense and security.

(c) It is expected that the work of the Contractor under this contract generally will not involve "restricted data." In the event doubt exists as to whether any data received by the Contractor in the course of performing this contract constitutes "restricted data," the Contractor, prior to releasing any such data, shall consult the Commission about measures which should be taken to safeguard such data.

#### ARTICLE X. ASSIGNMENT OR TRANSFER

Neither this contract, nor any interest or claim relating to this contract, shall be assigned or transferred, except with the prior approval of the Commission in writing.

#### ARTICLE XI. ANTIDISCRIMINATION

(a) The Contractor, in performing the work required hereunder shall not discriminate against any applicant for a fellowship because of race, creed, color, or national origin.

(b) This Article shall be applicable to the extent provided by law.

#### ARTICLE XII. OFFICIALS NOT TO BENEFIT

No member of or delegate to Congress or resident commissioner shall be admitted to any share or part of this contract or to any benefit that may arise therefrom.

#### ARTICLE XIII. DEFINITIONS

The term "Commission" as used in this contract means the United States Atomic Energy Commission or its duly authorized representative or representatives.

The term "Fellow" as used in this contract means any person awarded a fellowship by the Contractor in accordance with the provisions of this contract.

UNITED STATES OF AMERICA

By Carroll L. Wilson

CARROLL L. WILSON

*General Manager, United States Atomic Energy Commission.*

NATIONAL ACADEMY OF SCIENCES

By ALFRED N. RICHARDS, *President.*

CONTRACT No. AT-49-1-GEN-150, MODIFICATION No. 1

MARCH 22, 1949.

NATIONAL RESEARCH COUNCIL,  
National Academy of Sciences, Washington, D. C.

GENTLEMEN: The above-numbered contract is amended by substituting for the last sentence of article III (a) (4) the following sentence: "The total amount of expenditures under this contract for which the Contractor shall be entitled to reimbursement shall not exceed \$2,850,000, to be a charge upon such obligational authority as the Commission may designate"; and by substituting in line 2 of article II (a) the date "June 30, 1952" for the date "June 30, 1950."

UNITED STATES OF AMERICA,  
By CARROLL L. WILSON,  
General Manager, U. S. Atomic Energy Commission.

Accepted.

NATIONAL ACADEMY OF SCIENCES IN BEHALF OF NATIONAL RESEARCH COUNCIL.

By \_\_\_\_\_  
Title \_\_\_\_\_

## COST OF FELLOWSHIPS

The basic stipend schedule was determined by the National Research Council in accordance with criteria specified by the Atomic Energy Commission. A number of points were considered in establishing the schedule:

- Consistency with stipends paid by comparable fellowship programs.
- Cost of living and economic conditions.
- Provision of subsistence for dependents, etc.

The schedule now in effect provides:

	Predoctoral	Postdoctoral
Basic stipend.....	\$1,600	\$3,000
Subsistence for wife.....	500	500
Subsistence for first child.....	250	250
Subsistence for second child.....	250	250
Maximum allowed.....	2,600	4,000

<sup>1</sup> Assumes fellow is in at least the second year of graduate work. In the case of predoctoral fellowships in biology and medicine, there are some first year graduate fellowships at \$1,500 basic stipend.

In general, it is expected that the average duration of the predoctoral fellowship will be 2 years. Some will be for 1 year or less and in a few unusual cases the fellowship may continue for 3 years. In the case of postdoctoral fellowships, the maximum period will be 2 years.

The total cost of a fellowship includes: Stipend, university fees, including tuition and other fees required by the university of all students with similar university status, and in a few cases research equipment, travel to the institution (but not return) for the fellows only (not dependents), in many cases the fellow will already be in residence, and administrative costs of the National Research Council. Expenses to date (less than one full year's experience), indicate that the average total annual cost per fellow will be:

Predoctoral, 1 year..... \$3,200  
Postdoctoral, 1 year..... 4,800

**FELLOWSHIPS AWARDED**  
*Recapitulation of fellowship awards*

	Awards made to date		Total fellowship level (includes new awards and renewals)		
	1948 <sup>1</sup>	1949	Fiscal year 1949	Fiscal year 1950	Fiscal year 1951
<b>Physical science:</b>					
Predoctoral.....	147	120	146	300	300
Postdoctoral.....	11	23	11	40	50
Subtotal.....	158	143	157	340	350
<b>Biology and medical sciences:</b>					
Medical postdoctorals.....	25	24	100	173	200
Biology postdoctorals.....	7	13	50	89	100
Biology predoctorals.....	55	45	175	312	350
Technical (health physics).....	17	0	25	50	50
Subtotal.....	104	82	350	624	700
Grand total, all fellowships.....	261	225	507	964	1,050

<sup>1</sup> Fellowships granted during 1948 become active in fiscal year 1949.

*Atomic Energy Commission postdoctoral fellowships in the physical sciences, National Research Council*

FELLOWS APPOINTED IN 1949 (APR. 6, 1949 MEETING)

Name	Location and supervisor	Field of specialization	Term	Stipend
Bender, Myron L.	Harvard University: P. D. Bartlett.	Organic chemistry, reaction mechanisms.	Sept. 1, 1949-Aug. 31, 1950	\$3,000
Burr, Frank P.	California Institute of Technology: J. G. Kirkwood.	Statistical mechanics of liquids both equilibrium and nonequilibrium.	Aug. 1, 1949-July 31, 1950	3,000
Castellan, Gilbert W.	Carnegie Institute of Technology: F. Seitz.	Reaction kinetics, theoretical physics.	Oct. 15, 1949-Oct. 14, 1950	3,000
Clapp, Roger E.	Massachusetts Institute of Technology: H. Feshbach.	Theoretical nuclear physics.	July 1, 1949-June 30, 1950	3,000
Cooke, William D.	Princeton University: N. Howell Furman.	Development of electrical methods of analysis.	Sept. 1, 1949-Aug. 31, 1950	3,750
Glauber, Roy J.	Institute for Advanced Study: W. Pauli, Jr.	Theories of elementary particles and atomic nuclei.	Sept. 28, 1949-Sept. 25, 1950	3,000
Goldstein, Herbert.	Massachusetts Institute of Technology: V. Weisskopf.	Relativistically invariant meson theories to the explanation of nuclear forces.	Sept. 15, 1949-Sept. 14, 1950	3,000
Gomer, Robert.	Harvard University: G. B. Kistiakowsky.	Reaction kinetics photochemistry, solid state, spectroscopy.	do.	3,000
Gordon, Maxwell.	University of California: Melvin Calvin.	Organic chemistry, reaction mechanisms, and isotopic tracers in biology.	July 1, 1949-June 30, 1950	3,000
Griffith, Wayland C.	Princeton University: W. Gleason.	Study of shock waves.	Oct. 1, 1949-Sept. 30, 1950	3,000
Jungerman, John A.	Cornell University: H. A. Bethe.	Mechanism of fission produced by high-energy projectiles.	Sept. 15, 1949-Sept. 14, 1950	3,500
Kasha, Michael.	University of Chicago: R. S. Milliken.	Molecular optical phenomena.	do.	3,500
Keplin, George R., Jr.	University of California: E. Segre.	Nuclear physics, measurement of neutro distributions.	Oct. 15, 1949-Oct. 14, 1950	3,750
Koshland, Daniel.	Harvard University: P. D. Bartlett.	Mechanisms of organic reactions.	Oct. 1, 1949-Sept. 30, 1950	3,750
Peaslee, David C.	E. T. H. Zurich, Switzerland: P. Scherrer.	Nuclear structure and reactions.	Sept. 1, 1949-Aug. 31, 1950	3,500
Shuler, Kurt E.	Johns Hopkins University: F. I. McClure.	Quantum mechanics and statistical mechanisms to rate processes.	July 1, 1949-June 30, 1950	3,500
Shulman, Robert G.	Cambridge University (England): G. B. B. M. Sutherland.	Microwave spectroscopy.	Sept. 1, 1949-Aug. 31, 1950	3,000
Skinner, Miriam.	University of California: E. O. Lawrence.	Nuclear physics.	Oct. 15, 1949-Oct. 14, 1950	3,000
Stonick, Murray.	Institute for Advanced Study.	Reaction kinetics and mechanisms.	July 1, 1949-June 30, 1950	3,000
Stevenson, Peter C.	University of California: G. Seaborg.	Natural kinetics and mechanisms.	Oct. 1, 1949-Sept. 30, 1950	3,500
Welsborn, Frank L.	Harvard University: R. B. Woodward.	Natural products, isolation, proof of structure, synthesis.	Oct. 10, 1949-Oct. 9, 1950	4,000
Whaling, Ward.	California Institute of Technology: C. C. Lauritsen.	Nuclear reactions in the light elements.	Sept. 1, 1949-Aug. 31, 1950	3,000
Wright, Arianna.	Stanford University: F. Bloch.	Nuclear resonance phenomena.	Sept. 15, 1949-Sept. 14, 1950	3,000

*Atomic Energy Commission postdoctoral fellowships in the physical sciences, National Research Council—Continued*

FELLOWS APPOINTED IN 1948

Name	Location and supervisor	Field of specialization	Term	Stipend
Akutowicz, Edwin J.	Institute for Advanced Study: J. von Neuman.	Mathematics, operator theory, functional analysis.	Aug. 1, 1948–July 31, 1949	\$2,000
Eyres, Leonard	University of Adgbaston (England): K. E. P. P. P.	Distribution of scattered electrons in cosmic-ray extension showers.	Sept. 1, 1948–Aug. 31, 1949	3,400
Feldman, David	Institute for Advanced Study: J. R. Oppenheimer.	Higher order approximations in the meson theory of nuclear theory	Jan. 31, 1949–Feb. 1, 1950	3,400
Fireman, Edward L.	Princeton University: M. G. White.	Double beta decay	Nov. 17, 1948–Nov. 16, 1949	3,700
Guckstein, Robert L.	University of California: R. Serber.	Problems in electromagnetic theory arising in high energy nuclear acceleration of bound fraction in polycyclic systems	Aug. 10, 1948–Aug. 13, 1949	3,400
Hunsberger, I. Moyer	University of Illinois: C. S. Marvel	Determination of bond fraction in polycyclic systems	Oct. 1, 1948–Sept. 30, 1949	4,000
Kierstead, Henry A.	Institute for Advanced Study: W. F. Libby.	Use of radioactive tracers to investigate chemical problems.	July 1, 1948–June 30, 1949	3,000
Lepore, Joseph V.	Institute for Advanced Study: J. R. Oppenheimer.	Theory of nuclear forces.	Sept. 1, 1948–Aug. 31, 1949	3,400
Rosenberg, Jerome L.	University of Chicago: J. Moyer.	Second order effects in the diffusion of polymer solutions.	Sept. 27, 1948–Sept. 26, 1949	3,400
Spruch, Lawrence	Massachusetts Institute of Technology: H. Feshbach.	Theory of light nuclei with emphasis on B-decay.	Sept. 28, 1948–Sept. 28, 1949	3,000
Wilson, Earl A.	University of Chicago: W. F. Libby.	Dielectric properties of alkali-halide crystals.	July 1, 1948–June 30, 1949	4,000

*Atomic Energy Commission predoctoral fellowships in the physical sciences, National Research Council*

FELLOWS APPOINTED IN 1949 (MAR. 19 AND 20 MEETING)

Name	Location and supervisor	Field of study	Term	Stipend
Adair, Robert K.	University of Wisconsin: H. H. Barsehall.	Interactions of neutrons with nuclei and the study of nuclear isomeric levels.	Sept. 15, 1949–Sept. 14, 1950	\$1,600
Albenusius, Edward L.	University of North Carolina: Arthur Roe.	Tracer work with carbon-14.	do.	1,600
Aronson, Raphael.	Harvard University: J. Swinger.	Theoretical physics, quantum mechanics.	July 1, 1949–June 30, 1950	1,600
Aurora, Silvio.	Columbia University: E. R. Lorch.	Normed abelian rings and their applications.	do.	1,600
Austern, Norman	University of Wisconsin: R. G. Sachs.	Theoretical nuclear physics.	do.	1,600
Bannister, Robert G.	University of Illinois: R. C. Fuson.	Organic chemistry.	Sept. 1, 1949–Aug. 13, 1950	1,600
Bengelsdorf, Irving S.	University of Illinois: M. S. Kharasch.	Reactions of free radicals in solution.	July 1, 1949–June 30, 1950	1,600
Biles, John A.	University of Colorado.	Determination of optical and crystallographic properties and gonometric measurements of metabolites and antibiotics and similar compounds containing tracer elements.	April 1, 1949–Mar. 31, 1950	2,600

Bloom, Stewart D.	University of Chicago: Dr. Fermi or Dr. Si Simpson.	Nuclear and atomic physics	Aug. 15, 1949-Aug. 14, 1950	1,600
Bratman, Fred.	University of Michigan: E. D. Rainville	Mathematics	Sept. 15, 1949-Sept. 14, 1950	1,600
Brown, Richard H.	Columbia University: B. O. Koopman	Linear partial differential-difference equations as applied to the theory of combat.	Aug. 15, 1949-Aug. 14, 1950.	1,600
Bruner, Joseph A.	Indiana University: L. M. Langer.	Nuclear physics	Sept. 1, 1949-Aug. 31, 1950.	1,600
Canac, Morton	Cornell University: R. R. Wilson.	Nuclear physics	(C)	1,600
Cerwonka, Edward	Fordham University: Ellis Brown.	Study of organic reaction mechanisms	July 1, 1949-June 30, 1950.	1,600
Chupka, William A.	University of Chicago: J. E. Mayer	Atomic and molecular structure	do.	1,600
Cleland, Marshall R.	Washington University: S. DeBenedetti.	Crystal counters for the detection of nuclear radiations.	Sept. 1, 1949-Aug. 31, 1950.	2,100
Conroy, Harold	Harvard University: Gilbert Stork	Organic chemistry (proof of structure and synthesis of natural products)	do.	2,100
Crawford, Jean V. (Miss)	University of Illinois: R. L. Frank	Reactions of peroxides derived from pyridine carboxylic acids	July 1, 1949-June 30, 1950.	1,600
Crowell, Albert D.	Brown University: H. E. Farnsworth	Chemical physics—surface phenomena, in particular, adsorption of gases by solids.	do.	2,100
Dalton, Richard L.	University of Illinois: J. C. Ballar, Jr.	Inorganic complex compounds.	do.	2,350
Davis, Stanley G.	University of Chicago: J. E. Mayer	Heats of sublimation of ionic crystals by effusion using radioactive tracers.	do.	1,600
Davis, Horace C.	Harvard University: Lynn Loomis	Mathematics	do.	2,100
Diven, Benjamin C.	University of Illinois: G. M. Almy	Experimental nuclear physics	Aug. 1, 1949-Sept. 30, 1950	1,600
Dressel, Ralph	University of Illinois: G. D. Adams	High energy X-rays or electrons from the betatron	July 1, 1949-June 30, 1950	2,100
Duncan, Donald B.	California Institute of Technology: C. C. Lauritsen	Nuclear physics	do.	2,350
Dye, Henry A.	University of Chicago: I. E. Segal.	Mathematics—locally convex algebras	do.	1,600
Ellman, J. B.	Princeton University: E. P. Wigner.	Theoretical nuclear physics	Oct. 15, 1949-Oct. 14, 1950	1,600
Ellis, James W.	Tulane University: B. F. Pettis	Pure mathematics	July 1, 1949-June 30, 1950	1,600
Englund, Bruce	University of Illinois: Roger Adams	Addition reactions and properties of alpha-acetamidoacrylic acid.	July 1, 1949-June 30, 1950	2,350
Fennell, Joseph B.	Princeton University: S. J. Schetz	Mathematics—analysis in the large	Sept. 1, 1949-Aug. 31, 1950	2,350
Ferrell, Richard A.	Princeton University: E. Wigner	Theoretical nuclear research and quantum mechanics	Sept. 19, 1949-Sept. 18, 1950	1,600
Ford, Gilbert C.	Harvard University: K. T. Bainbridge	Nuclear physics—mass spectroscopy	July 1, 1949-June 30, 1950	2,100
Freilich, Gerald	Brown University: H. Federer.	Mathematics	do.	1,600
Freistadt, Hans	University of North Carolina: Nathan Rosen	Theoretical physics	do.	1,600
Frye, G. M., Jr.	University of Michigan: M. L. Wiedenbeck	Determination of nuclear energy levels by inelastic scattering	do.	2,100
Geller, Leonard	Massachusetts Institute of Technology: Norbert Wiener	Various asymptotic formulae for arithmetical functions.	June 13, 1949-June 12, 1950	2,350
Gell-Mann, Murray	Massachusetts Institute of Technology: V. F. Weisskopf	Nuclear physics and elementary particle physics.	Aug. 1, 1949-Sept. 30, 1950	1,600
Gier, Thurman E.	Researcher Polytechnic Institute: J. Hoesler	Solvent extraction efficiency	Sept. 20, 1949-Sept. 19, 1950	2,600
Goad, Walter B., Jr.	Duke University: L. W. Nordheim	Theory of the extensive showers of cosmic radiation.	Sept. 15, 1949-Sept. 14, 1950	1,600
Golden, Harold R.	Warner University: W. J. Bailey	Dimethylene-cyclohexane and cyclohexane derivatives	July 1, 1949-June 30, 1950	2,600
Goldring, Lionel S.	Massachusetts Institute of Technology: C. C. Corvall	The ionization constants of some electrolytes	do.	1,600
Gray, Sidney	Rutgers University: H. G. Torrey	Nuclear magnetic moments	July 1, 1949-June 30, 1950	1,600
Green, Leon W.	Yale University: Einar Hille	Mathematics—analysis	Sept. 20, 1949-Sept. 19, 1950	1,600
Griffin, Ernest L.	University of Chicago: I. E. Segal	Functional analysis and topological algebras	Sept. 26, 1949-Sept. 25, 1950	1,600
Harrison, William B.	University of Tennessee: R. M. Boaris	Chemical engineering—heat transfer and fluid mechanics.	Sept. 15, 1949-Sept. 14, 1950	2,100
Haffner, Hubert	Stanford University: L. M. Field	Electrical engineering, electromagnetic theory	July 1, 1949-June 30, 1950	2,100
Heller, William R.	Washington University: H. Primakoff	Theoretical physics of matter	Aug. 1, 1950-Sept. 30, 1950	2,100

<sup>1</sup> Starting date uncertain due to injury—possibly summer.

## Atomic Energy Commission predoctoral fellowships in the physical sciences, National Research Council—Continued

FELLOWS APPOINTED IN 1949 (MAR. 19 AND 20 MEETING)—Continued

Name	Location and supervisor	Field of study	Term	Stipend
Jaffe, Bernard M.	New York University: G. Goertzel	Nuclear physics and nuclear forces	Sept. 15, 1949–Sept. 14, 1950	\$1,600
Jones, Lewellyn, H.	California Institute of Technology: R. M. Bader	Investigation of molecular structure of nitrous acid, nitric acid, etc. with use of infra-red spectroscopy.	July 1, 1949–June 30, 1950	2,100
Kalkstein, Marvin	University of Chicago: W. F. Libby	Physical chemistry—radiochemistry	do.	1,600
Keck, James C.	Cornell University: K. G. Reisel	Experimental physics—nuclear physics	Sept. 20, 1949–Sept. 19, 1950	2,100
Kelson, Julian	Harvard University: J. Schwinger	Theoretical nuclear physics	July 1, 1949–June 30, 1950	1,600
Kelber, Charles	University of Minnesota: E. L. Hill	Theoretical physics—electrodynamics	Sept. 15, 1949–Sept. 14, 1950	1,600
Keyes, John J., Jr.	University of Delaware: A. P. Colburn	Heat and mass transfer phenomena	Sept. 22, 1949–Sept. 21, 1950	2,100
Kirk, Paul F.	University of Notre Dame: C. C. Price	Organic chemistry—physico-chemical studies or organic reactions mechanisms	July 1, 1949–June 20, 1950	1,600
Landauer, Rolf W.	Harvard University: Leon Brillouin	Theoretical physics—quantum mechanics solid state	do.	1,600
Leighton, Morris W.	University of Chicago: Hans Ramberg	Geochemistry igneous petrology—contact metasomatic effect of basic igneous rocks on sediments	do.	2,100
Livesey, George R.	University of Illinois: D. G. Bourgin	Mathematics—topology	Sept. 1, 1949–Aug. 31, 1950	1,600
Lloyd, Stuart P.	University of Illinois: S. M. Dancoff	Theoretical physics	do.	2,600
Malm, Robert E.	Massachusetts Institute of Technology: W. W. Buechner	Nuclear physics	July 1, 1949–June 30, 1950	1,600
Marshall, John H.	Massachusetts Institute of Technology: R. D. Evans	Shape of the beta spectrum of $K^0$ by the use of a liquid argon ionization chamber.	do.	1,600
Matsuda, Ken	University of Maryland: E. F. Pratt	Physical organic chemistry	do.	2,100
McClelland, Alan L.	University of Illinois: J. C. Bailar, Jr.	Stability of coordination compounds of silver	July 1, 1949–June 30, 1950	2,350
McGoy, Robert E.	Cornell University: S. H. Bauer	Inorganic chemistry—formation and dissolution of the chemical bond	Sept. 16, 1949–Sept. 15, 1950	1,600
McNeer, Richard M.	University of Chicago: W. H. Urry	Organic chemistry	July 1, 1949–June 30, 1950	2,350
Michel, Rudolph H.	Notre Dame University: C. C. Price	Influence of substituents in the naphthalene rings on the reactivity of naphtholic acid esters	do.	2,100
Miller, Clair E.	University of Chicago: Edwin Spanier	Mathematics—topology	Oct. 1, 1949–Sept. 30, 1950	2,100
Montet, George L.	University of Chicago: J. E. Mayer	Physical chemistry—quantum mechanics	July 1, 1949–June 30, 1950	2,100
Moore, Edward F.	Brown University: H. Federer	Mathematics, measure theory and the theory of area	do.	1,600
Moy, Shu-Teh Chen	University of Illinois: J. L. Doob	Mathematics—analysis	Sept. 1, 1949–Aug. 31, 1950	1,600
Nash, John F., Jr.	Princeton University: N. E. Steenrod	Mathematics—topology	July 1, 1949–June 30, 1950	1,600
Nelson, Bruce K.	University of Iowa: Arthur Roberts	Microwave spectroscopy	July 19, 1949–July 18, 1950	2,350
Newell, Gordon F.	University of Illinois: A. Nordieck	Theoretical physics	July 1, 1949–June 30, 1950	2,100
Newlander, August	University of Chicago: E. Spanier	Mathematics in the field of algebraic topology	Sept. 26, 1949–Sept. 25, 1950	1,600
Noyes, John O.	Notre Dame: W. C. Miller	Photo disintegration threshold of the deuteron and the mass of the neutron	July 1, 1949–June 30, 1950	2,600
O'Neill, Barrett	Massachusetts Institute of Technology: Warren Ambrose	Mathematics—topology	Sept. 27, 1949–Sept. 26, 1950	1,600
Ordway, Girard L.	Harvard University: E. B. Wilson, Jr.	Physical chemistry—Infrared spectroscopy	Sept. 1, 1949–Aug. 31, 1950	1,600
Osterbrock, Donald E.	University of Chicago: S. Chandrasekhar	Astronomy—astrophysics	Sept. 25, 1949–Sept. 24, 1950	1,600
Pearlsin, Edgar A.	Carnegie Institute of Technology: R. B. Sutton	Theory of solids—quantum mechanics	Sept. 20, 1949–Sept. 19, 1950	1,600
Pease, Robert L.	Massachusetts Institute of Technology: H. Feshbach	Theory of light nuclei, specifically the alpha particle	July 1, 1949–June 30, 1950	2,100
Perry, Alfred M., Jr.	University of Rochester: S. W. Barnes	Nuclear physics	Sept. 1, 1949–Aug. 31, 1950	2,100

Plank, Harold F.	Massachusetts Institute of Technology: C. D. Coryell.	Complexes of tellurium and polonium.	Apr. 15, 1949-Apr. 14, 1950	2,100
Pond, Thomas A.	Princeton University: R. H. Dicke.	Nuclear physics.	Sept. 1, 1949-Aug. 31, 1950	1,600
Poss, George I.	University of Illinois: H. R. Snyder.	Organic chemistry on the chemistry of 1-cyano-1, 3 butadiene.	July 1, 1949-June 30, 1950	2,350
Price, Charles M.	University of Chicago: A. A. Albert.	Structure of algebras, particularly Jordan division algebras and their arithmetics.	do.	1,600
Ratner, Hymen.	University of Chicago: M. S. Kharasch.	Reactions of free radicals in solution.	do.	1,600
Reed, George W.	University of Chicago: A. Turkevitch.	Absolute fission yields from photo and fast neutron fission of thorium.	June 27, 1949-June 26, 1950	2,100
Reynolds, John L.	University of Rochester: G. B. Collins.	Nuclear physics.	Sept. 20, 1949-Sept. 19, 1950	1,600
Richardson, Harry M.	Harvard University: R. B. Holt.	Atomic physics.	Sept. 15, 1949-Sept. 14, 1950	2,350
Rorschach, Robert L.	Massachusetts Institute of Technology: W. G. Whitman.	Chemical engineering.	Aug. 1, 1949-July 31, 1950	2,350
Rosenberg, Robert M.	Northwestern University: I. M. Klatz.	Physical chemistry of proteins interaction of protein with small ions.	Sept. 23, 1949-Sept. 22, 1950	1,600
Sagalyn, Paul.	Massachusetts Institute of Technology: C. Goodman.	Nuclear physics—inelastic scattering of fast neutrons.	July 1, 1949-June 30, 1950	1,600
Sanford, Janet K.	Massachusetts Institute of Technology: J. D. Roberts.	Physical organic chemistry.	Sept. 15, 1949-Sept. 14, 1950	1,600
Sangster, Raymond.	Massachusetts Institute of Technology: J. W. Irvine, Jr.	Physical inorganic chemistry.	do.	1,600
Saur, Albert J.	University of Illinois: M. Goldhaber.	Nuclear isomers.	Sept. 1, 1949-Aug. 31, 1950	1,600
Schapp, Ward.	University of Illinois: J. C. Baller, Jr.	Inorganic chemistry.	do.	2,350
Schamp, Homer W., Jr.	University of Michigan: E. Katz.	Physics of solids.	July 1, 1949-June 30, 1950	2,100
Schwarz, Harold A.	Notre Dame: W. H. Hamill.	Kinetics: physical chemistry.	do.	1,600
Secret, Everett L.	Massachusetts Institute of Technology: C. Goodman.	Nuclear physics—theoretical interpretation of experimental results.	Sept. 15, 1949-Sept. 14, 1950	2,100
Segall, Benjamin.	University of Chicago: F. W. Loomis.	Theoretical and mathematical physics.	do.	1,600
Shapiro, Arnold S.	University of Chicago: A. Weil.	Algebraic topology.	July 1, 1949-June 30, 1950	1,600
Sheriff, Robert E.	Ohio State University: D. Williams.	Nuclear magnetic moments and other topics in physics.	Oct. 1, 1949-Sept. 30, 1950	2,100
Smith, Alan W.	Princeton University: J. Turkevitch.	Phosphorescence of solids at low temperatures.	Sept. 19, 1949-Sept. 18, 1950	1,600
Steinberger, Rudolph.	University of Chicago: F. H. Westheimer.	Organic chemistry.	July 1, 1949-June 30, 1950	1,600
Steuber, Walter.	University of Illinois: M. Goldhaber.	Decay schemes of radioactive isotopes.	Aug. 1, 1949-Sept. 30, 1950	2,350
Storer, James E.	Harvard University: L. Brillouin.	Electromagnetic theory, particularly radiation and diffraction problems.	Sept. 1, 1949-Aug. 31, 1950	1,600
Stump, Robert.	University of Illinois: F. W. Loomis.	Nuclear physics.	July 1, 1949-June 30, 1950	2,350
Sworski, T. J.	Notre Dame: M. Burron.	Radiation chemistry.	Sept. 1, 1949-Aug. 31, 1950	2,100
Tamor, Stephen.	University of Rochester: R. E. Marshak.	Theoretical physics—nuclear physics.	May 1, 1949-Apr. 30, 1950	2,100
Tellerbaum, Charles L.	Purdue University: N. Kornblum.	The Victor Meyer reaction.	July 1, 1949-June 30, 1950	2,350
Thomas, R. G.	California Institute of Technology: C. C. Lauritsen.	Physics.	do.	1,600
Tyner, David A.	University of Michigan: W. E. Bachmann.	Organic chemistry—synthesis of natural products.	do.	1,600
Uhlir, Arthur, Jr.	University of Chicago: A. W. Lawson.	Physics: theory of liquids.	do.	1,600
Van Yamen, E.	Harvard University: G. Stork.	The synthesis of carbanthrin.	Sept. 26, 1949-Sept. 25, 1950	1,600
Wahr, John-C.	University of Michigan: H. R. Crane.	Problems arising from the operation of the 300 Mev synchrotron.	do.	1,600
Weiser, David W.	University of Chicago: Henry Faub.	Reaction kinetics of aqueous ions.	July 1, 1949-June 30, 1950	2,100
Weneser, Joseph.	Columbia University: I. I. Rabi.	Quantum electrodynamics with applications to meson theory.	do.	1,600
Wlets, Lawrence.	Princeton University: A. G. Shenstone.	Atomic spectrum (measurements of Gull vacuum ultra-violet standard).	Sept. 15, 1949-Sept. 14, 1950	2,100
Willeford, B. R., Jr.	University of Wisconsin: N. F. Hall.	Physical analysis of elements in the first and/or second long period.	Sept. 1, 1949-Aug. 31, 1950	1,600
Wolfsolun, N. Z.	Harvard University: H. Whitney.	Physical chemistry— isotopic tracers.	Sept. 20, 1949-Sept. 19, 1950	1,600
		Mathematics—topology.		

NOTE.—Where no term date is shown, in 7 cases, replies have not yet been received.

*Atomic Energy Commission predoctoral fellowships in the physical sciences, National Research Council—Continued*  
 FELLOWS APPOINTED IN 1948

Name	Location and supervisor	Field of specialization	Term	Grant per annum
Aelter, Meyer R.	Carnegie Institute of Technology: R. Smoluchowski.	The dependence of grain boundary properties on crystal orientation	July 1, 1948-June 30, 1949	\$1,900
Adams, Edward N., II.	University of Wisconsin: R. G. Sachs.	Theoretical physics, particularly properties of light nuclei	do.	2,400
Alberpi, Norman	Purdue University: P. J. Elving	Vapor-liquid equilibria involving cis-trans isomers	Dec. 1, 1948-Nov. 30, 1949	1,600
Buerbach, Theodore	University of Rochester: R. E. Marshak	Nuclear forces and interaction of high energy particles	Sept. 20, 1948-Sept. 19, 1949	2,200
Barthe, Robert G.	University of Chicago: M. H. Stone	Mathematical analysis	Sept. 28, 1948-Sept. 27, 1949	1,600
Belduk, Felix M.	Indiana University: E. J. Konopinski.	The deuteron-deuteron reaction and anomalous allowed B—spec-trum of Cu 64.	Sept. 1, 1948-Aug. 31, 1949	1,900
Berezin, Evelyn	New York University: I. S. Lowen	The phenomenon of cosmic rays.	July 1, 1948-June 30, 1949	1,600
Bess, Leon	University of Illinois: S. M. Dancoff.	Calculation of pair production and bremsstrahlung in heavy ele-ments.	Sept. 1, 1948-Aug. 31, 1949	1,600
Bishop, Erret A.	University of Chicago.	Mathematics—topology, measure theory, and abstract spaces.	Jan. 1, 1949-Dec. 31, 1949	1,600
Blewitt, Thomas H.	Carnegie Institute of Technology: S. Koehler.	The plastic deformation of metals	Oct. 1, 1948-Sept. 30, 1949	2,400
Bodansky, David	Harvard University: N. F. Ramsey	Nuclear physics concerning interactions of nuclear particles at ener-gies up to 140 (or more) mev.	July 1, 1948-June 30, 1949	1,600
Bord, Evelyn (Miss)	Yale University: Finar Hille	Properties of Laguerre series in the complex domain.	July 26, 1948-July 25, 1949	1,600
Brechin, Malcolm K.	Harvard University: J. Schwinger	Application of quantum theory to nuclear and atomic problems	Sept. 24, 1948-Sept. 23, 1949	1,600
Brown, Norman	Metal Research Laboratory: R. H. Cole	Dielectric constants of the hydrocarbon halides	Sept. 1, 1948-Aug. 31, 1949	1,600
Brown, Richard M.	Harvard University: E. V. Furell	Nuclear magnetic resonance absorption	do.	2,400
Brown, Frank H.	Pennsylvania State University: S. Lechetz	Mathematics—differential equations	Sept. 20, 1948-Sept. 19, 1949	1,600
Clapp, Roger E.	Harvard University: John Schwinger	Theoretical nuclear physics	July 1, 1948-June 30, 1949	1,600
Colton, Frank B.	University of Chicago: W. H. Urry	Mechanism of certain organic free radical reactions.	do.	1,600
Cooley, William C.	Massachusetts Institute of Technology: A. H. Shapiro.	Heat transfer (in the mechanical engineering department)	Sept. 27, 1948-Sept. 26, 1949	1,600
Corley, Richard S.	Harvard University: R. B. Woodward	Organic chemistry—interaction of matter and radiation and the application of physical methods to classical organic methods.	Sept. 24, 1948-Sept. 23, 1949	2,400
Danksin, John M., Jr.	University of California: Griffith C. Evans	Calculus of variations in the large	Aug. 16, 1948-Aug. 15, 1949	1,600
Dasher, George F., Jr.	University of Michigan: F. E. Bartel	Free surface energy changes at solid-liquid interfaces as determined through a study of interfacial contact angles and interfacial tension relationships.	Sept. 13, 1948-Sept. 14, 1949	2,400
Devaney, Joseph J.	Massachusetts Institute of Technology: N. H. Frank	Quantum mechanics, nuclear physics, relativity and mathematical physics	Sept. 27, 1948-Sept. 26, 1949	1,900
Donn, Bertram D.	Harvard University: B. J. Bok	Interplanetary and interstellar medium	Sept. 1, 1948-Aug. 31, 1949	1,900
Douglas, David L.	California Institute of Technology: D. M. Yost.	Physical chemistry of Europium II solutions	Sept. 27, 1948-Sept. 26, 1949	1,900
Drake, Donald Leon	University of Minnesota: J. W. Weinberg	Nuclear theoretical physics	do.	1,600
Dubowski, Kurt M.	Ohio State University: James R. Withrow	Methods for the determination of some volatile organic substances	Sept. 28, 1948-Sept. 27, 1949	1,600
Falk, Charles E.	Carnegie Institute of Technology: E. Creutz.	Angular and energy distribution of neutrons from d,n reactions.	July 1, 1948-June 30, 1949	1,900

Fajura, Frank C.	University of Notre Dame: K. N. Campbell.	Preparation and reactions of acetylenic amines.	Sept. 15, 1948-Sept. 14, 1949	1, 600
Fawcett, Sherwood L.	Case Institute of Technology: E. C. Crittenden, Jr.	Methods for the removal of the electron beam from the betatron.	July 1, 1948-June 30, 1949	1, 600
Ferguson, George A.	University of Pennsylvania: G. P. Harshaw.	Radioactivity and nuclear transformations.	Sept. 27, 1948-Sept. 26, 1949	2, 400
Flanders, Harley	University of Chicago: Andre Weil.	The class field theory—mathematics.	July 1, 1948-June 30, 1949	1, 900
Fowler, Clarence M.	University of Michigan: James M. Cork.	Neutron-induced beta and gamma activities for one or more elements—emphasis on the determination of the nuclear energy level diagrams.	July 21, 1948-July 20, 1949	1, 900
Garwin, Richard L.	University of Chicago: E. Fermi.	An all-electronic differential analyzer for problems of nuclear physics.	Sept. 27, 1948-Sept. 26, 1949	1, 900
Goldberg, Samuel	Cornell University: W. Feller.	Topics in the mathematical theory of probability.	Sept. 1, 1948-Aug. 31, 1949	1, 600
Gray, Ernest P.	Cornell University: P. Morrison.	Physics and mathematics.	Sept. 20, 1948-Sept. 19, 1949	1, 600
Greenman, Norman N.	University of Chicago: F. J. Pettitohn.	Origin of the Lake Superior iron formation.	Oct. 1, 1948-Sept. 30, 1949	1, 900
Griffel, Maurice	University of Chicago: J. W. Stout.	Antiferromagnetic single crystals.	Aug. 1, 1948-July 31, 1949	1, 600
Griffin, Dale M.	University of Colorado: J. D. Park.	Preparation and properties of nuclei acid derivatives.	Sept. 22, 1948-Sept. 21, 1949	2, 400
Gross, Leonard	Princeton University: D. R. Hamilton.	Electrostatic beta ray spectrometer.	Sept. 15, 1948-Sept. 14, 1949	1, 900
Grové, George R.	Ohio State University: J. N. Cooper.	The electrostatic generators determining energy resonance levels of nuclei.	Oct. 1, 1948-Sept. 30, 1949	2, 400
Gunberg, F. F.	Purdue University: W. E. Truce.	Sulfonation of substituted styrenes using dioxan/sulfuric acid.	Aug. 1, 1948-July 31, 1949	2, 400
Haas, Charles G., Jr.	University of Chicago: N. H. Nachtrieb.	Behavior of $MnCl_2$ in the presence of $HCl$ gas.	July 1, 1948-June 30, 1949	1, 900
Hall, Theodore.	University of Chicago: S. K. Allison.	Multiple-ionization and capture of electrons by ion beams passing through tin foils.	Dec. 10, 1948-Dec. 9, 1949	1, 900
Halperin, Joseph	University of Chicago: H. Taube.	Mechanics of oxidation reduction reactions.	Sept. 28, 1948-Sept. 27, 1949	1, 600
Harris, Robert H.	Purdue University: H. C. Brown.	Chemistry of addition compounds: tendencies of various elements to act as donors.	Sept. 1, 1948-Aug. 31, 1949	1, 900
Harrison, F. B.	Princeton University: G. T. Reynolds.	Development of crystal counters and their application to the measurement of cosmic rays.	Oct. 18, 1948-Oct. 17, 1949	2, 400
Hartzler, Alfred J.	University of Chicago: M. Schein.	Cosmic ray mesons in the upper atmosphere.	Sept. 28, 1948-Sept. 27, 1949	1, 600
Hawley, Newton S.	Princeton University: S. Lefschetz.	Mathematics (a geometric function theory of Euclidean spaces and the theory of group representations).	Sept. 1, 1948-Aug. 31, 1949	1, 900
Hayes, Raymond L.	University of North Carolina: Arthur Roe.	Preparation of organic compounds, aromatic, containing radioactive elements to be used in the determination of rate of blood flow.	Sept. 22, 1948-Sept. 21, 1949	2, 400
Hayward, Raymond M.	University of California: A. C. Helmholtz.	Isomeric states of nuclei.	Sept. 1, 1948-Aug. 31, 1949	1, 900
Held, Calman M.	Brooklyn Polytechnic Institute: H. P. Gregor.	Theory of ion exchange processes.	do.	2, 000
Heller, Alex.	Columbia University: S. Eilenberg.	The cohomology theory of group extensions.	do.	1, 600
Hinman, George M.	Carnegie Institute of Technology: E. Greutz.	Deflection of cyclotron beams and reading in quantum electrodynamics.	Sept. 15, 1948-Sept. 14, 1949	1, 600
Hochwalt, Carroll A.	Ohio State University: M. S. Newman.	Preparation and optical activity of tri-substituted phenanthrene derivatives.	Sept. 28, 1948-Sept. 27, 1949	1, 600
Holland, Robert E.	University of Iowa: J. A. Jacobs.	Nuclear physics.	July 1, 1948-June 30, 1949	1, 600
Hunt, John P.	University of Chicago: Henry Taube.	Mechanics and kinetics of reactions using $U^{18}$ as a tracer.	do.	1, 600
Hunter, Jack A.	Ohio State University: M. L. Pool.	Nuclear transmutations in rare earth region.	July 15, 1948-July 14, 1949	1, 900
Hunter, W. H.	University of Chicago: W. F. Libby.	Physical chemistry.	Aug. 1, 1948-July 31, 1949	2, 400
Kadison, Richard V.	University of Chicago: M. H. Stone.	Functional analysis and representation of partially ordered systems.	Sept. 28, 1948-Sept. 27, 1949	2, 400
Katz, Robert.	University of Illinois: Goldhaber.	Nuclear physics.	Sept. 10, 1948-Sept. 9, 1949	2, 400
Kern, Bernard D.	Indiana University: A. C. G. Mitchell.	Energy level diagrams of $Va$ , $Ta^{18}$ , and $Ge^{72}$ .	July 1, 1948-June 30, 1949	1, 900
Kidwell, Albert L.	University of Chicago: W. H. Newhouse.	Warping, igneous activity, and mineralization along the north and west sides of the Mississippi embayment area.	Sept. 1, 1948-Aug. 31, 1949	2, 400
Klahr, Carl N.	Carnegie Institute of Technology: F. Seitz.	Theory of metals, nuclear physics, and mathematics.	do.	1, 600

*Atomic Energy Commission predoctoral fellowships in the physical sciences, National Research Council—Continued*  
 FELLOWS APPOINTED IN 1948—Continued

Name	Location and supervisor	Field of specialization	Term	Grant per annum
Klapproth, W. J., Jr.	University of Chicago: F. H. Westheimer	Mechanism of mercuration of aromatic compounds.	July 1, 1948-June 30, 1949	\$1,900
Klee, V. J., Jr.	University of Virginia: E. J. McShane	The multiple integral Lagrange problems and on certain topics in functional analysis.	July 12, 1948-July 11, 1949	2,400
Klein, Abraham	Harvard University: Julian Schwinger	Theoretical physics.	Feb. 7, 1949-Feb. 6, 1950	1,800
Klena, E. D.	University of Illinois: A. O. Hanson	Disintegration scheme of $Tu^{232}$	Sept. 7, 1948-Sept. 6, 1949	1,800
Kolsky, R. G.	Harvard University: N. F. Ramsey, Jr.	Nuclear moments by the molecular beam technique.	July 1, 1948-June 30, 1949	2,400
Kraichman, R. H.	Massachusetts Institute of Technology: Herman Feshbach	Elementary particles (radioactive damping terms in the scattering of mesons by nucleons).	Aug. 2, 1948-Aug. 1, 1949	1,600
Kubitschek, H. E.	University of Illinois: M. Goldhaber	Lifetimes and energies of excited states.	Sept. 1, 1948-Aug. 31, 1949	1,900
Laszars, Roger B.	Harvard University: Julian Schwinger	Quantum mechanics and theoretical nuclear physics.	July 1, 1948-June 30, 1949	2,400
Leland, W. F.	University of Minnesota: A. O. Nier	Mass spectrometry	July 10, 1948-July 9, 1949	2,400
Lepson, Benjamin	Columbia University: J. F. Ritt	Analytic continuation of functions defined by power series.	Sept. 1, 1948-Aug. 31, 1949	2,400
Levinthal, Cyrus	University of California: A. C. Hemholz	Nuclear energy levels and level densities.	do.	1,900
Linnell, Albert P.	Harvard College Observatory: B. J. Bok	Electron pressures in stellar atmospheres by photoelectric and photographic techniques.	do.	2,400
Locke, Gardner L.	Stanford University: A. L. London	Heat transfer and flow friction characteristics of a porous substance.	do.	2,400
Lohwaden, Arthur J.	Columbia University: Paul A. Smith	Application of modern methods to analysis.	do.	1,600
Lowrie, Robert E.	Pennsylvania State College: H. J. Read	Elevated temperature mechanical properties of intermetallic compounds.	Jan. 1, 1949-Dec. 31, 1949	2,400
Macy, Spencer	Iowa State College: J. F. Carlson	Use of integral equation in collision problems or the angular distribution in the photoelectric effect.	Sept. 22, 1949-Sept. 21, 1950	2,400
Malmberg, Philip R.	University of Iowa: J. A. Jacobs	Nuclear physics	July 1, 1948-June 30, 1949	1,600
Marshall, Albert H., Jr.	University of California: W. Dauben	Model compounds in the steroid series	Sept. 15, 1948-Sept. 15, 1949	1,900
Marshall, John F.	University of Notre Dame: Eugene Guth	Nuclear sections near threshold	Sept. 1, 1948-Aug. 31, 1949	1,900
Mastick, Ronald F.	University of Chicago: S. Allison	Radiation of nuclear physics	Sept. 25, 1948-Sept. 24, 1949	2,400
Mastick, Donald F.	University of California: Leo Brewer	Thermodynamic properties of compounds at high temperatures	Sept. 20, 1948-Sept. 19, 1949	2,400
Meachlin, George E., Jr.	University of Pittsburgh: S. S. Sidin	Neutron scattering and diffraction.	Sept. 1, 1948-Aug. 31, 1949	1,600
Meckler, Edwin	Massachusetts Institute of Technology: J. C. Slater	Theoretical physics	do.	2,400
Mertz, Edwin C.	University of Notre Dame: O. C. Price	Correlation of electronic structure with reactivity, in various organic compounds	Sept. 13, 1948-Sept. 12, 1949	1,600
Mikael, John A.	Washington University: S. G. Wahl	Deuteron excitation functions of $Se^{34}$	July 1, 1948-June 30, 1949	1,600
Moseley, Harrison M.	University of North Carolina	A spin hypothesis	do.	1,600
Mottelson, Ben R.	Harvard University: J. H. Van Vleet	Physics	Sept. 27, 1948-Sept. 26, 1949	2,400
Nemerever, W. J.	University of Michigan: N. Coburn	Mathematics	Sept. 15, 1948-Sept. 14, 1949	2,400
Novikoff, Albert B. J.	Stanford University: G. Polya	Variational problems in conformal mapping, generating functions of orthogonal polynomials.	Aug. 1, 1948-July 31, 1949	1,600
Okrent, David	Harvard University: W. H. Furry	Nuclear physics	July 1, 1948-June 30, 1949	1,900
Opinsky, Arthur J.	Carnegie Institute of Technology: R. Smoluchowski	Clustering in solid solutions	do.	1,600
Peissakoff, Melvin P.	Princeton University: S. S. Wilks	Statistical decision functions.	Sept. 1, 1948-Aug. 31, 1949	1,500

Perry, Clay L., Jr.	University of Michigan: G. E. Hay	Large deflections of elastic plates	July 1, 1948-June 30, 1949	1,900
Peshkin, Murray	Cornell University: H. A. Bethe	Theoretical physics and mathematics	Sept. 20, 1948-Sept. 19, 1949	1,600
Podolsky, Harold	Illinois Institute of Technology: R. C. Vogel	Exchange of radioactive phosphorus between the metaphosphates and the kinetics of their hydrolysis.	Aug. 1, 1948-July 31, 1949	1,600
Rice, William E.	University of Wisconsin: J. E. Willard	Physical chemistry	July 1, 1948-June 30, 1949	1,600
Rich, Joseph A.	Yale University: C. G. Montgomery	Photoneuclear experiments with the high intensity source of 17.5 m. e. v. gamma rays.	do.	1,900
Riebmam, Leon	University of Pennsylvania: J. G. Brainerd	Solid state theory	Sept. 27, 1948-Sept. 26, 1949	2,400
Ringold, Howard J.	University of Washington: H. V. Tartar	Cycloheptatriene and isopropylidene cycloheptatriene for purpose of determining their resonance energy and degree of aromatic behavior.	Sept. 20, 1948-Sept. 23, 1949	1,900
Robbins, Howard	University of Minnesota: E. L. Hill	Theoretical physics	Jan. 3, 1949-Jan. 2, 1950	1,600
Rosen, J. Ben	Columbia University: T. B. Drew	Rare controlling mechanisms in continuous flow processes by analysis of transient response.	Sept. 23, 1948-Sept. 22, 1949	1,900
Rouvinia, James	University of Rochester: S. W. Barnes	Nuclear physics	Sept. 1, 1948-Aug. 31, 1949	1,600
Ruffs, Charles L.	Purdue University: F. J. Elving	Anomalous valence states of rhodium and the structure of the ferrous dimethylglyoxime complex.	do.	1,900
Russek, Arnold	New York University: I. S. Lowen	Meson decay phenomena	do.	2,000
Sachs, Donald C.	University of California at Los Angeles: J. R. Richardson	Experimental nuclear physics leading to the further clarification of compound nucleus theory.	Aug. 1, 1948-July 31, 1949	1,900
Sangren, Ward C.	University of Michigan: R. V. Churchill	Investigating problems by means of an extension of the Strum-Liouville system.	July 1, 1948-June 30, 1949	2,400
Schenkman, Eugene V.	Yale University: N. Jacobson	Jordan Algebras	do.	2,400
Schilling, Edwin J.	Notre Dame University: B. Waldman	Excitation of nuclei by X-ray produced in thin targets.	Sept. 1, 1948-Aug. 31, 1949	1,600
Schwartz, Benjamin J.	Brown University: C. R. Adams	Mathematics	Sept. 24, 1948-Sept. 23, 1949	1,600
Schwemer, Harold C.	Massachusetts Institute of Technology: Jan C. Slater	Location of nuclear energy by means of a conversion electron spectrometer.	Sept. 27, 1948-Sept. 26, 1949	2,400
Seibor-Marchocki, Romuald	California Institute of Technology: Carl Anderson	Theoretical physics	do.	1,600
Shapiro, Anatole M.	Cornell University: R. R. Wilson	Nuclear physics	Sept. 1, 1948-Aug. 31, 1949	1,900
Shapiro, Mathew	Massachusetts Institute of Technology: H. Feshbach	The anomalous scattering of protons by nuclei (theoretical).	Feb. 1, 1949-Jan. 31, 1950	1,900
Sherard, George W.	University of Pennsylvania: G. P. Harrell	Atomic and nuclear physics	Sept. 21, 1948-Sept. 20, 1949	2,400
Shreffler, Robert G.	University of Michigan: James M. Cork	Beta-ray spectroscopy	Aug. 1, 1948-July 31, 1949	2,400
Sivetz, Marshall H.	Harvard University: E. B. Wilson, Jr.	Microwave spectroscopy of polyatomic molecules.	Sept. 25, 1948-Sept. 24, 1949	1,600
Slonick, Murray	Columbia University: I. I. Rabi	Relativistic calculation of charge density and perhaps current density and magnetic moments of proton and neutron due to its meson field, and further relativistic quantum mechanics and meson theory.	July 1, 1948-June 30, 1949	1,600
Smith, Harlan M.	University of Chicago: T. F. Young	The second dissociation constant of calcium hydroxide.	Sept. 23, 1948-Sept. 27, 1949	1,600
Steinberg, Martin	University of Chicago: N. H. Nachtrieb	Polarographic techniques in the study of fused salt solutions.	July 1, 1948-June 30, 1949	2,400
Steinhardt, Fritz	Columbia University: E. R. Lorch	Problems in linear spaces requiring methods of the calculation.	Sept. 15, 1948-Sept. 14, 1949	1,600
Stelson, Paul H.	Massachusetts Institute of Technology: John C. Slater	Nuclear physics	Sept. 1, 1948-Aug. 31, 1949	1,600
Struble, Raymond A.	Notre Dame University: Arnold F. Ross	Theory of group representations (mathematics)	Sept. 20, 1948-Sept. 19, 1949	2,400
Strum, William J.	University of Wisconsin: R. G. Herber	Topics associated with the nuclear reactions associated with the Van de Graff generator.	Sept. 1, 1948-Aug. 31, 1949	1,600
Swariz, Clifford E.	University of Rochester: B. Peters	High energy nuclear reactions.	do.	1,900
Tanner, George M.	University of California: A. C. Helmholz	Nuclear excitation functions.	Aug. 1, 1948-July 31, 1949	1,900
Terrell, James	Rice Institute: T. W. Bonner	A pair-production spectrometer for high energy gamma rays.	Aug. 23, 1948-Aug. 22, 1949	1,900

## Atomic Energy Commission predoctoral fellowships in the physical sciences, National Research Council—Continued

FELLOWS APPOINTED IN 1948—Continued

Name	Location and supervisor	Field of specialization	Term	Grant per annum
Thomas, Don A.	Vanderbilt University: S. K. Haynes	The beta-ray spectrometer	July 1, 1949–June 30, 1949	\$2,400
Townsend, Jonathan	Washington University: A. L. Hughes	Nuclear disintegration schemes	Sept. 15, 1948–Sept. 14, 1949	1,600
Tress, Richard E.	University of Pennsylvania: J. Halperin	Properties of electron multiplier as a particle detector in nuclear processes	July 1, 1948–June 20, 1949	1,600
Volland, Eugene E.	Notre Dame University: W. H. Hamill	Chemical effects of isomeric transitions	do.	2,400
Walter, Robert I.	University of Chicago: T. H. Davies	Iron-porphyrin complexes in solution	Sept. 1, 1948–Aug. 31, 1949	1,600
Walters, Stanley S.	University of California at Los Angeles: M. R. Hestenes	Calculus of variations	Sept. 13, 1948–Sept. 12, 1949	2,400
Wangness, Raold K.	Stanford University: F. Bloch	Theoretical study of nuclear magnetic relaxation times and their application to nuclear induction	July 1, 1948–June 30, 1949	1,900
Weiner, Louis M.	University of Chicago: A. A. Albert	Linear algebras	Sept. 28, 1948–Sept. 27, 1949	1,600
Wethington, John A., Jr.	Northwestern University: Malcolm Dole	Thermodynamic properties of high polymers	Aug. 1, 1948–July 31, 1949	1,900
Whaling, Ward	Rice Institute: T. W. Bonner	Nuclear reactions of $^{16}\text{O}$ isotope	July 1, 1948–June 30, 1949	1,600
Whitehead, Walter D., Jr.	University of Virginia: J. W. Beams	Scattering of alpha particles	Sept. 20, 1948–Sept. 19, 1949	1,600
Williams, Edgar S.	University of Chicago: M. H. Stone	Mathematics	Sept. 28, 1948–Sept. 27, 1949	2,200
Wing, G. Milton	Cornell University: R. P. Agnew	Theory of convergence and summability of infinite series	Sept. 1, 1948–Aug. 31, 1949	1,600
Wolicki, Eligius J.	University of Notre Dame: B. Waldman	X-ray and electron excitation of the separated isotopes of silver	do.	1,600
Worth, Donald C.	Yale University: E. Pollard	Coincidence technique improvements and study of neutron groups	July 1, 1948–June 30, 1949	2,400
Wright, Arianna	Harvard University: J. H. Van Vleck	Paramagnetic relaxation	Sept. 27, 1948–Sept. 26, 1949	1,600
Zimmerman, Edward J.	University of Illinois: P. G. Kruger	Scattering of charged particles at the high energies given by the University of Illinois cyclotron	Sept. 15, 1948–Sept. 14, 1949	1,900

FELLOWS APPOINTED IN 1949 (APR. 2, MEETING)

Name	Location and supervisor	Field of specialization	Term	Stipend
Barton, Donald W.	University of Missouri: L. J. Stadler.	Genetics.	July 1, 1949-June 30, 1950	\$3, 750
Benzer, Seymour.	California Institute of Technology: M. Delbruck.	Radiation microbiology	Sept. 1, 1948-Aug. 31, 1950	3, 750
Clark, Eugenie.	American Museum of Natural History: L. Aronson.	Genetics and ecology	Oct. 15, 1949-Oct. 14, 1950	3, 000
Coleman, Nathaniel T.	University of California: Hans Jenny	Reactions between phosphate ions and soil minerals.	July 1, 1949-June 30, 1950	3, 750
Hirshfield, Henry I.	University of Missouri: D. Mazia	Effects of enucleation and radiation on protozoa.	July 1, 1949-June 30, 1950	3, 500
Holt, Margaret W.	New England Deaconess Hospital: S. Warren.	Physiology, biochemical and biophysical studies of nucleoproteins.	Aug. 1, 1949-July 31, 1950	3, 000
Levedahl, Blaine H.	Princeton University: W. Kauzmann	Biochemistry	Sept. 1, 1949-Aug. 31, 1950	4, 000
Morris, David M.	Argonne National Laboratory: A. M. Bruce.	Effect of thioracil on the thyroplastic activity of antitumor T in hypoplasticized chicks.	Sept. 1, 1949-Aug. 31, 1950	3, 700
Neess, John C.	Yale University: G. E. Hutchinson	Limnology	Feb. 1, 1950-Jan. 31, 1951	3, 000
Stadtman, Earl R.	Massachusetts General Hospital: F. Lipmann.	Role of co-enzyme A in the synthesis of fatty acids.	Sept. 1, 1949-Aug. 31, 1950	3, 800
Wilcox, Philip E.	Harvard Medical School: J. T. Edsall	Structure of proteins as elucidated by their modification with organic reagents and interactions with organic molecules.	July 1, 1949-June 30, 1950	3, 000
Wolken, Jerome	University of Pittsburgh: M. A. Lauffer.	Biophysics—growth mechanisms.	Aug. 1, 1949-Sept. 30, 1950	3, 750
Yost, William L.	California Institution of Technology: C. Niemann.	Biochemistry serum reactions and immunology biophysics, protein, gene and enzyme structure and function.	Sept. 19, 1949-Sept. 18, 1950	3, 000

FELLOWS APPOINTED IN 1948

Finkle, Bernard J.	University of Cambridge: D. Keilin	Metabolism of porphyrin compounds.	Aug. 1, 1949-July 31, 1950	\$2, 500
Holt, Margaret W. (Mrs.)	New England Deaconess Hospital: Shields Warren.	Metabolism of tumor tissue, utilizing radioactive tracer techniques.	Aug. 1, 1948-July 31, 1949	3, 000
McBee, Richard H.	University of California: H. A. Barker.	Cellulose fermentations	Sept. 8, 1948-Sept. 7, 1949	4, 000
Potter, Richard L.	University of Wisconsin: D. E. Green.	Mechanism of synthesis of peptides or phospholipids by the cyclophosphase system.	Feb. 1, 1949-Jan. 31, 1950	4, 000
Rodin, Norman S.	University of California: H. A. Barker.	Intermediate metabolism of microorganisms with the aid of isotopes.	Feb. 2, 1949-Feb. 1, 1950	3, 400
Rosenfeld, Irene	University of California: C. A. Tobias.	Function of trace elements in malignant tissue.	Sept. 10, 1948-Sept. 9, 1949	3, 000
Stern, Malvin D.	Harvard University: Paul M. Doty	Antigen-antibody thermodynamics and kinetics and the effects of radiation thereon.	Oct. 1, 1948-Sept. 30, 1949	3, 400

## Atomic Energy Commission predocloral fellowships in the biological sciences, National Research Council

FELLOWS APPOINTED IN 1949 (MAR. 25 AND 26)

Name	Location and supervisor	Field of specialization	Term	Grant per annum
Anderson, Norman G.	Duke University: Karl M. Wilbur	Permeability of isolated nuclei to organic and inorganic substances	Apr. 4, 1949-Apr. 3, 1950	\$2,100
Aschman, Leonard	Yale University: J. S. Fruton	Enzymology	July 1, 1949-June 30, 1950	2,100
Berglund, Jeanne-Marie	Stanford University: H. S. Loring	Biochemistry	Sept. 28, 1949-Sept. 27, 1950	2,000
Bowen, George H., Jr.	California Institute of Technology: M. Tishler	Photoreactivation	Sept. 28, 1949-Sept. 25, 1950	2,000
Breakenridge, Bruce	University of Rochester: W. O. Fenn	Oxidation of carbon monoxide by vertebrate tissues	July 1, 1949-June 30, 1950	2,100
Brocher, Henry J.	St. Louis University: E. A. Dolsy	Metabolism—hydrolysis of conjugated steroids	do.	2,600
Cartwright, Thomas E., Jr.	University of Pittsburgh: M. A. Lauffer	Effects of irradiations on viruses	do.	2,600
Christensen, Eleanor	Stanford University: A. C. Giesse	Effects of radiation on biological materials	Sept. 28, 1949-Sept. 25, 1950	1,500
Conn, Eric E.	University of Chicago: E. A. Evans, Jr.	Nucleotide synthesis and degradation and the relationship to intermediary metabolism of carbohydrates	Apr. 1, 1949-Mar. 31, 1950	1,600
Copenhaver, John H., Jr.	University of Wisconsin: R. K. Meyer	Endocrinology and enzymology	July 1, 1949-June 30, 1950	2,600
Doernmont, Patricia	Yale University: J. S. Fruton	Biological oxidation reduction, protein chemistry and enzymes	July 1, 1949-June 30, 1950	1,600
Ekstein, Daniel M.	Polytechnic Institute of Brooklyn: K. G. Stern	Nucleic acids and nucleoproteins in normal and cancer tissue	Apr. 1, 1949-Mar. 31, 1950	1,600
Farnsworth, Marjorie W.	University of Missouri: M. J. Guthrie	Developmental genetics	Sept. 1, 1949-Aug. 31, 1950	1,600
Feldman, Louis J.	Indiana University: I. C. Gunsalus	Intermediate metabolism in the field of bacteriology	July 1, 1949-June 30, 1950	2,100
Fitch, Richard	John Hopkins University: H. K. Hartline	Biophysics, nervous system	Sept. 1, 1949-Aug. 31, 1950	1,600
Funkhouser, John W.	Stanford University: G. S. Myers	Ecology and systematics	Oct. 1, 1949-Sept. 30, 1950	1,600
Gauz, Aaron	University of Chicago: E. M. K. Gelling	Pharmacology—drug metabolism and mechanism of action studies; emphasis on use of radioactive isotopes	July 1, 1949-June 30, 1950	1,600
Garner, Harold R.	Purdue University: H. Koffler	Carbohydrate metabolism of actinomycetes	do.	2,600
Goodall, Sol H.	Johns Hopkins University: Carl Swanson	Cytogenetics, radiation biology	do.	2,350
Haskins, Francis A.	California Institute of Technology: H. K. Mitchell	Biochemical genetics of neurospora	Aug. 1, 1949-Sept. 30, 1950	1,600
Hill, Ruth F.	Columbia University: G. Falla	Effects of radiation on living tissues	Sept. 23, 1949-Sept. 21, 1950	1,600
Kautner, Harold H.	University of Chicago: R. E. Zirkle	Fundamental physical aspects of structure and function of cells and tissues	Sept. 28, 1949-Sept. 25, 1950	2,000
Kanwisher, John W.	University of Rochester: W. F. Bale	Biophysics—physical nature of proteins	July 1, 1949-June 30, 1950	2,100
Krebs, John S.	Not determined	Pharmacology and biophysics	do.	1,500
Kurtz, Edwin B., Jr.	California Institute of Technology: J. Bonner	Plant physiology and plant-fat metabolism	Sept. 28, 1949-Sept. 25, 1950	1,600
Lindley, Dan L., Jr.	California Institute of Technology: A. H. Sturtevant	Genetics of drosophila	Oct. 1, 1949-Sept. 30, 1950	2,100
McCormick, Mack H.	University of Illinois: H. E. Carter	Inositol containing lipids and the metabolism of inositol in animals	Sept. 1, 1949-Aug. 31, 1950	2,350
McMaster, Rachel D.	Columbia University: A. W. Pollister	Cytology—mitosis	do.	1,600
Mills, Edgar W., Jr.	University of Chicago: R. E. Zirkle	Physiology of living systems, as interpreted through physics	Sept. 20, 1949-Sept. 19, 1950	1,600
Morowitz, Harold J.	Yale University: E. Pollard	Biophysics	July 1, 1949-June 30, 1950	2,100

O'Meara, John C.	Massachusetts Institute of Technology: B. E. Proctor	Food technology, inactivation of enzymes in foods by supervoltage cathode rays.	Sept. 15, 1949–Sept. 14, 1950	2,350
Pieczur, Elizabeth A.	University of Michigan: C. D. LaRue	Experimental morphology and tissue culture.	July 1, 1949–June 30, 1950	1,600
Rediste, John H.	State College of Washington: Orin Bidduch	Absorption and metabolism of radio-iron in plants.	do.	2,100
Richards, Frederic M.	Harvard Medical School: J. T. Edsall	Physical chemistry of proteins as applied to determination of protein structure.	Sept. 1, 1949–Aug. 31, 1950	2,100
Schneidman, Howard A.	Harvard University: C. M. Williams	General physiology and developmental metabolism.	July 27, 1949–July 26, 1950	1,600
Share, Leonard	Yale University: J. F. Fulton	Interrelationships between the kidney and the circulatory system.	Sept. 12, 1949–Sept. 11, 1950	1,600
Sliva, Herman	Michigan State College: G. W. Prescott	Botany, taxonomy, and ecology of the fresh-water algae.	July 1, 1949–June 30, 1950	1,600
Smith, Thomas O.	Harvard University: F. L. Hisaw	Mammalian endocrinology and physiology.	Oct. 1, 1949–Sept. 30, 1950	2,100
Spencer, William F.	University of Illinois: J. E. Gieseking	Physico-chemical reactions of clay minerals.	Sept. 20, 1949–Sept. 19, 1950	1,600
Thompson, Alan M.	University of Minnesota: M. B. Visecher	Cellular physiology, possibly including cancerous.	Sept. 27, 1949–Sept. 26, 1950	1,600
Travis, Dorothy F.	Harvard Biological Laboratory: J. H. Welch	Comparative physiology and endocrinology.	Sept. 1, 1949–Aug. 31, 1950	1,600
Van Norman, Richard W.	University of Minnesota: A. H. Brown	Botany, plant physiology, photosynthesis.	July 1, 1949–June 30, 1950	2,100
Vincent, Walter S.	University of Pennsylvania: C. W. Metz	Cytology and cytochemistry, physiological role of nucleic acids.	do.	2,600
Wadon, James D.	Indiana University: S. E. Luria	Genetics.	do.	1,600
Yocum, Conrad S.	Hopkins Marine Station: L. R. Blinks	Plant physiology-photosynthesis.	Oct. 1, 1949–Sept. 30, 1950	2,350

## FELLOWS APPOINTED IN 1948

Altenburg, Luolin S. (Mrs.).	Rice Institute: Edgar Altenburg	The detection and quantitative determination of viruses by means of radioactive phosphorus.	Sept. 20, 1948–Sept. 19, 1949	\$2,300
Bachmann, Barbara J.	Stanford University: C. B. Van Niel	Physiology and biochemistry of microorganisms.	Sept. 27, 1948–Sept. 26, 1949	1,600
Beer, Beatrice S. (Mrs.).	California University: Roger Y. Stanier	Enzymes and adaptation in microorganisms.	Sept. 15, 1948–Sept. 14, 1949	2,400
Bryant, Shirley H.	Chicago University: Kenneth S. Cole	Biophysics.	Sept. 25, 1948–Sept. 24, 1949	1,800
Burdick, Allan R.	California University: R. E. Clausen	Polygenic inheritance in tomatoes.	Sept. 11, 1948–Sept. 10, 1949	2,400
Oslin, Shelby H.	North Carolina State College of Agriculture: W. E. Colwell	Plant breeding, physiology, and biometry.	Sept. 17, 1948–Sept. 16, 1949	2,400
Olajyton, Roderick K.	California Institute of Technology: M. Delbruck	Phototaxis of purple bacteria.	July 1, 1948–June 30, 1949	2,300
Cohn, David U.	Duke University: P. Handler	Carbohydrate metabolism in kidney using radiophosphorous and related topics.	Sept. 15, 1948–Sept. 14, 1949	1,800
Coniglio, John G.	Vanderbilt University: C. S. Robinson	Lipid absorption and transport using radioactive carbon.	do.	2,400
Craze, Robert K.	Harvard Medical School: Eric G. Ball	Fixation of carbon dioxide.	do.	1,900
Davison, Clarke	Harvard University: A. Baird Hastings	Metabolic intermediates.	June 1, 1949–May 31, 1950	1,600
Dielein, Lawrence F., Jr.	Harvard University: A. S. Romer	Physiology and/or anatomy.	Sept. 26, 1948–Sept. 25, 1949	1,500
Duffy, Florence A.	California University: H. M. Evans	Parathormone, dihydroachysterol and irradiated ergosterol.	Sept. 20, 1948–Sept. 19, 1949	1,600
Falkenheim, Marlene	California University: J. G. Hamilton	Some aspects of bone physiology, using radioactive isotopes as indicators.	Sept. 15, 1948–Sept. 14, 1949	1,600
Ferguson, Marion L.	Chicago University: John O. Hutchens	Biological effects of radiation.	Mar. 28, 1949–Mar. 27, 1950	2,000
Forker, Lymon L.	California University: J. L. Chalkoff	Protein metabolism, etc.	July 1, 1948–June 30, 1949	1,600
Garvey, Justine S. (Mrs.).	Ohio State University: J. M. Birkeland	Tracers in immunological studies (radioactive sulfanilic acid-azovalbumin).	do.	1,600

## Atomic Energy Commission predoctoral fellowships in the biological sciences, National Research Council—Continued

## FELLOWS APPOINTED IN 1948—Continued

Name	Location and supervisor	Field of specialization	Term	Grant per annum
Geschwind, Irving I.	California University	Effect of hormones on nucleic acid turnover in the rat.	Sept. 1, 1948–Aug. 31, 1949	\$1,900
Goben, David W.	Washington University: H. J. Dauben	Xanthopterin and preparation of labeled xanthopterin and its metabolism.	Oct. 15, 1948–Oct. 14, 1949	2,400
Goldberg, Robert C.	California University: I. L. Chaikoff	Effects, metabolic and pathologic of radioiodine on thyroid, pituitary, and organism as whole.	July 1, 1948–June 30, 1949	1,600
Grace, John Lamar	University of Rochester: Wallace O. Fenn	Cell metabolism, using tracer carbon.	Sept. 27, 1948–Sept. 26, 1950	2,350
Grant, Norman H.	Illinois University: C. S. Vestling	Role of fructo-furanose in carbohydrate metabolism, insulin implications.	Sept. 16, 1948–Sept. 15, 1949	1,600
Heaney, Robert J.	Colorado University: Irving Goodman	Synthesis and biological action of labelled benzimidazole and its N and C glycosides.	Sept. 27, 1948–Sept. 26, 1949	1,900
Kent, Raymond C.	State University of Iowa: L. A. Ware	Biological effects of microwave radiations.	Sept. 23, 1948–Sept. 22, 1949	2,400
Kulwich, Roman	University of Florida: George K. Davis	Animal nutrition—mineral metabolism in cancerous tumors in rats.	Feb. 7, 1949–Feb. 6, 1950	2,000
Lefevre, George, Jr.	University of Missouri: A. B. Griffen	Comparative genetic effects of X-radiation in somatic and germinal tissues in drosophila.	Sept. 1, 1948–Aug. 31, 1949	2,400
Levedahl, Blaine H.	University of Utah: Leo T. Samuels	Enzyme reactions in the metabolism of steroid using isotopic C and H	July 1, 1948–June 30, 1949	2,400
Levine, Robert P.	University of California: Carl Epling	Experimental study of larval growth rates in natural populations of drosophila pseudoobscura.	Feb. 1, 1949–Jan. 31, 1950	2,000
Lipetz, Leo E.	University of California: J. H. Lawrence	A field having to do with biology.	Oct. 1, 1948–Sept. 30, 1949	1,900
MacEwan, Alan M.	University of Missouri: J. Levitt	The movement of mineral elements in plants.	Jan. 26, 1949–Jan. 25, 1950	2,600
Madison, Mary C. R.	Ohio State University: E. L. Green	Physiological genetics	Jan. 3, 1949–Jan. 2, 1950	1,900
McClement, Patricia	Radiology Research Laboratory: G. Falla	Health physics and biophysics	Sept. 1, 1948–Aug. 31, 1949	1,500
McCulloch, David	Massachusetts Institute of Technology: F. O. Schmitt	Ultrastructure of the mitotic apparatus in animal cells	Sept. 27, 1948–Sept. 26, 1949	1,600
Millar, Florence K.	University of Rochester: F. C. Steward	Growth and metabolism in plants, making use of radioactive isotopes.	Oct. 1, 1948–Sept. 30, 1949	1,600
Nelson, Walter L.	State College of Washington: Luther Smith	Relation of wavelength to biological of X-irradiation.	do	2,400
Nisonoff, Alfred	Johns Hopkins Medical School: F. W. Barnes, Jr.	Rates of enzymatic reactions at or near the equilibrium point under varied conditions.	do	1,900
Norman, Amos	Radiology Research Laboratory: G. Falla	Problems in radiobiology	Sept. 20, 1948–Sept. 19, 1949	1,900
Petersen, Betty S.	University of California: I. L. Chaikoff	Intermediary metabolism of fatty acids labeled with C14	Sept. 15, 1948–Sept. 14, 1949	1,600
Pittenger, Thad H.	University of Nebraska: E. F. Frolik	Analysis of pollen sterilities associated with heterozygous translocations in maize.	do	2,400
Read, Clark P., Jr.	Rice Institute: Chandler	Physiology of the tapeworm, hymenolepis diminuta	Dec. 1, 1948–Nov. 30, 1949	2,350
Rosenlof, Robert C.	University of Nebraska Medical College: John S. Latta	Effects of radioactive phosphorus on cells of the blood and blood-forming organs of the albino rat.	Sept. 15, 1948–Sept. 14, 1949	1,500
Rouser, George L., Jr.	University of Rochester: Elmer Stotz	Physiology and the reticulendothelia system.	do	1,500
Sacher, George A.	University of Chicago: Kenneth S. Cole	do	Sept. 25, 1948–Sept. 24, 1949	2,400
Scher, Allen M.	Yale University: J. F. Fulton	do	Sept. 22, 1948–Sept. 21, 1949	1,600
Schiffman, Gerald	New York University: Milton Levy	Biochemistry	Sept. 28, 1948–Sept. 27, 1949	1,500
Schmidt, John W.	University of Nebraska: E. F. Frolik	Effects of irradiating corn with neutrons	Feb. 1, 1949–Jan. 31, 1950	2,400

Slodovansky, Evelyn.....	New York University: Milton Levy.....	Radioisotopes in the analytical study of silk fibroin protein.....	Apr. 1, 1949-Mar. 31, 1950.....	1,600
Snyder, Robert H.....	University of Wisconsin: Harry Steenbeck.....	Mechanism of vitamin D activity in the body.....	July 1, 1948-June 30, 1949.....	2,400
Spiroff, Boris E. N.....	University of Chicago: R. L. Waterson.....	Effects of unilateral and bilateral leg bud extirpation of the gly-cogenic body in the chick.....	Sept. 28, 1948-Sept. 27, 1949.....	1,600
Watt, Thomas B.....	Duke University: Philip Handler.....	Applied biophysics.....	Sept. 15, 1948-Sept. 14, 1949.....	2,800
White, Lamar A.....	University of Indiana: L. S. McJannet.....	Effects of radiation on micro-organisms.....	do.....	1,600
Wilson, Marion E.....	Boston University School of Medicine: Burnham S. Walker.....	Sphygmoccal hemotoxins as to their chemical nature and manner of action in human biology.....	Dec. 1, 1948-Nov. 30, 1949.....	1,600
Wood, Darwin L.....	Ohio State University: Harold H. Nelsen.....	Physiology of auxin and nutrients in tobacco callus tissues.....	Oct. 1, 1948-Sept. 30, 1949.....	2,400
Yates, Ruth C.....	University of Wisconsin: Folke Skoog.....	Genetic relationships of auxin and nutrients in tobacco callus tissues.....	July 12, 1948-July 11, 1949.....	1,600
Zarudinasya, Katerina I.....	University of Missouri: L. J. Stadler.....	Mechanism of anthocyanin production in corn as controlled by various alleles of gene R.....	July 15, 1948-July 14, 1949.....	1,600

*Atomic Energy Commission predocloral fellowships in the biological sciences (health physics), National Research Council*

FELLOWS APPOINTED IN 1948

Name	Location and supervisor	Title of research	Term	Grant per annum
Bart, Isabelle A.....	Rochester University: Henry Blair.....	Health physics.....	Nov. 1, 1948-Oct. 31, 1949.....	\$1,500
Benetel, Virginia.....	Oak Ridge National Laboratory: Ross S. Thackeray.....	Biological effects of atomic energy.....	do.....	1,500
Buchanan, Cecil R.....	do.....	Identification measurement, and control of radiation effects on living tissue.....	do.....	2,300
Cool, Walter S.....	Rochester University: Henry Blair.....	Biophysics.....	do.....	1,500
Emmons, Ardeth H.....	Oak Ridge National Laboratory: Ross S. Thackeray.....	do.....	do.....	2,300
Fidler, Stanley G.....	do.....	Health physics.....	do.....	2,400
Gallagher, Robert G.....	do.....	Identification, measurement, and control of radiation effects.....	do.....	1,500
Herr, H. Floyd.....	do.....	Health physics.....	do.....	1,800
Janssen, Willard G.....	Rochester University: Henry Blair.....	Effect of atomic energy on living tissue.....	do.....	1,500
Jenkins, Guy.....	do.....	Health physics.....	do.....	1,800
Jones, Sella C.....	do.....	do.....	do.....	1,500
Koontz, Roscoe I.....	do.....	do.....	do.....	1,500
Menchaca, Elvira.....	do.....	Biophysics.....	do.....	1,800
Moudy, Lavada.....	Oak Ridge National Laboratory: Ross S. Thackeray.....	Health physics.....	do.....	1,500
Palmiter, Claire G.....	do.....	Effect of radiation on living tissue and the identification, measure-ment, and control of radiation hazards.....	do.....	1,800
Paschal, Frank L., Jr.....	do.....	Biophysics.....	do.....	1,600
Richmond, Jonas E.....	University of Rochester: Henry Blair.....	Health physics.....	do.....	2,000

*Atomic Energy Commission postdoctoral fellowships in the medical sciences, National Research Council*  
 FELLOWS APPOINTED IN 1948 (MAY 5 AND SEPT. 27 MEETINGS)

Name	Location and supervisor	Title of research	Term	Grant per annum
Alkawa, Jerry K. ....	North Carolina Center: Philip Handler. Bowman Gray: George T. Harrell.	Studies on alterations in the distribution of body fluids in infectious diseases, using radioactive isotopes; studies on the permeability of capillary and cell membranes in normal and pathologic states. The use of $C^{14}$ in the study of protein metabolism in normal and in irradiated animals.	Oct. 1, 1948-Sept. 30, 1950	\$3, 750
Bly, Chauncey G. ....	Rochester: William F. Bale and Henry A. Blair.	To be determined.	July 1, 1949-June 30, 1950	3, 750
Colgan, John W. ....	Texas Center: Roy Talmage.	Particular reference to the role of the endocrines.	Sept. 1, 1949-Aug. 31, 1950	3, 500
Edelman, Isidore S. ....	Peter Bent Brigham Hospital: Francis D. Moore.	Studies in the field of biophysics.	Jan. 1, 1949-Dec. 31, 1949	3, 750
Geary, John R., Jr. ....	Columbia: Edith Quimby.	Studies of the metabolism of lymphoid tissue in vitro followed with tracer.	July 1, 1949-June 30, 1950	3, 500
Hellman, Leon D. ....	Sloan-Kettering Institute: Ruion Rawson and Wendell Peacock.	Study of radiation damage.	Sept. 1, 1948-Aug. 31, 1950	3, 000
Hoepflich, Paul D. ....	Texas Center: Roy Talmage.	To be determined.	Jan. 1, 1949-Dec. 31, 1949	3, 500
Huff, Rex L. ....	California: John Lawrence.	Iron metabolism in the rat; studied with tracer $Fe^{59}$ .	Nov. 1, 1948-Oct. 31, 1950	3, 750
Hutchens, Tyra T. ....	Oregon Center: Arthur F. Scott.	Studies on the metabolism of cholesterol, using acetic acid labeled with $C^{14}$ .	June 28, 1948-June 28, 1950	4, 000
Jennings, Frank L. ....	Oregon: E. S. West.	Studies on the effect of protein and of amino acids on recovery of bone marrow activity after total body irradiation.	July 1, 1948-June 30, 1950	3, 500
Johnson, Frank B. ....	Chicago: Paul R. Cannon.	Studies on the metabolism of certain amino acids, utilizing C-14 labels.	Sept. 1, 1948-Aug. 31, 1950	3, 750
Keller, Elizabeth B. ....	Ohio State: Charles A. Doan and William C. Myers.	Studies of the zinc metabolism of the blood cells in certain pathologic states as compared with the normal, using radioactive zinc.	Oct. 11, 1948-Oct. 10, 1949	3, 000
Lanson, Baldwin G. ....	California: Joseph G. Hamilton.	Studies on the experimental treatment of human malignancy.	July 1, 1948-June 30, 1949	4, 000
Marks, Sidney ....	do.	Basic training in nuclear physics, subject to be determined.	On leave of absence due to illness.	4, 000
Masouredis, Serafeim P. ....	do.	Metabolism of fission products and clinical application.	Nov. 1, 1948-Oct. 31, 1950	3, 000
Nellins, Harry Z. ....	Texas Center: Roy Talmage.	To be determined.	Jan. 1, 1949-Dec. 31, 1949	3, 000
Nell, Capleton McK. ....	do.	do.	do.	3, 750
Palmer, Robert F. ....	do.	do.	do.	3, 000
Quimby, William C., Jr. ....	Massachusetts Institute of Technology: Frank O. Schmitt.	Studies on the relation of the concepts and methods of biology and physics to the problems of wound healing.	June 1, 1948-Feb. 28, 1949	3, 000
Raben, Maurice S. ....	Joe. H. Pratt Diagnostic Hospital: Edwin B. Asewood.	Factors influencing the rate of thyroid hormone formation, as determined by methods employing radioactive iodine; the metabolism of iodine by the thyroid gland and the role of thyrotropin.	July 1, 1948-June 30, 1950	3, 500
Redfield, Robert R. ....	Chicago: E. S. Guzman Barron.	A brief study of the catabolic metabolism of lymphatic tissue slices; study of the enzyme reactions involved in protein synthesis by lymphatic tissue.	Oct. 4, 1948-Oct. 3, 1950	3, 000
Reed, Joseph, Jr. ....	Harper Hospital: Kenneth E. Corrigan and L. Reynolds.	Study of diagnostic techniques and physiology of normal and abnormal thyroid, with the aid of radioactive isotopes.	Aug. 1, 1948-July 31, 1949	3, 750
Schoerb, Paul R. ....	Peter Bent Brigham Hospital: Francis D. Moore.	Studies on the application of deuterium oxide and carbon 14 to protein and steroid metabolism.	July 12, 1948-Nov. 11, 1949	3, 000
Smith, Arthur H. ....	California: Max Kleiber and Hardin B. Jones.	Studies on the intermediary metabolism of large animals by means of P-32 and C-14.	Nov. 1, 1948-Oct. 31, 1950	4, 000
Stevens, Kingsley M. ....	North Carolina Center: Philip Handler. Bowman Gray: George T. Harrell. Chicago: E. S. Guzman Barron.	Study of nucleoproteins in bacteris; protein synthesis.	Sept. 20, 1948-Sept. 19, 1950	3, 000

<sup>1</sup> Resigned.

## FELLOWS APPOINTED AT MEETING, MAR. 15, 1949

Arnold, James S.	Oregon Center: Arthur Scott National Laboratory: Austin Brues and Leon Jacobson.	To be determined.	July 1, 1949-June 30, 1950	\$3,500
Athens, John W.	North Carolina Center: Philip Handler Johns Hopkins Hospital—F. W. Barnes, Jr.	Studies on the metabolic fate of carbon in the $\alpha$ -carboxyl group of L (+) glutamic acid.	Sept. 1, 1949-Aug. 31, 1950	3,000
Biggs, Max William.	California: John H. Lawrence	Studies in the fields of medical physics and biochemistry	July 1, 1949-June 30, 1950	3,500
Birchill, Frederick R.	Oregon Center: Arthur Scott Argonne National Laboratory: Austin Brues.	To be determined.	do.	3,750
Cathey, William J.	Oregon Center: Arthur Scott Oregon Medical School: E. S. West.	Studies on factors relating to the synthesis and degradation of cho- lesterol (fatty acids and ketone bodies in the animal body, using ethanol and acetic acid labeled with C-14).	do.	3,500
Chase, Malcolm S.	Oregon Center: Arthur Scott.	Studies of the anemia of infection.	do.	3,500
Coniglio, John G.	Utah: M. M. Winrobe. Colorado Center: Theodore Puck.	Studies on fat absorption, using C-14 labeled fats and fatty acids.	Sept. 1, 1949-Aug. 31, 1950	3,750
Ehmlinger, Paul J.	Vanderbilt: C. S. Robinson.	Studies on electromagnet radiation in the microwave region.	July 1, 1949-June 30, 1950	3,500
Fareghan, William G.	California: John H. Lawrence	To be determined.	do.	3,000
Finkelstein, Paul.	Oregon Center: Arthur Scott. Chicago: E. S. Guzman Barron.	Studies on the effect of ionizing radiations on the physical and chemi- cal properties of crystalline proteins and enzyme by the use of the ultracentrifuge and electrophoresis.	Sept. 1, 1949-Aug. 31, 1950	3,000
Foreman, Harry.	California: Joseph G. Hamilton.	Studies of radioactive elements and compounds with high specific localization in neoplastic tissues.	July 1, 1949-June 30, 1950	3,000
Goldthwait, David A.	Texas Center: Roy Talmage	To be determined.	Jan. 1, 1950-Dec. 31, 1950	3,000
Goodwin, Laurence D.	Colorado Center: Theodore Puck	To be determined.	Sept. 1, 1949-Aug. 31, 1950	3,000
Hoffman, Milton C.	North Carolina Center: Philip Handler. Massachusetts General Hospital: Oliver Cope.	To be determined.	Sept. 1, 1949-Aug. 31, 1950	3,000
Kinney, John M.	Colorado Center: Theodore Puck	Studies on the intermediary metabolism of amino acids and proteins and their relation to liver function.	do.	3,500
Levine, Seymour	Cornell: Vincent du Vigneaud Colorado Center: Theodore Puck	Studies of the metabolism of the pathogenic fungi, particularly <i>Blasomycetes dermatitidis</i> , using isotopic tracer techniques.	do.	3,500
Powell, Charles P., Jr.	Western Reserve: L. O. Kinslipz.	To be determined.	do.	3,750
Prentice, Theodore C.	Colorado Center: Theodore Puck do.	do.	do.	3,500
Shelne, Glenn E.	California: John H. Lawrence. Oregon Center: Arthur Scott.	Studies on means of influencing the uptake of radiolabeled in carcino- matous thyroid tissue.	July 1, 1949-June 30, 1950	3,500
Sinskey, Robert M.	Oregon Center: Philip Handler North Carolina Center: Philip Handler	Studies in the fields of ophthalmology and otology, using radioactive isotopes as tracers.	Sept. 1, 1949-Aug. 31, 1950	3,000
Weed, Lawrence L.	Duke: Philip Handler North Carolina Center: Philip Handler	Study of intermediary carbon metabolism by means of radioactive carbon ( $C^{14}$ ).	do.	3,000
Wight, Anne.	Pennsylvania: D. Wright Wilson North Carolina Center: Philip Handler Massachusetts General Hospital: Oliver Cope.	Study of dehydration in acute surgical disease with especial reference to perforated peptic ulcer, intestinal obstruction, and peritonitis.	do.	3,000
Winkelmann, Richard K.	North Carolina Center: Philip Handler do.	To be determined.	do.	3,500
Wrenn, Frank R., Jr.	Duke: Philip Handler.	Studies on the metabolism of transplantable brain tumors and the mechanism of organotoxic organisms when brain and brain tumors are used as antigens.	do.	3,500



# ATOMIC ENERGY REPORT TO CONGRESS

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## HEARING

BEFORE THE

JOINT COMMITTEE ON ATOMIC ENERGY

CONGRESS OF THE UNITED STATES

EIGHTY-FIRST CONGRESS

FIRST SESSION

ON

ATOMIC ENERGY REPORT TO CONGRESS

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FEBRUARY 2, 1949

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Printed for the use of the Joint Committee on Atomic Energy



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# ATOMIC ENERGY REPORT TO CONGRESS

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WEDNESDAY, FEBRUARY 2, 1949

CONGRESS OF THE UNITED STATES,  
JOINT COMMITTEE ON ATOMIC ENERGY  
*Washington, D. C.*

The committee met at 2 p. m., pursuant to call, in room 457, Senate Office Building, Senator Brien McMahon (chairman) presiding.

Present: Senators McMahon (chairman), Connally, Tydings, Hickenlooper, Millikin, and Knowland.

Representatives Durham (vice chairman), Holifield, Price, Kilday, Jackson, Cole, Elston, and Hinshaw.

Also present: Messrs. David E. Lilienthal, Chairman; Robert F. Bacher, member; Lewis L. Straus, member; Carroll L. Wilson, General Manager; Carleton Shugg, Deputy General Manager; Kenneth S. Pitzer, Director, Division of Research; Walter J. Williams, Director, Division of Production; Brig. Gen. James McCormack, Jr., Director, Division of Military Application; Lawrence R. Hafstad, Director, Division of Reactor Development; and Dr. Shields Warren, Director, Division of Biology and Medicine, Atomic Energy Commission.

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The CHAIRMAN. All right, gentlemen, let us come to order.

Since we last met some months ago, there have been some new members who have been added to the Joint Committee. It seemed the proper thing for us to do to meet the Commission again and to go over some of the things that are of importance to the atomic energy project.

We are very glad to welcome here today the new members of the committee, and I am glad, of course, to welcome the Chairman of the Commission, Mr. Lilienthal; Commissioners Strauss and Bacher, members of the Commission; and the General Manager, Mr. Wilson.

The purpose of the meeting today is to bring the committee up to date on all of those matters which can be discussed in open session. The Chairman personally believes that there are many, many matters—in fact, the majority of the business of the Commission—that can be discussed with the Joint Committee in public session. It is my hope that we shall have many such meetings with the Commission.

We will later inquire into many specific subjects as they occur both to the Chairman and to the joint members of the Committee.

I would like to have the Chairman of the Commission tell us what he will, and what he can tell us at this time, about the work of the Commission and its problems, and we will probably have some questions as we go along.

Mr. Lilienthal.

**STATEMENTS OF DAVID E. LILIENTHAL, CHAIRMAN, ATOMIC ENERGY COMMISSION, AND CARROLL L. WILSON, GENERAL MANAGER, ATOMIC ENERGY COMMISSION**

Mr. LILIENTHAL. Mr. Chairman and members of the Joint Committee on Atomic Energy: The Commission is glad of this opportunity to meet with the Joint Committee on Atomic Energy, which I believe is the first meeting for a matter of months. We second the hope expressed by the chairman of the committee that, as much as possible, the hearings held in the future between the committee and the Commission may be so divided that a good deal of public hearings will be feasible, because they will obviously be helpful within those limits.

I would like to start, if I may, by introducing or asking to rise, members of the Commission's top staff who are here, some of whom are new in the interval in the last 6 months, and some of whom you may not be acquainted with. These are the fellows who carry the load of this work, in a management sense, and we are frankly very proud of the staff that has been assembled.

The two new members of the staff are the Director of Research, Dr. Pitzer, if you will rise, and Dr. Hafstad, who is the new Director of Reactor Development. I would like to put the qualifications and background of these gentlemen in the record at this time.

The CHAIRMAN. Without objection, it will be put in the record.

(Qualifications and background of Dr. Kenneth S. Pitzer and Dr. Lawrence M. Hafstad are as follows:)

**DR. KENNETH S. PITZER**

Prior to his recent appointment as Director of the Commission's Division of Research, Dr. Kenneth S. Pitzer was professor of chemistry at the University of California, Berkeley, where he has been a member of the faculty since he received his doctor of philosophy degree from that institution in 1937.

In addition to his position on the faculty of the University of California, from which he has been granted a leave of absence, Dr. Pitzer is also a councilor of the American Chemical Society, an associate editor of the Journal of the American Chemical Society, a member of the committee on physical chemistry of the National Research Council, and an associate director of the American Petroleum Institute project on the collection, analysis, and calculation of data on the properties of hydrocarbons.

While on a previous leave of absence, from the University of California in 1943-44, Dr. Pitzer served as research director of the Maryland Research Laboratory. He received the American Chemical Society award in pure chemistry in 1943, and was awarded an Army and Navy certificate for his research accomplishments in 1948.

Dr. Pitzer was born in Pomona, Calif., on January 6, 1914, and is a graduate of the California Institute of Technology, where he received his bachelor of science degree in 1935.

**DR. LAWRENCE R. HAFSTAD**

Dr. Lawrence R. Hafstad, first Director of the AEC's new Reactor Development Division, has been executive secretary of the Joint Research and Development Board of the National Military Establishment since July 1, 1947. There his responsibility had been to work with the policy committee which considers strategic applications of scientific developments and to coordinate the work of the research and development groups of the Army, Navy, and Air Force.

Dr. Hafstad has been, and still is, on leave of absence from Johns Hopkins University, where he held the position of director of research of the Applied Physics Laboratory at Silver Spring, Md. It was in this laboratory that he performed much of the work leading to the development of the proximity fuse, upon which he started work for the Army and Navy at the department of terrestrial magnetism, Carnegie Institution, in 1940, and took part in research and development

work on guided missiles. He was awarded the Medal of Merit by the Secretary of the Navy in 1946 for his wartime activities in the development of ordnance devices.

Born in Minneapolis, Minn., June 18, 1904, Dr. Hafstad was graduated from the University of Minnesota in 1926 and received his doctorate in physics from Johns Hopkins in 1933. While in high school and the University of Minnesota, Dr. Hafstad was employed as a telephone lineman and later an engineer. He was associate physicist at Carnegie Institution of Washington, D. C. from 1928 to 1933 and in 1931, with Dr. Tuve, was winner of an award by the American Association for the Advancement of Science for research and development concerning the million-volt vacuum tube. His work also included research and development in propagation of radio waves, the measurement of the height of the radio-reflecting layer and its relation to magnetic storm, atomic disintegrations, and artificial radioactivity. Dr. Hafstad and two colleagues, Drs. Richard Roberts and Merle Tuve, were among the first to demonstrate uranium fission in this country in 1939.

Mr. LILIENTHAL. There is also the Director of Biology and Medicine, Dr. Shields Warren. Also the Director of Production, Mr. Walter Williams. Most of you are familiar with Mr. Williams. And the Director of the Division of Military Application, Brig. Gen. James McCormack.

There is also present today the former manager of the Hanford operations, now the Deputy General Manager, Mr. Carleton Shugg.

Mr. Chairman and members of the Joint Committee: I think the starting point in any discussion of atomic energy in the United States, certainly the starting point so far as this Commission is concerned in discharging its responsibilities of keeping this committee fully and currently informed, is simply a reminder of what everyone knows, and that is that despite the best efforts of this country and its representatives, and the efforts of many other nations of the world, there is today no international agreement on the elimination of atomic energy as a national armament, as a weapon of war, nor is there any early prospect of such agreement.

Therefore, as a nation, the work of this Commission for which this Commission is responsible is pressing forward on every front in maintaining, and if we can, increasing the preeminence of this country in all aspects of atomic energy.

A report was filed on Monday with the Congress pursuant to the provisions of the Atomic Energy Act of 1946 which requires semiannual reports to the Congress. This report is, of course, an unclassified document. It is, I believe, in your hands. It is not my purpose to go over this report since it is a report which you have, and if you have not read, I hope you will. And if you have read it, you will doubtless have questions which, if not answered in this report, the members may desire to ask.

It might be helpful in the interests of the reading of the transcript of these hearings if the foreword of this report, however, which is only a matter of four printed pages, might be inserted at this point since it represents a summary analysis of the report itself.

The CHAIRMAN. Without objection it is so ordered.

(The foreword to the Fifth Semiannual Report of the Atomic Energy Commission to the Congress of the United States, dated January 1949 is as follows:)

#### FOREWORD

Atomic energy development in the United States is now 10 years old. It was in the last week of January 1939 that the phenomenon of nuclear fission was first confirmed in the United States.

In one decade, a whole new body of knowledge has been built up. Frontiers of science have been pushed ahead. Atomic energy has been used as a weapon of war, but it also holds promise of great benefits to mankind. Men are diligently seeking the means of developing the new knowledge and of controlling this force in order to realize those benefits.

Two years ago, the United States Atomic Energy Commission was established under the Atomic Energy Act of 1946, which sets forth the broad policies and objectives of the national atomic energy program.

During these 2 years the trouble spots which threatened continuity of production of fissionable materials have been largely eliminated. The weapons situation has been greatly improved. Important additions have been made to scientific and technical knowledge. A program for the development of nuclear reactors aimed at the possible production of power and the breeding of new fissionable materials has been formulated and is being vigorously prosecuted.

A reorganization of the Commission's principal office to meet operating requirements is nearly complete and the addition of new key personnel has materially strengthened the Commission's staff. The Office of the Director of Intelligence has been established to correlate and evaluate information on foreign atomic energy developments. This office maintains close collaboration with other intelligence agencies of the Government.

This fifth semiannual report of the Commission to the Congress, recording an expansion of effort in all phases of atomic energy development, is prepared against a background of world affairs which makes it necessary for the American people to maintain self-imposed restraints on the dissemination of a vast amount of data acquired since the beginning of the atomic energy enterprise in 1939.

Since that time, the American people have invested more than \$3,000,000,000 in atomic energy, starting with the first allocation of \$6,000 in 1940 and including \$342,000,000 expended by the Commission in 1947 and about \$525,000,000 in 1948. The accounting to the American people for the expenditure of such sums under restrictions which preclude normally free and open analysis, places the Commission in a position not fully consistent with the traditional methods of public accountability and management. Nevertheless, as the scope of this and earlier Commission reports indicates, a wide area of reporting is entirely feasible.

This report, and a subsequent special report on Reactor Development which the Commission will submit to the Congress in the near future, are an attempt to provide information on plants and on operations essential for an understanding of the purposes and results of the Nation's heavy expenditures for atomic energy development, and the problems and difficulties encountered in the program.

The report indicates expansion and improvement all along the atomic energy development chain from the mines to the ultimate use made of fissionable material. Activity has stepped up steadily in 1948. The first year of the Commission's stewardship of the atomic energy project, 1947, was largely spent in analysis and planning, with a start made on needed expansion. In 1948 the full program of long-range development got under way. Actual production operations were improved and output increased. The fact, is however, that the important research and development problems in atomic energy have yet to be solved.

By the year's end the United States atomic energy program had attained a momentum which, if sustained, the Commission believes will maintain and increase the Nation's lead in atomic energy development.

But there are a number of phases of the operations where the rate of progress has not been satisfactory. These include: Adequate budget and accounting reporting; cooperation and exchange of information with industrial firms not actually participating in the program; personnel security clearance procedures; recruitment of scientific and technical talent; policies, procedures, and operations in both the issuance and the control of information. In addition, work on the solution of a number of research and development problems referred to in the report has not progressed as rapidly as it can and will.

One of the first requirements of a well-managed undertaking, public or private is a modern accounting and budget system providing cost and budget data to increase efficiency and make management more fully responsible. No industrial accounting or budget procedures existed when the Commission assumed responsibility.

The Commission's program to establish such a system has made considerable progress, but still falls short of its objectives. Several nationally known firms in this field were called to assist the Commission's Controller in this work. By the time its next semiannual report is issued, the Commission hopes to have in operation a reporting system which will adequately meet the needs of the atomic energy program and better satisfy the requirements of accountability for public funds.

Among the matters reflected in this report which are of special concern to the Congress are the results achieved with the assistance of, and in cooperation with, other agencies of the Government. The Commission desires to report to the Congress its satisfaction with these relationships.

The Department of Justice has worked with the Commission in a cooperative spirit. In particular, the Federal Bureau of Investigation has carried out the large investigative responsibilities assigned to it under the Atomic Energy Act with great thoroughness.

The General Accounting Office has shown broad understanding and aided in the working out of the special accounting problems of the atomic energy program.

The United States Geological Survey and the United States Bureau of Mines, both of the Department of the Interior, have assumed heavy responsibilities in the raw-materials program. Their services have relieved the Commission of the necessity of directly carrying out major raw-materials projects, at savings to the Government.

Improved staff coordination, better understanding of common problems, and the work of the Military Liaison Committee have strengthened mutually helpful relationships between the Commission and the National Military Establishment. This report details many instances of efficiently coordinated staff work and evidences of the desire of the representatives of the National Military Establishment to give every possible assistance in the conduct of the atomic energy program.

The Commission has worked closely with the Department of State in carrying out programs that involve relationships with the governments of other nations. Such programs include export control, procurement of raw materials from foreign sources, the control of information shared with the United Kingdom and Canada, and technical cooperation with these two nations in certain specified areas.

Relationships with the United Kingdom and Canada in the field of atomic energy have continued under the guidance of the Combined Policy Committee of the three nations, of which the Secretary of State of the United States is Chairman. This Committee was first established in 1943. The members for the United States in addition to the Secretary of State, are the Secretary of Defense and the Chairman of the Atomic Energy Commission.

In fulfillment of its responsibility to keep the Joint Committee on Atomic Energy of the Congress fully and currently informed, the Commission furnishes the Committee with a top-secret quarterly progress report; a number of recurring reports on specific activities; and many letters, memoranda, and special reports. The staffs of the Commission and the Joint Committee are in almost daily contact. Representatives of the Committee and its staff have visited the major installations of the Commission and attended the tests of atomic bombs at Eniwetok last spring.

The General Advisory Committee appointed by the President as provided by the Atomic Energy Act, has counseled the Commission on the major scientific and technical developments in the program. The guidance they have given has substantially contributed to the progress of the past 2 years.

The Commission has continued to make extensive use of advisory committees, a practice which has been highly effective in obtaining for the Government the part-time services of outstanding men in many fields of activity related to atomic energy development. Many of these men, whose names are listed in the appendixes of this report, have devoted considerable time and effort to this work at sacrifice and inconvenience to themselves. They have made substantial contributions to the national atomic energy program.

As the Members of the Congress know Mr. W. W. Waymack resigned from the Commission for personal reasons, effective December 21, 1948. During the first 2 years of the existence of this Commission—two arduous years climaxing a far longer period of public service which Mr. Waymack has rendered to his countrymen—he endeared himself to us by his personal qualities and earned our admiration for his mature judgment and our respect for his impartiality and objectivity.

Mr. LILIENTHAL. There are two matters in the way of responding to the chairman's suggestion that the Commission bring the joint committee up to date, as to what has been happening, what the present status of things is, that I would like to proceed to, and neither of these are covered by the public report, the report to Congress, the semi-annual report.

The first of these is the Commission's quarterly progress report. This report is the fifth quarterly progress report made to the joint

committee. I should like to have the courier deliver this report to the chairman.

The CHAIRMAN. Is this a classified document, Mr. Chairman?

Mr. LILIENTHAL. This document is classified "Top Secret" because of its contents, and particularly because of the contents gathered together in one document. I would say this is perhaps one of the hottest documents that has yet been assembled.

On the handling of the document the staff of the committee has established procedure—Senator Hickenlooper and the staff—and I assume this document will be handled in a similar fashion. There are copies available, of course, for each member of the committee.

We would be glad to suit the wishes of the committee as to how members of the committee will have sufficient copies available. Since it is not likely that each member has facilities in his own office for taking care of such documents, we would be glad, of course, to provide courier service and take the documents back to the safes between its reading, or any other method the Chairman desires.

The CHAIRMAN. The committee will discuss that, Mr. Lilienthal, and we will advise you. Obviously I would take it that you regard this as an extremely important report. Therefore, it should be considered by each member of the committee.

Mr. LILIENTHAL. Yes; I would think so. This is the best way we have been able to develop working in cooperation with Senator Hickenlooper and the staff during the past year and a half, to summarize a statement of program goals and of how nearly we are achieving those goals, and of the program itself.

Now, this document does contain some material which is unclassified.

Senator TYDINGS. I would like to ask Mr. Lilienthal: how many members of the Commission, or the Commission staff, have seen this document, approximately?

Mr. LILIENTHAL. This document, parts of it, of course, require services of those people in the various departments. As a completed document, excluding document control clerks who have to sign them in, I would just guess perhaps 20 people.

I may say, Senator, that this document does not contain production rates, production quantities, nor stock-pile information. The committee has indicated that those figures which are known to a much lesser number than this not be provided thus far.

This quarterly report can become the vehicle of transmitting to the committee important, secret and top secret information. It can also be the basis for hearings in executive session, or in some cases, not executive session. I would like to give some indication of its background.

On the 23d of July 1947 the joint committee, through its chairman, requested a statement of program goals and a quarterly program report at intervals of 90 days. This report is, as to its form, therefore, the product of joint consultation with the staff of the committee and the Commission. We would welcome a continuation of suggestions from the committee, such as we have had in the past, to make this report more informative or to change its content, or less informative, if it should happen to be the wish of the committee.

We have deliberately kept it brief so that it can be read. Its sections include a section on weapons, their production, weapon readiness

and research and development. We have reported publicly that the weapon position of the United States has been substantially improved.

The CHAIRMAN. Might I interrupt you there, Mr. Chairman? I notice in the papers, particularly a paper published in Washington on Monday: I show you a headline, "Super Atomic Bombs Put In Production." If this was a single instance it might be not worth mentioning. But I have seen a number of other newspapers which have carried the same headline.

As far as I can see from reading the report, the foreword to the report, and comparing that with the release that I believe was made by the President of the United States after the Eniwetok experiment, there is nothing either in the report or in the release after Eniwetok that justifies that the United States possesses superbombs. Am I correct in that?

Mr. LILIENTHAL. I do not know what a superbomb is. But I assume that you have reference to a bomb that is, say, a thousand times greater than any previously known.

The CHAIRMAN. That is the generally accepted meaning in the public mind. I think it is important that there be complete understanding as to whether or not that situation has been achieved.

Mr. LILIENTHAL. The references in this report to improvement in weapons uses the term "substantially improved" and other similar expressions. These are literally true. But we did not have reference to what you have defined as a superbomb. And the text is not intended to infer that

The CHAIRMAN. Senator Tydings?

Senator TYDINGS. Mr. Lilienthal, is it desirable in your opinion that we give out information as to the progress we are making in weapons that are associated with the development of atomic energy?

Mr. LILIENTHAL. The extent and character of that information, it seems to me, Senator, is the real question. I would suppose it is perfectly clear that the country would expect to know that we are producing weapons, atomic weapons. I suppose it would be important in view of all the other issues involving armament that are being discussed publicly, that they be advised that progress is being made in some general, relative way.

Whether detailed information is given it seems to me imposes a very difficult question that obviously must be canvassed with the greatest of care because it involves a great deal more than simply atomic weapons.

Senator TYDINGS. I have not given the matter any deep thought, and I say this not in a spirit of criticism, but it does occur to me, without thinking deeply about it, that there is a great deal to be said for not giving out information which has to do with the improvement of the atomic-bomb weapon.

I hope we never have another war, and I hope we do not have any enemies. But assuming that those things are possible, it occurs to me that some statement that improvements, if they can be called such, in the development of atomic weapons are constantly being made would be a much more rational way to let the public know that we are making improvements, rather than to make statements that would give rise to a connotation of a superbomb, for two reasons:

The first reason is, I think, the lay public are likely to exaggerate what the superbomb is, as has already been demonstrated by a pre-

vious question. And the second one is, if we are to have a war it would spur our so-called possible enemies on to greater efforts.

I do not like to appropriate money to make our own country safe and at the same time do things that make the other country match our efforts and thereby make us correspondingly less safe. I think very seriously, in the future, without having thought deeply about it, it might be wise if we would detail such improvements in atomic weapons in a little milder way so as to neither alarm our own people on the one hand, or to give impetus to our possible enemies upon the other.

Senator CONNALLY. Mr. Chairman, I want to express my thorough agreement with the position of Senator Tydings. It is a mistake, as I see it, for us to rush into the press every time we make any progress whatever, and tell our enemies just what we are doing here, that we are going to do this or do that. It has the double effect of putting the enemy on the alert, and nursing our people into a state of indifference, thinking: "Well, we have all the bombs and all the improvements and all the weapons, and we do not need a big army or a big navy, or we do not need aircraft."

I agree with you thoroughly on that.

Senator TYDINGS. I do not mean to say that any such statement warranting the deductions that have been made have emanated from the Commission. I only bring it up not to review the past, but to put caution on the future.

Senator CONNALLY. I saw something in the paper the other day, that I cannot recall now, that the bomb is many times bigger than the bomb at Bikini and so forth. I think it is a mistake.

Mr. LILIENTHAL. It is a very difficult question because we are expending public funds.

Senator CONNALLY. I know we are spending them up here. You are not spending any of them. Congress appropriated the money. Why is it necessary, because you spend public money, to go out and blah blah all over the country about these bombs?

Mr. LILIENTHAL. It is the general principle of public accountability of reporting within the limits of security.

Senator CONNALLY. Reporting to whom?

Mr. LILIENTHAL. Reporting to the Congress and to the country.

Senator CONNALLY. That is one thing. Reporting to one country is one thing, but to be running in to the press is another thing. It seems to me that Congress or the Executive, one or the other, ought to have discretion as to what ought to be given out and what ought not to be given out.

I do not think it is the business of the Commission to conduct its own decisions on those things.

Mr. LILIENTHAL. The responsibility for what is and what is not restricted data is one we meet every day, and it is a question of balance. For example, expansion of production is something that obviously cannot be concealed, because it is on a very large scale, involving tens of thousands of people.

The query as to whether you seek to conceal something that cannot be concealed has perhaps as great a bearing, in terms of numbers, as the magnitude of the weapon itself. I will be very glad to have an expression from the committee on that because it comes up all the time.

Senator TYDINGS. To reemphasize my point, I imagine in any plans our military people will be called upon to make for any eventuality, they will have to find out what is happening in other countries where the information is not as public as it is in the United States.

That is a handicap under which our military people have to work. It seems to me that if we are faced with that handicap in reference to our potential enemies, that we should be very careful not to give them, even inadvertently, information which they otherwise could not get, and upon which they can, of course, plan their own strategy and tactics for any eventuality.

My only thought is whatever damage has been done now probably is not material. But in the future, I feel I would not be keeping faith with my job here if I did not point out that there is a great deal aid and comfort in making these statements. We ought not give such aid and comfort.

Mr. HOLIFIELD. In any releases you have given out from your department you have not given out releases which would necessarily justify these sensational headlines, have you?

Mr. LILIENTHAL. No, sir.

Mr. HOLIFIELD. The releases of information have been couched in very moderate terms, such as "substantial" or "marked improvement," and terms along that line, in your report. I have read your report.

Mr. LILIENTHAL. Yes. I should say that the great importance of how these statements should be made was recognized, and the pronouncements about the tests at Eniwetok which were pronounced here in some detail in executive session, were made to the President of the United States, and were cleared with the military.

I do not say this means that they were all-wise, but at least we took the precautions that were appropriate of treating this as a matter of high policy.

Mr. HOLIFIELD. As a matter of fact, the magnification of your releases by sensational headlines are beyond your control and certainly are not warranted by any release I have seen from your Commission and from your report.

Mr. LILIENTHAL. I gather the general impression from speaking to newspaper editors that headlines are beyond anyone's control.

The CHAIRMAN. Mr. Lilienthal, am I correct in saying that the Eniwetok report was made by the President of the United States?

Mr. LILIENTHAL. Yes, sir.

The CHAIRMAN. It was announced at the White House?

Mr. LILIENTHAL. That is correct, Senator.

The CHAIRMAN. Is your report different from that Eniwetok release? Does it report other progress than the Eniwetok tests justified? Or is it the same thing in different language as was contained in the President's release?

Mr. LILIENTHAL. It uses the same qualitative term, namely, "substantial," a "substantial improvement," "substantial gain." That was the language in the President's statement as I recall it, and that is the adjective, the qualitative expression in these descriptions here.

The CHAIRMAN. There are some people, responsible people, too, who have taken the position, both in Government and out of Government, as I understand it, that we should divulge to the Congress, and

hence to the American people, how many bombs we have made. That is a high question of policy which the Congress must, it seems to me, determine.

There are reasons, both pro and con. As I have indicated, I have not made up my mind. I think in view of the discussion which has been had here today, it would be highly proper if the Commission were to give immediate consideration to this question because the question must be determined one way or another, as I see it. We should determine it after careful consideration.

The Chairman would be very, very much pleased if the Commission could carry out that assignment, and of course, it will be reported back to us in executive session where we can consider it, because there might be matters which you might want to give that would be classified information.

Mr. LILIENTHAL. Yes. I suppose the most we could do would be to indicate what the considerations are as we see them on one side, and on the other. I suppose the views of the Commander in Chief and of the Military Establishment would be elicited, and if elicited they certainly would be of greater value than any light we could throw on that. We will do the best we can.

The CHAIRMAN. I would like to point this out: You have a Military Liaison Committee which keeps in touch with the Chief of Staff. You could coordinate that information for us, could you not?

Mr. LILIENTHAL. We could transmit that request; yes.

The CHAIRMAN. Senator Hickenlooper?

Senator HICKENLOOPER. Mr. Lilienthal, is it not a fact that the Commission has definitely and positively adopted the policy of not divulging the number of atomic weapons that we have? Has not that already been settled with the Commission?

Mr. LILIENTHAL. It has indeed.

Senator HICKENLOOPER. In substance.

Mr. LILIENTHAL. It has indeed.

Senator HICKENLOOPER. So I presume what the chairman is suggesting is that you reconsider the already determined policy to see whether it shall be reversed and a different policy on what most of us at least consider to be the very top secret information, that is, among the top secret information, be given.

Mr. LILIENTHAL. Our position has been that the number of weapons in stock pile, production of fissionable material, the rate of production and quantity production of fissionable material which of course are the principal chief components of the weapons, and all matters of production rates and amounts, are classified.

Senator TYDINGS. Mr. Chairman?

Senator HICKENLOOPER. May I just finish this question, to make it clear?

You have taken the unanimous opinion, have you not, since the Commission was set up, that that information would be among the most closely guarded secrets of the Commission?

Mr. LILIENTHAL. That is correct. As I understand the suggestion of the chairman of the committee, it is that the Commission indicate—or at least this I endeavor to make in my reply—considerations in support of that position, and such considerations as there are against it. But this is no indication we are changing the position.

The CHAIRMAN. Let there be no misunderstanding, Mr. Chairman, of what I requested. I am not hinting or inclined for one moment that

you even consider the wisdom or the foolishness, if you please, of divulging the way the bomb is made or any secrets of production of the bomb. I am restricting my request for advice simply to the size of the stock pile. Just so there will be no misunderstanding.

Now, it is true that that has been a highly guarded secret. In my opinion it is high time for this committee to reconsider that question. It may well be that the answer will have to be discerned, but we should at least give consideration in the light of the best advice we can get.

Mr. LILIENTHAL. I think I understand.

Senator TYDINGS. I am rather embarrassed here. I was formerly on the committee and went back off, and am back on it after a lapse of 2 years. This is my first meeting. It occurs to me that I am doing a good bit of talking so I apologize to the members of the committee for horning in. But in my humble opinion this whole discussion ought to be in executive session.

It seems to me that inadvertently we may be partially telling some things that we might otherwise not want to tell. In the event the committee and the Commission and those in authority decide that the information ought to be made public, it seems to me that the discussion of that should be, with all due respect, in executive session. We are getting pretty close to divulging at least some of the possibilities of this situation by talking around here a little bit.

We cannot find out, for example, what other countries are doing in the number of submarines or battleships, or pieces of artillery, or any other factors, as well as that in the field of atomic energy. And I doubt very much the wisdom, every time we invent a new airplane that flies so fast and carries so many bombs and goes so far, of telling the world we have it, because the net result is to spur those that we might have to eventually fight and which might cost the lives of a lot of American boys, with greater action to match those planes or ships that we have.

I respectfully suggest that if we are going to explore this matter it would be wiser to do it in executive session, rather than discuss it here in the open. In the meantime, we should withhold all information about atomic weapons from everybody, in the interests of our national security.

Senator CONNALLY. Mr. Chairman.

The CHAIRMAN. Senator Connally.

Senator CONNALLY. I want to make a short observation. It seems to me that one of the strong points about the atomic weapon is the fact that it creates mystery. They do not know. They do not know the development. They do not know how many we have, how we make them, or anything of the kind.

The more we talk about them and the more we deduce about them, the more we rush into the papers and get a headline, the more they find out about our lack of preparation or our preparation. And it takes away from the appeal that might otherwise be made, a lot of its strength and a lot of its force.

I thoroughly agree that we ought not to discuss these matters publicly, but we ought to do it in executive session. And in the meantime, impress the members of this Commission and anybody else that had anything to do with it, not to be handing out their views and releases, and all of that. We ought to have some responsible authority

somewhere in the War Department or the Navy or the Air Corps, to pass on these matters of high policy—this committee or somebody else.

I do not want the destiny of the country depending on what some man in one of these bureaus decides what to do or not to do.

Mr. LILIENTHAL. Proceeding with reference to this report, in response to the chairman's question about the status of atomic energy development at the present time, this report also deals with the production of fissionable materials and feed materials. There are charts in the report upon which a good deal of effort has been put, which are very revealing and illuminating to the members of the committee as to the relative position of this project in respect of fissionable materials and their production, and a section on raw materials, which I very much hope will receive close scrutiny by the members of the committee.

Also a section on reactor development, and physical research, as well as biology and medicine, and financial aspects and community operation.

During the past 2 years—and it is about 2 years since the Manhattan District was transferred to this Commission by Executive order pursuant to this act—the Commission has been engaged largely in matters of organization and planning during the first year, planning for new facilities requiring expansion, research problems, and so on.

In the second year a full program of long-range development was undertaken and is under way.

Difficulties which might threaten continuity of production have been largely overcome and the production opportunities generally have been improved. As the figures indicate, the operating costs are considerably improved. They still, we believe, can be improved further.

There is a better result, so far as the number of people required to do a given amount of work in communities like that of Oak Ridge, as well as in production of plants.

To summarize the present situation: The Commission feels and wishes to say to the joint committee that we believe these first 2 years now put the Commission in a position to concentrate on the second and third most important parts of the undertaking, the first obviously being related to weapons, on two aspects of development. One are the power plants, the production of reactors capable of producing electricity for ships, for stationary power plants and the like, and emphasis upon basic research.

As to production and operations, these are set out as to unclassified matters in the semiannual report and in more detail, as I have indicated, in the top secret part of the quarterly report. The expansion that has been authorized by the Congress is under way at Hanford, Oak Ridge, and Los Alamos. Forty percent of the 1950 budget which is a nonclassified document, which has been filed with the committee, as well as the classified budget, indicates that about 40 percent of this budget will be devoted to new construction.

The problems of research and development have received an impetus. They are very difficult indeed. Progress has not been as fast as we had hoped, or as we would be satisfied with. Most of the really difficult problems are ahead of us, rather than have been solved.

These, however, we are encouraged about because of the entry into the picture of the Du Pont Co., or the reentry, with a survey team of

very outstanding men to survey the problems, some of the most difficult of the chemical problems; the presence in the program of such organizations in addition to General Electric, as Kellex, Standard Oil Development, and other important industrial concerns.

We have recently held a symposium or seminar on the problems involved in waste disposal and storage, the proper disposition and storage of these very hot and radioactive waste materials, and are getting the benefit of the best judgment in the country, we believe, in that field. In summary there appears to be nothing to be alarmed about, but a great deal of persistent effort will be required.

The research and scientific program is rolling. The national laboratories are now going concerns. The one at Oak Ridge; Argonne; Berkeley; University of Rochester; Ames, Iowa; and so on. But like the program in medicine and biology, it is discussed in the semi-annual report.

I recall Senator Tydings has an interest in the cancer-research program. The information contained in this report is, of course, fairly compressed. This obviously involves no question of security, and we should be glad to have a hearing later and perhaps spend the whole hearing on questions of medicine and biology, and the progress of the country in that respect. It is a rather hopeful one, and has a different aura to it than the subject of weapons.

I should like, if I may, to ask the General Manager of the Commission, Mr. Wilson, to proceed to a description of the program the Commission has adopted in pressing forward on the production of useful power from atomic energy. This is a rather extensive program.

As I say, we are now reaching the point where the weapons situation, being on the rails, and the reorganization problems, including budget and accounting being much improved, emphasis can be given to this subject which holds, we believe, so much of the hope for the future, although that future will doubtless be certainly a decade or two before full realization and practical economic performance.

The CHAIRMAN. Before Mr. Wilson goes into it, how much of the budget this past year, Mr. Lilienthal, was spent?

Mr. WILSON. \$632,000,000. The 1949 budget total was \$632,-000,000.

The CHAIRMAN. Does that include contract authorizations?

Mr. WILSON. Yes, sir. That is the combination of cash and contract.

The CHAIRMAN. This coming budget you have asked for how much?

Mr. WILSON. \$792,000,000 in new obligational authority. That is the combined cash and contract authorizations.

The CHAIRMAN. How does it break down between cash and contract?

Mr. WILSON. Mr. Shugg has the detail on that.

Mr. SHUGG. \$792,000,000 breaks down: \$365,000,000 cash and \$427,000,000 contract authority.

Mr. COLE. Mr. Chairman.

The CHAIRMAN. Mr. Cole.

Mr. COLE. I should like to clarify an expression which you made, Mr. Lilienthal, in which as I recall you said:

Now, after 2 years since the Commission has taken over from the Manhattan District, the Commission is ready to embark on the second and third phases of the atomic energy problems, the first phase being the weapon phase.

Does that mean that the Commission is satisfied with the progress in the weapon phase?

Mr. LILIENTHAL. No. What I said or intended to say, Mr. Cole, we are prepared to concentrate on those which we could not and did not have energy and time enough to concentrate on, because the weapon phase is now rolling. It does not mean that the weapon phase will not continue to be of first importance. It is bound to be the paramount program of the undertaking.

Mr. COLE. Is the Commission satisfied with the progress of the weapon phase?

Mr. LILIENTHAL. We are satisfied that a program directed toward future developments is in good hands and is getting good attention.

Mr. COLE. How far short, if at all, does the production phase fall short of the goal phase, as indicated by the report which you have just submitted?

Mr. LILIENTHAL. This is a question which I——

Mr. COLE. Does it fall short of the goal?

Mr. LILIENTHAL. I would suggest that until the rules about production and rates are changed, that in any case we should explain in executive session why the answer to this question is not——

Mr. COLE. I am not asking for information as to how much is being produced, how it is produced, or what your goal is. What I am interested in knowing is whether the goal you set for yourself is possible of achievement. Has it anywhere near been reached?

Mr. LILIENTHAL. The goal is not set by us and in order to say how the goal is set I think it should be said in executive session.

Senator TYDINGS. Mr. Chairman?

The CHAIRMAN. Senator Tydings.

Senator TYDINGS. I hate to labor this point, and I am not doing it in any spirit of captious criticism. But I am recalling that when we got ready to bomb the enemy in World War II we had to go to telephone books, as I think the Army Air Force will tell you, to get the addresses and the locations of important plants in Germany which lend themselves to strategic bombing. Then to hunt photographs and other things that we could get as a matter of putting the enemy out of business. And all that took time.

I question very much the wisdom of some of the photographs taken here, particularly of one I just saw here. I have forgotten the technical name of the outfit. I can find it in just a moment. It shows that new apparatus that you are now building, a proton synchrotron, or some such thing.

Mr. HINSHAW. It is page 73.

Senator TYDINGS. Yes. It is on page 73. We were unfortunate enough to lose a B-29 bomber or two where the men had to bail out. We did not get those bombers back from some countries. They are now the model of some of the planes we might have to fight in the world should we be plunged into another war.

All of these things are helpful. I question whether giving the location in Government pamphlets, the pictures of them, is a wise thing to do. It is true that they may be found by other means. But at least we ought to put those that want to pry into our affairs to trouble, and possible hazard of detection in trying to find it out for themselves.

This very comprehensive report containing all these pictures of the exact location of all these plants, although they are mentioned in the

press, true, is very, very helpful, and I would like to have some of some other countries I could mention that would show similar things to our own general staff.

I am going to make the suggestion for consideration of the Commission, that in the future it might be well to screen this a little more carefully from the standpoint of illustration, and the like, from the standpoint of national security.

We have a good many of these plants now scattered over the country. The location is shown in great particularity. What is done in each plant is shown in considerable particularity. The new apparatus we are building are shown in considerable particularity. And I do not see much use to throw a screen of secrecy around a lot of things and leave important matters like this open.

Maybe that is overcaution. I am not making any motion. But I am suggesting that for the consideration of the Commission. If the time should ever come, as it may very well do, when we decide publicity is a better weapon than secrecy, then I would be in favor of the opposite course, but until that time comes I believe we have got a force here that we could well afford to be very cautious about disclosing any of its ramifications beyond what might be called a minimum of public necessity.

Mr. LILIENTHAL. Senator, this is of course a subject that is our daily difficulty, because we today live in a country which has a habit of openness and is not inclined to secrecy. That is the kind of country it is. What we are trying to do is balance that wholesome habit with the necessity of secrecy and the requirements of public accountability. I am sure the Senator is aware that that is a difficult question.

Senator TYDINGS. I realize it is easy to sit up here and criticize some phase of the work. I am not doing it in that narrow sphere. But I do believe the longer you live with this thing the more impelled you are to tell somebody about it. I know from my early associations on the Senate Special Committee on Atomic Energy, the things I heard were awfully hard for me to keep to myself because it is just a natural impulse of a man who is carrying dynamite around inside of him, to let somebody else share it with him. But I believe that is the wrong policy.

We are having too much trouble finding out what is going on in other parts of the world. I believe for the time being at least it might be wise for us to err on that side. I furthermore believe that the American people will not criticize wholesome and sound secrecy that has to do with such a devastating weapon as the atomic bomb. Until we can organize the world for peace and security I do not believe we ought to allow anything that may help anybody who may want to start a war, to get hold of any secrets of this thing. I am hoping the day will come when we can outlaw it. Pending that day I believe we would be very wise to err on the side of secrecy rather than publicity.

Mr. ELSTON. Following what Senator Tydings said I understand that some of the security regulations in Oak Ridge have recently been relaxed, and do not require the same clearance at the gates by the guards that was formerly required. Is that correct?

Mr. LILIENTHAL. Mr. Elston, the location of the gates have been changed. There has been no relaxation of security. Indeed, security in the plants has been improved. But the gates, instead of being completely around the village—which is at some distance from the

plants—are, as in the case of Hanford, removed, or being removed, and the access points are at the plants themselves. This makes for better security of the plants. There is no problem of security really in the village itself, any more than in any other village.

Mr. ELSTON. Persons could go in and take photographs where they formerly could not do it, could they not?

Mr. LILIENTHAL. Not of the plants. There have always been photographs of the village. You will recall that after Hiroshima, a great many photographs of the plants were released, and the Smyth Report was issued. I myself think that was right. If I appear to differ with the Senator, I appreciate his spirit of not being critical but of discussing this for what guidance and help it may be to us, and we need it, God knows. If you try to cover more of an area of secrecy than you are able under American conditions to cover, then you discredit the whole secrecy system. For example, the illustration on page 73 of a particle accelerator, this is research.

There are a good many of them through the country, a good many of them built with funds not of the Atomic Energy Commission. No one regards that as having any necessary relation to atomic energy in the bomb or weapon sense.

Senator TYDINGS. But I do not think you will deny that it is an important function or part of the development of atomic energy. I do not think that we ought to publicize the development of atomic energy. For example, in making atomic energy as part of the bomb, after you get it I assume there are many things to be done before you get the bomb.

I do not see any use in disclosing a part of the process if you want to keep the process secret. I do not see any use in disclosing in part how to make the bomb if you want to make the bomb secret. We either ought to blow hot or cold. If this is the dangerous thing then it seems to me, if we decide secrecy is the better part, we ought to play it that way. I question very much the wisdom of allowing airplanes to photograph, from the air, these plants, and make them available for our potential enemies in the future.

I question very much giving the location in a Government document. I question very much all the things that we might say publicly which aid in any small degree those that may not be as considerate of the use of this bomb as we hope we will be, giving that nation the information which could plunge this world into untold misery. And I think we are charged with a particular responsibility here until this world can be organized for peace and security on some sound basis to do everything in our power to keep this information from getting into the hands of those who may use it adversely.

Mr. HINSHAW. Mr. Chairman, will the Senator yield?

Senator TYDINGS. I have finished.

The CHAIRMAN. Mr. Hinshaw.

Mr. HINSHAW. I do not know what importance this book on the laboratory has on the atomic energy project, except it is a very fine laboratory. But I would like to point out to the Senator from Maryland that if this had been in the hands of the United States in reference to another country prior to World War II, it would have been very valuable. If you will turn to the fifth paragraph on page 72, it says:

Two strange towers have recently been completed at Brookhaven. They are needed for study of air currents high above the laboratory so that the operators

of the nuclear reactor will know where its exhaust gases are going. One of them is 420 feet tall—highest structure on Long Island—and has a pipe running all the way to the top. When weather observations are going on, the smoke from a standard Army smoke generator released through the pipe creates a small cloud, which can sometimes be seen for miles around.

I do not know that it is very important to protect the Brookhaven Laboratory from a sneak attack, but on the other hand if I were going to attack it from the opposite side, I would like to know that they have the highest structure on Long Island and that they do have smoke coming from it that can be seen for miles around.

Senator TYDINGS. As you well know, much of our strategic bombing was based on documents, telephone directories, and other information that was assembled by a very expert lot of men in Europe which gave us the places that would do us the most good from the strategic bomb standpoint.

Mr. HINSHAW. Quite possibly the value of the Brookhaven Laboratory will be nil after the commencement of hostilities. But if I wanted to destroy it as an opposing air force commander, that is as perfectly good a picture of how to pick it out as anyone can see.

Senator TYDINGS. I am inclined to take your point of view. I think that the Commission is constantly prodded to give the public everything it feels it can give them, and naturally they want to respond to that democratic ideal and impulse. I am not saying this in any spirit of carping or captious criticism, but I do believe that in the future these reports ought to be screened more carefully, and everything ought to be cleared with the Army Intelligence above all before they are printed. I do not know whether that was done in this case or not.

Mr. LILIENTHAL. This document was prepared in conjunction with the Military Liaison Committee, and was gone over in the usual way.

Senator TYDINGS. I would like to ask if the Central Intelligence Agency, the association of Army and Navy Intelligence and the Air Force, have ever screened this document before it was made public.

Mr. LILIENTHAL. I do not know.

Senator TYDINGS. I would like to ask the liaison general if he knows whether that was screened by the Central Intelligence Agency.

Brigadier General McCORMACK. To answer your question, sir, I am a member of the Commission staff, not of the Liaison Committee.

Senator TYDINGS. I do not think it is wise for this to be published without that screening in the future, because it looks to me like we are giving away an awful lot of information. Now, if there is no threat of war that might be a little healthier climate in which to give it. I am not sold on the fact that we may not have a war yet. I want to do what little I can here, without being foolish about it, to try to protect our own country and its people. I think all this information would be worth millions of dollars to any potential aggressor.

Mr. HOLIFIELD. Mr. Lilienthal, these photographs on pages 73, 74, and 71, are all photographs that have been published in nationally distributed newspapers and magazines, I believe.

Mr. LILIENTHAL. I do not know precisely. I would say that these are not photographs of installations that have any other than research importance. Those photographs, for example, the photograph of the synchrotron, I think it would be a very serious step, Senator, and one that I hope you will hear us on at least, to indicate how costly this kind of secrecy will be in making progress ourselves. If we could

have both that kind of secrecy and democracy, then obviously I would be for it.

If we could have that kind of secrecy and rapid scientific progress in our country, then we would be all for it, but we cannot have them both, and we have to decide how to modify it.

Senator TYDINGS. I think that this is an exceptional case. This is not the discovery of a new 75-millimeter piece of artillery, or a faster-than-sound airplane. This is a question of whether we are going to survive or not on this planet. I do not think it is any secret to say that atomic energy has the potentialities of complete devastation, if it is every carried out on a mass scale. I do not want anybody to get any information about this who is not for certain our friend, until we get a little healthier climate in this world in which we live, particularly when I know that they are doing everything in their power that can be done to find out how to duplicate this work that has been done in the United States.

Again I say that I have had some little contact with the armed services by virtue of the fact I have been on the Armed Services Committee for 22 years, and I have learned how carefully they assemble information of this character for future use. We are not getting this information from other countries in the world, and I do not want this to be a one-way street. I want it to work both ways whenever it is publicized.

The CHAIRMAN. Mr. Lilienthal, in answer to Senator Tydings' observation, do you think that there is anything in this report—and I mean anything, because I should like to know definitely—that advances or could advance the building of an atomic weapon or the use of it by any power?

Mr. LILIENTHAL. No.

The CHAIRMAN. If there is, it should not be in there. Now, was it tested from that vantage point?

Mr. LILIENTHAL. The answer is "No," except if one takes a position which is quite extreme, and that is of course an electronic microscope, or research tool of any kind, is helpful in any research activity, including atomic weapons. But as I understand the question, whether this has any direct help in the development of fissionable material or atomic weapons, in the light of the information that had been made public at the time the Commission took over, I would say "No."

Senator TYDINGS. Mr. Lilienthal, I think that is really an oversimplification of it. One of the things you want to do, if you cannot duplicate what an enemy has that is valuable, is to destroy it. First of all, get what he had, and if you cannot get it, destroy what he has that is better than yours. This report in my mind is in parts at least an open invitation of telling him where it is at least. So his problem then is only to find out how to get to it and destroy it.

The Army just said in a public report, we can have a plane that will fly 10,000 miles and carry 10,000 pounds of bombs. That will bring a plane from certain parts of the world far off to almost any point in the United States. For example, when you come down to security this report, you start out by saying this:

The objectives of security in the Atomic Energy Commission are to assure the safekeeping of information which the Commission has decided cannot be released without endangering the common defense and the safety of the Nation and to protect the plants and installations of the Commission, and its contractors in order that research and production programs will not be interfered with or

valuable materials lost. To achieve these objectives the Commission has built up three independent programs.

Second, physical security, to prevent unauthorized access to installations, materials, and information, and to protect such property against sabotage, espionage, and theft.

Now, from the standpoint of physical security, let us assume that country X has duplicated the plants that we have in the United States. Certainly, if our high chieftains in the Military Establishment knew what they did more or less, knew where the people who worked in them were quartered, it would be an extremely valuable piece of information. I think, in the language of currency, we would pay good money to have it. Now, it seems to me, if we would like to have it, if the other fellow had it and we did not, that if you reverse the circumstances the same rule applies.

I respectfully again make the suggestion that in the future reports of the Commission it first be screened with the CIA in order that nothing of value which we would like to have, if the circumstances were reversed, goes to any potential enemy, the circumstances being what they are. And in that way we will have gone to the pains to reduce to the irreducible minimum any possible leaks that might be of benefit to a future aggressor in this far from peaceful world.

(The following letters, concerning the clearance of the contents of the Fifth Semiannual Report of the Atomic Energy Commission to Congress, were submitted to the chairman, Joint Committee on Atomic Energy, by the chairman, Atomic Energy Commission, for inclusion in the record:)

UNITED STATES ATOMIC ENERGY COMMISSION,  
*Washington 25, D. C., February 18, 1949.*

HON. BRIEN MCMAHON,  
*Chairman, Joint Committee on Atomic Energy,  
Senate Office Building, Washington, D. C.*

DEAR SENATOR MCMAHON: At the public hearing of the Joint Committee held on February 2, you will recall that members of the committee asked questions regarding the clearance of the contents of the Commission's Fifth Semiannual Report to Congress. This letter is written to supplement our testimony. We would appreciate your including this letter in the record of the hearing.

During the preparation of the report, the drafts of the various sections were submitted to the Military Liaison Committee (established by section 2 (c) of the Atomic Energy Act) to assure mutual consultation on the security aspects of the information contained in the drafts. Comments were made informally by the Military Liaison Committee, and the drafts were revised accordingly. Before the report in its final form was submitted to the Congress, we carefully reviewed the report and concluded that it contained no information which would adversely affect the common defense and security. Furthermore, we were assured by the Military Liaison Committee that the report contained no material objectionable on the grounds of military security.

Attached for your information is a copy of the letter dated February 4, 1949, from Mr. William Webster, Chairman of the Military Liaison Committee, in which he states that the report contains no information objectionable on the grounds of military security.

Sincerely yours,

UNITED STATES ATOMIC ENERGY COMMISSION,  
DAVID E. LILIENTHAL, *Chairman.*

FEBRUARY 4, 1949.

HON. DAVID E. LILIENTHAL,  
*Chairman, Atomic Energy Commission.*

DEAR MR. LILIENTHAL: This is to confirm discussions over a considerable period between the staffs of the Military Liaison Committee and the Atomic Energy Commission over the various sections of the Fifth Semiannual Report to Congress.

The report contained no material objectionable on the grounds of military security.

The committee appreciates the manner in which the examination of this particular report was handled.

WM. WEBSTER, *Chairman*.

MR. LILIENTHAL. May Mr. Wilson proceed with a statement on the reactor program?

THE CHAIRMAN. Yes.

I do not want to take issue with my very good friend from Maryland, but I want to point out, Senator, that all of these plants, which employ some 60,000 people, have been extremely well marked for our own people, and I presume the whole world, in that we have the installations at Hanford, the installation at Oak Ridge, and Brookhaven. I do not say that in criticism of what you have observed, but I do want to point out that this project does employ some 60,000 people.

Senator TYDINGS. I would like to make a slight rejoinder to that. There is nobody for whose judgment I have higher respect and for whose patriotism I have a higher regard than the chairman's. Anything I say is no reflection on him or even on the Commission. I am simply trying to suggest the future policy that I hope will be helpful. Of course, if we are going to spend all this money to go through all the departments of the Government to screen over 2,000,000 people to see whether they are loyal to the United States or not, it seems to me that we are screening a gnat swallowed by a camel when we have such a most devastating thing. I am only hopeful that in the future such discussion will not arise, and I do not think they will if the armed services have the right to screen such information before it is made public.

MR. WILSON. Mr. Chairman, members of the committee:

Mr. Lilienthal has spoken of the increased emphasis which we are now able to devote to the program of reactor development. The reactor, to refresh your memories, is, in many cases, called a pile. It is the chain-reaction machine, of which the biggest examples are at Hanford, and smaller ones at Oak Ridge and Chicago. It may be useful to define what happens in a reactor before we go to the program. This is a large program. It is a costly one.

In a nuclear reactor, which is the modern term for a pile—pile was the early term—three things happen. In the fission process, neutrons are produced, energy is released, and fission products or radioactive isotopes are made. These are the three things that go on in every nuclear reactor.

As to neutrons, two or three are formed. As to the energy—and this has a bearing on the power angle—the energy from one fission—that is, one nuclear breaking up—is 40,000,000 times as much as the energy from burning one carbon atom. This is the range in which one has to work. These are all things which appear in the Smyth Report but it seems to me might be useful to remember here.

A reactor is a machine to produce fissions on a large scale, each fission producing these three phenomena: neutrons, energy, and fission products. So that the reactor we have at Hanford, the large ones, the smaller ones at Chicago, at Oak Ridge, all are machines to produce this result.

In considering this reactor development program, which is going to be a long job and a very tough job, it is worth having in mind what are the basic components of a reactor. There is, first of all, the fuel,

fuel that you burn up. It may be uranium 235; it may be plutonium. That is the fuel; it has to be a fissionable material, and it is pretty precious.

The second thing that you have in these structures—and this is true for whatever purpose they are built—is something called a moderator. A moderator is a material that will slow down the neutrons formed in each fission so they are more efficient to produce more fissions or to produce other materials. In other words, you need something in there which will slow down the neutrons that are formed.

The third thing you have in a reactor is a cooling fluid, something to get the energy out. This may be water, as in the case of Hanford; it may be air, as in the case of Brookhaven or Clinton. But, at any rate, you have to pump a lot of something through the reactor to extract heat.

The fourth thing that goes into the reactor is the structural materials that hold everything in a proper relationship.

The fifth are the devices which are controls to keep the thing from running away.

And the last major component is the shielding that goes around the outside. This is a thick—often a concrete block—shielding to keep the harmful radiations from injuring personnel.

So, when we talk about reactors, any reactor has these components, and in it these three things happen and happen on a large scale.

Now, why do we want reactors? First of all we want them to produce fissionable material. At Hanford we have large reactors in which we burn one kind of fissionable material—uranium 235—and produce plutonium. It is a very useful process, and hence one type of reactor is a factor to make fissionable material.

Second is a power plant, and power plants are really in two categories: those in which economy considerations are not paramount, for example, a unit to propel a ship. The governing considerations would be other than straight economic considerations.

The other type of power plant would provide electrical power for civilian purposes. And then there is a third kind of reactor which is to make excess neutrons, to make isotopes for research and other things.

In looking over the reactors that have been built today, all of which have been described in one way or another, and most of them in the Smyth Report, there are two general kinds: one is a research reactor which is a very low-power affair, does not really have to have much cooling fluid. It barely operates at any power, but it does produce neutrons. The first reactor ever built, the one at Chicago, was of this type. The reactors we have had have been research reactors and reactors to make plutonium, as at Hanford.

I think it is worth considering the general characteristics of these reactors we have. The most important, in terms of future power, is that they all operate at a low temperature. You blow air through them, pump water through them, and you throw the energy away. In any case, the energy is at a relatively low temperature when it comes out.

When we consider atomic energy for power, it might be hoped that someday we would find some way of converting this fission process, using it to produce electricity directly. Nobody sees how to do that

today. So the only way in which we can utilize the energy from a reactor is through the regular machinery that we have now: high-pressure steam turbines or gas turbines or the like.

To be useful to operate turbines, the energy has got to be at high temperature, because all of these machines, the efficiency of all of these thermodynamic machines, depends on having your inlet temperature high. Therefore, as we move from where we have been to the development of new reactors, we must go to high temperature.

This is a tough job. The general conditions which have to be met are fairly well known. But how to meet them is another story. For example, we have to have materials in the reactor that will stand these high temperatures. And, if we look at most of the materials that are any good for high-temperature boilers and the like, they are absolutely no good in reactors. The reason for this is that they have the habit of swallowing up the neutrons formed in the fission process, and quenching the whole business.

So, almost all of the structural materials which have been useful in other high-temperature machines, like boilers and the like, are of no use in reactors. This calls, therefore, for a broad program of research and development on materials. And materials, their properties, and their ability to withstand intense radiation and preserve their properties of heat transfer and the like at these high temperatures and high radiations, this is a very big part of the problem of designing and building reactors for power.

So, a considerable fraction of our effort in the reactor-development program is devoted to that part of it. I think it is worth indicating, as stated in the President's budget, that in the fiscal year 1948 the obligations for the reactor-development program were \$54,000,000. In the fiscal year 1949, we estimate the total obligations will be \$61,000,000. In fiscal year 1950, in the budget we are requesting, the obligations will be about \$120,000,000. This is a big program.

As we go into this, it is extremely important to make a careful selection of the types of reactors that one can build, because each one is a major project, costs a number of millions of dollars, takes at least 2 or 3 years to design and build, and hence the choice among many choices of the types of reactors that should be the components of our program is a matter which has received a great deal of study and has been subject to a lot of discussion.

Senator TYDINGS. What does it cost to build a single type of reactor such as you have just testified about?

Mr. WILSON. A reactor can vary from the cheapest that was ever built, which I suppose was the reactor at Chicago, which maybe cost a half million dollars at the most—this was in 1942—to a big modern research reactor, still a research reactor, such as is just being completed at Brookhaven, which will cost about \$22,000,000.

Senator TYDINGS. How long will it take to build one of these reactors of the super kind you last described?

Mr. WILSON. The last one I described, the Brookhaven reactor, the actual construction began about July 1947. It will be finished and operating late this spring. About 2 years.

Senator TYDINGS. If it takes \$22,000,000 to build the largest one, and it takes 2 years to build it, that is an average of about \$11,000,000 a year on that one type of reactor.

Mr. WILSON. That is right.

Senator TYDINGS. How many different types do you suppose you will build in 1949 and 1950, either building or designing?

Mr. WILSON. Building, or either designing for construction, I might group them generally. These can be described in three categories.

Senator TYDINGS. How much will they cost?

Mr. WILSON. There will be one that costs about two and a half million dollars. There is one which will cost about \$25,000,000. Those are the two.

Senator TYDINGS. How about the third one?

Mr. WILSON. There is one that will cost about \$2,000,000. It seems like a big gap. These are all reactors for research and development I am speaking of.

Senator TYDINGS. Those three types would cost roughly about \$25,000,000 to build one of each of the three categories: one of \$2,000,000, one of \$2,000,000, and——

Mr. WILSON. One of each of the three categories of research reactors. Senator TYDINGS. How many do you contemplate building?

Mr. WILSON. One of each.

Senator TYDINGS. Why, therefore, does the appropriation for this particular field of endeavor step itself up in the years 1949 and 1950 so precipitously if the three reactors only cost \$25,000,000?

Mr. WILSON. I have described only one class of reactor.

Senator TYDINGS. What other classes are there?

Mr. WILSON. The other classes are these—power reactors.

Senator TYDINGS. How much do they cost? Roughly, of course.

Mr. WILSON. There is one, an intermediate reactor, which will cost about \$18,000,000.

Senator TYDINGS. What others are there?

Mr. WILSON. There is another power reactor which is being developed by the Argonne Laboratory and the Westinghouse Co., which will probably cost \$25,000,000 or \$30,000,000.

Senator TYDINGS. What others?

Mr. WILSON. One has to get the time base of when the actual construction starts, and so on.

Senator TYDINGS. I am not pursuing that for the moment.

Now, what other types of reactors are there in this second class besides the two you have mentioned?

Mr. WILSON. As reactor design and construction projects, those are the only ones.

Senator TYDINGS. Then you have five different types of reactors in contemplation, three described in your first statement.

Mr. WILSON. For design and construction. There will be studies of others. But these are for design and construction, which involve the big money.

Senator TYDINGS. These are the five you have in mind.

How long does it take to build the last two you mentioned, the one costing \$22,000,000 and the last costing \$25,000,000?

Mr. WILSON. A fair amount of money has already gone into the first one. It will be finished in about 2 years.

Senator TYDINGS. How about the others?

Mr. WILSON. It will be longer. It will be at least 3 years.

Senator TYDINGS. You have five types of reactors which between them will cost around \$50,000,000 for the reactors themselves. And

some of those are spread over a period of 3 years, some 2 years, and some are already in process and some you have in contemplation.

Mr. WILSON. That is right.

Senator TYDINGS. Now, outside of the reactors what other elements enter into the stepped-up appropriations which you previously described for this particular type of work?

Mr. WILSON. There are several. One is the further construction, completion of construction and operation of the Argonne National Laboratory.

Senator TYDINGS. How much will that cost?

Mr. WILSON. The central reactor development laboratory?

Senator TYDINGS. In addition to what you have already given me, of course, how much will that cost? Approximately, of course, because I know you have not those figures before you.

Mr. WILSON. Argonne Laboratory construction will require another \$20,000,000 or more.

Senator TYDINGS. In addition to the reactor cost?

Mr. WILSON. In addition to the reactors.

Senator TYDINGS. When do you expect to start that and when do you expect to finish it?

Mr. WILSON. That is in process now. I am indicating the amounts beyond what have already been obligated.

Senator TYDINGS. How much has already been obligated?

Mr. WILSON. There has already been obligated about \$20,000,000.

Senator TYDINGS. So it will cost \$40,000,000 to finish the Argonne plant, extraneous of the reactors.

Mr. WILSON. That is right.

Senator TYDINGS. How long will that be from the time it is started until it is finished?

Mr. WILSON. The beginning of construction at the new site at Chicago occurred about a year ago in November. It will take another year and a half to complete it.

Senator TYDINGS. Now revert again for just a moment, and name the three figures for the fiscal year 1948, '49, and '50, to which you originally referred.

Mr. WILSON. I gave you \$54,000,000 for 1948.

Senator TYDINGS. How much for 1949?

Mr. WILSON. \$61,000,000 for 1949.

Senator TYDINGS. How much for 1950?

Mr. WILSON. \$120,000,000 for 1950.

Senator TYDINGS. How much for 1951?

Mr. WILSON. I do not have any figures for 1951.

Senator TYDINGS. What are the elements that make this appropriation more than double from 1948 to 1950?

Mr. WILSON. There are some other components I have not mentioned. There is the Knolls Atomic Power Laboratory at Schenectady.

Senator TYDINGS. The reason I am asking you this is not to pursue any policy of economy in this, although that is an element, but we have got to make a decision whether to have a 70-group Air Force or a 48-group Air Force or a 58-group Air Force, and there is only so much money to go around. So that we have got one piece of pie to cut up, and I was just wondering whether it would not be possible to cut it so that maybe we would save something here and have some of the other things that are also essential that we cannot otherwise have.

Mr. WILSON. This is clearly a matter which we expect and expect in the very near future to be submitting for full discussion with the Appropriations Committee.

Senator TYDINGS. These are all peacetime projects, you say?

Mr. WILSON. No, sir. The purpose of reactors——

Senator TYDINGS. I mean these research things.

Mr. WILSON. They are peacetime in only this sense: In order to get on with the reactor development program we have got to know more about the behavior of materials.

Senator TYDINGS. For atomic weapons?

Mr. WILSON. For factories to make fissionable material to go into atomic weapons. For producing fissionable materials.

Senator TYDINGS. For atomic weapons?

Mr. WILSON. Yes.

Senator TYDINGS. You cannot produce sufficient fissionable materials for atomic weapons with what you have now?

Mr. WILSON. We are producing fissionable materials in the factories we now have. We want better ones, cheaper ones, more efficient ones, to make better use of raw materials, et cetera.

Senator TYDINGS. What part of this program would you transfer over to what might be called the civilian side of atomic energy, which is very important? What part of this expense?

Mr. WILSON. It is extremely hard to separate it, Senator Tydings.

Senator TYDINGS. Could you separate any of it?

Mr. WILSON. I suppose the research reactor at \$2,000,000 or thereabouts, which I mentioned in the first category, could be considered predominantly for peacetime purposes. But since the purpose of reactors is to make fissionable materials and to make power, and fissionable materials are needed for weapons program, for reactors to propel naval vessels, and one of these reactors that I mentioned is for the purpose of developing a prototype for naval propulsion purposes, it is extremely difficult. They all, of course, contribute to advancing the day when we will have civilian power, because if you learn how to make an economical reactor that operates at high temperature you have licked a lot of problems which will enable you to go to the next step.

Senator TYDINGS. In the meantime, if we do not keep the United States of America here and a little peace in the world, of course all that program of research is likely to be lost, is it not?

Mr. WILSON. The basic policy underlying the budget and the program we have put forward is that this is what we believe is needed to keep this country in the foreground of leadership in atomic energy, in all parts of it.

Senator TYDINGS. All right.

Mr. WILSON. In the course of discussion with Senator Tydings I have covered the main components of this reactor development program which include three reactors for materials testing and research purposes; two reactor design and construction projects for power, and there are several study projects which are not intended to result in the design and construction of reactors in the period we are talking about in the next 2 or 3 years.

An important part of that which we have had under study for some time is the reactor for an aircraft. We asked the Massachusetts Institute of Technology last summer to put together a group of

people, bring them together from the various industrial laboratories and Commission establishments to make a very complete review of the technical feasibility of developing a reactor to propel an aircraft.

The product of this study, which is called the Lexington Report, was submitted 2 or 3 months ago, has been carefully studied by the Commission, its General Advisory Committee, the Air Forces, the Bureau of Aeronautics, the NACA. We have been discussing with them the issue of this report with the removal of information which should not be included in it from a security standpoint, that this be issued in the near future to provide basic information growing out of this study.

We have looked at this very carefully, and it is our judgment and I believe this view is shared by the Air Forces, and the Bureau of Aeronautics, and NACA that it would be useful in getting on with this program to have a declassified Lexington Report summary made available for public discussion.

Mr. DURHAM. The fact is that, of course, these reactor efficiencies have been greatly improved, which should reduce the cost of these reactors. The efficiency has been greatly improved since the beginning of the study.

Mr. WILSON. Yes. They have been improved.

We hope that those we are now designing and about to be built, will represent substantial strides over what has been done before.

Mr. DURHAM. Is this entire amount being used for reconstruction?

Mr. WILSON. No, sir. The actual break-down—

Mr. DURHAM. I do not care about the break-down.

Mr. WILSON. It is partly for construction of facilities, construction of reactors, partly for operation of laboratories, and operation of reactors.

The CHAIRMAN. Mr. Wilson, I notice the Commission has made very liberal use of the authority which the act provides in the appointment of the advisory committees. How many advisory committees does the Commission now have?

Mr. WILSON. They are listed, Mr. Chairman, at the beginning of page 154 of the semiannual report. And other than the statutory committees there are 12 listed there. These are very active committees, as I believe you know.

The CHAIRMAN. Do you find that system of doing business helpful?

Mr. WILSON. Extremely helpful. I might cite two illustrations: (1) We have an Advisory Committee on Biology and Medicine which meets approximately once a month and each meeting is at a different establishment—Washington, Oak Ridge, Los Alamos, Berkeley, Hanford, Chicago, Brookhaven. They spend a day or two at these meetings and provide constant and very valuable advice on the program and the distribution of emphasis in this whole field of biology and medicine.

The CHAIRMAN. Do these advisory committees see the pertinent parts of this report that we have before us?

Mr. WILSON. Yes, sir.

The CHAIRMAN. In other words, does this Advisory Committee, that is listed here, on Medicine and Health go over the section of the report that deals with that subject?

Mr. WILSON. The pertinent sections are gone over with the Chairman of the Advisory Committee. I am not sure that the Committee

as a whole reviews the portions of the report. But certainly the main points are reviewed by the Chairman of the Advisory Committee.

I might indicate again, in relation to the reactor program, what we have done within the Commission to modify our organization for more effective handling of this job. As reported to the joint committee, we reorganized the structure of the Commission's headquarters last summer and created a new position—that of Director of Reactor Development, in order to bring all of the reactor development which formerly had been under the Division of Engineering Research and Military Application, together in one place.

Senator TYDINGS. Before you leave this, if you have answered the question—these advisory committees, of which there are a number, and which seem to be very ably staffed, do they serve on a per diem basis or without compensation, or just for expenses, or in what way?

Mr. WILSON. The provisions of the Atomic Energy Act, I believe, provide that the General Advisory Committee may be paid \$50 per day for the days they serve. This same arrangement, or same basis, is extended to a number of the other committees, where there are people not employed in any part of the Commission establishment.

Senator TYDINGS. You have some 12 advisory committees. When they are called into session do they all receive \$50 a day?

Mr. WILSON. Some of them do not elect to take it.

Senator TYDINGS. But they are all entitled to it?

Mr. WILSON. Yes, sir.

Senator TYDINGS. How often do these committees meet?

Mr. WILSON. The General Advisory Committee is required, by statute, to meet at least four times a year.

Senator TYDINGS. Leave that one out.

Mr. WILSON. The Advisory Committee on Biology and Medicine has been meeting once a month. The Advisory Committee on Raw Materials meets only about twice a year, but the individual members of the committee travel around and visit our projects and spend time as individuals.

Senator TYDINGS. They are paid while doing that?

Mr. WILSON. Yes, sir. If they elect to receive it. The Advisory Committee on Isotope Distribution meets relatively infrequently. I would think not more than three times a year.

The Patient Advisory Panel perhaps three or four times a year.

The Advisory Committee on Personnel Management has been meeting about every two months.

The Reactor Safeguard Committee probably met five or six times in 1948. I am just trying to give you the feeling. The senior responsible reviewers meet, I think, about quarterly.

Senator TYDINGS. They are labeled as temporary advisory bodies?

Mr. WILSON. That is right.

Senator TYDINGS. The others are permanent?

Mr. WILSON. The others are standing committees.

Senator TYDINGS. I see. Go ahead.

Mr. WILSON. The Industrial Advisory Committee group mentioned here, I think between its appointment in October 1947 and its submitting its final report about the 1st of January, met perhaps seven or eight times.

Senator TYDINGS. Will they go out of business then?

Mr. WILSON. We are currently studying the recommendations they have made in regard to permanent industrial advisory groups. But they were a temporary group which are now discharged.

Senator TYDINGS. Under the temporary groups—to save time—of which there are five, how many of those do you suppose will finally reach the status of permanent rather than temporary, from your contacts already had with them?

Mr. WILSON. Let us take them in order.

The Industrial Advisory Group—I think it is hard to predict now whether we will conclude it is desirable to set up a permanent advisory group. There is a question mark on that.

The Safety and Industrial Advisory Board—I think we might reconvene the group every year to reassess our program, but we have a program now which they recommended.

We intend to establish a successor to the Roberts Board. In other words, we will have a permanent Personnel Security Review Board.

Senator HICKENLOOPER. Is the Roberts Board still an official board or did they resign?

Mr. WILSON. They submitted their final report in October or November, and wound up their affairs.

Senator HICKENLOOPER. They resigned as members of the Board?

Mr. WILSON. That is right.

Senator HICKENLOOPER. I notice their names are carried here as Board members.

Mr. WILSON. That is correct. I think they did agree that we could continue to look to them as a Review Board until we had appointed a successor board.

During the period which this report covers, they were active.

Senator TYDINGS. Is it contemplated that the Personnel Security Review Board will not be permanently constituted?

Mr. WILSON. This group feels that they have completed their studies for us and advised us on policy and procedure and review in many cases, and asked to be discharged, but recommended that a permanent board be established.

Senator TYDINGS. Then it is safe to assume, in your answer, that probably another board will be appointed to take its place.

Mr. WILSON. That is right.

The next committee, I think, is likely to become a standing committee.

Senator TYDINGS. And the next one?

Mr. WILSON. The next one is a temporary ad hoc group.

Senator TYDINGS. When do you think that is likely to be eliminated?

Mr. WILSON. That last one?

Senator TYDINGS. Yes.

Mr. WILSON. It is largely composed of people from the Commission's organization and the National Military Establishment. They will probably complete their labors by June of this year.

Senator TYDINGS. I would imagine that a lot of these advisory committees stem from the fact that the Commission was new and had to walk into many fields with which no Commission could be thoroughly acquainted in every respect, and that as a matter of orderly procedure and efficiency it was necessary to have this council of people who are especially qualified in that avenue.

Now, do you look ahead to the day when many of these advisory committees can be dispensed with completely?

Mr. WILSON. I would expect we would want to continue a number of advisory committees as far as we can see ahead, because they bring a quality of judgment on our problems from distinguished people in various fields which we cannot have in our organization ourselves. So we put a very high value on them.

Senator TYDINGS. I can appreciate that there would be many fields, as this thing has such a scope, where you would want somebody to give you expert advice on it, and who would be better qualified on it in that line.

Do you contemplate adding new advisory committees to the list you have already read?

Mr. WILSON. Yes. We certainly have one in mind: An Advisory Committee on Finance to advise us on the whole scope of our accounting problems and fiscal controls.

Senator TYDINGS. What is the over-all cost, approximately, of all of these advisory committees, both permanent and temporary, per year?

Mr. WILSON. I would have to look that up, Senator.

Senator TYDINGS. Would you look that up and put it in the record?

Mr. WILSON. I will.

(Cost of maintaining advisory committees is as follows:)

UNITED STATES ATOMIC ENERGY COMMISSION,  
*Washington 25, D. C., February 18, 1949.*

HON. BRIEN McMAHON,  
*Chairman, Joint Committee on Atomic Energy,  
Senate Office Building, Washington, D. C.*

DEAR SENATOR McMAHON: In looking over the transcript of the public hearing held before your committee on February 2, 1949, I note there are several matters in my testimony which I should like to clarify. Accordingly, I would appreciate your including this letter in the record of the hearings.

In the discussion between Senator Tydings and myself, it appears from the record of the testimony that I may have given the impression that all the members of our advisory committees are entitled to receive compensation of \$50 a day. This, however, is not the case. The members of certain advisory committees are entitled to receive approximately \$40 a day. This, for example, is the compensation of the members of the Advisory Committee on Personnel Management and of the Reactor Safeguard Committee.

Also, in reading over the transcript I note that I replied in the affirmative to a statement of Senator Tydings that it will cost \$40,000,000 to finish the construction at Argonne National Laboratory extraneous of the reactors. I should like to expand my reply to make it clear that the estimated total cost for the construction of the Argonne National Laboratory, exclusive of the cost of reactors, is approximately \$60,000,000.

In discussing the Commission's advisory committees, I agreed to supply for the record a statement of the approximate cost to the Commission of these advisory committees. Attached is this statement.

Sincerely yours,

CARROLL L. WILSON, *General Manager.*

*Costs of advisory boards and committees for the period July 1, 1947, to Dec. 31, 1948*

Committee or board	Total cost to Dec. 31, 1948			Number of members	Meetings	
	Total cost	Salary	Travel		Fiscal year 1948	Fiscal year 1949
Weapons Effect Classification Board.....				8	0	1
Military Liaison Committee.....				8	0	0
Senior Responsible Reviewers.....	\$106.38		\$106.38	5	5	4
Industrial Advisory Group.....	4,373.64	\$2,125.00	2,248.64	8	0	0
Reactor Safeguard Committee.....	6,265.44	3,873.78	2,391.66	6	4	3
Advisory Committee on Personnel Management.....	954.26	556.22	398.04	6	0	3
Advisory Committee on Biology and Medicine.....	21,292.61	12,200.00	9,092.61	7	8	4
Advisory Committee for Equipment and Material Control.....	228.19		228.19	8	0	1
Advisory Committee for Isotope Distribution.....	876.61		876.61	12	1	0
Patent Advisory Panel.....	4,743.59	2,118.65	2,624.94	5	6	4
General Advisory Committee.....	13,334.49	5,658.28	7,676.21	10	4	1
Committee on Raw Materials.....	2,414.00	1,775.00	639.00	9	0	1
Safety and Health Advisory Board.....	16,736.06	12,460.00	4,276.06	12	3	0
Personnel Security Review Board.....	151.94		151.94	5	1	0
<b>Total.....</b>	<b>71,477.21</b>	<b>40,766.93</b>	<b>30,710.28</b>	<b>109</b>	<b>32</b>	<b>22</b>

Source: Division of Finance, Feb. 11, 1949.

*Costs of advisory boards and committees for the fiscal year 1948*

Committee or board	For the fiscal year 1948			Number of members	Meetings, fiscal year 1948
	Total cost	Salary	Travel		
Weapons Effect Classification Board.....				8	0
Military Liaison Committee.....				8	0
Senior Responsible Reviewers.....	\$106.38		\$106.38	5	5
Industrial Advisory Group.....	4,373.64	\$2,125.00	2,248.64	8	0
Reactor Safeguard Committee.....	4,027.67	1,860.00	2,167.67	6	4
Advisory Committee on Personnel Management.....				6	0
Advisory Committee on Biology and Medicine.....	15,067.41	8,100.00	6,967.41	7	8
Advisory Committee for Equipment and Material Control.....				8	0
Advisory Committee for Isotope Distribution.....	876.61		876.61	12	1
Patent Advisory Panel.....	4,268.42	1,920.00	2,348.42	5	6
General Advisory Committee.....	9,394.10	2,634.06	6,750.04	10	4
Committee on Raw Materials.....	163.35		163.35	9	0
Safety and Health Advisory Board.....	16,530.70	12,460.00	4,070.70	12	3
Personnel Security Review Board.....	151.94		151.94	5	1
<b>Total.....</b>	<b>54,950.22</b>	<b>29,099.06</b>	<b>25,851.16</b>	<b>109</b>	<b>32</b>

Source: Division of Finance, Feb. 11, 1949.

*Costs of advisory boards and committees for the first 6 months of fiscal year 1949*

Committee or board	For the first 6 months of fiscal year 1949			Number of members	Meetings, fiscal year 1949
	Total cost	Salary	Travel		
Weapons Effect Classification Board.....				8	1
Military Liaison Committee.....				8	0
Senior Responsible Reviewers.....				5	4
Industrial Advisory Group.....				8	0
Reactor Safeguard Committee.....	\$2,237.77	\$2,013.78	\$223.99	6	3
Advisory Committee on Personnel Management.....	954.26	556.22	398.04	6	3
Advisory Committee on Biology and Medicine.....	6,225.20	4,100.00	2,125.20	7	4
Advisory Committee for Equipment and Material Control.....	228.19		228.19	8	1
Advisory Committee for Isotope Distribution.....				12	0
Patent Advisory Panel.....	475.17	198.65	276.52	5	4
General Advisory Committee.....	3,950.39	3,024.22	926.17	10	1
Committee on Raw Materials.....	2,250.65	1,775.00	475.65	9	1
Safety and Health Advisory Board.....	205.36		205.36	12	0
Personnel Security Review Board.....				5	0
<b>Total.....</b>	<b>16,526.99</b>	<b>11,667.87</b>	<b>4,859.12</b>	<b>109</b>	<b>22</b>

Source: Division of Finance, Feb. 11, 1949.

Mr. WILSON. In the Commission's organization, as I said, we set up five major components of our work: production of fissionable materials, weapons, reactor development, biology and medical research, and physical science research.

Mr. Lilienthal has introduced Dr. Hafstad, who has just taken over his duties Monday of this week as Director of the Division of Reactor Development.

Mr. DURHAM. Have you at this time any reactors in stand-by, or are they all operating?

Mr. WILSON. They are all operating.

The Division of Reactor Development will be responsible for reactors, the development of materials for them, components, and the safety features dealing with radioactive wastes, and the whole chemical end of the reactor which involves the handling of the partially depleted fuel to recover useful material from it, and dealing with the remaining fission products.

As I indicated earlier to Senator Tydings, the main centers of reactor development are at the Argonne Laboratory at Chicago, which has cooperative arrangements with Oak Ridge National Laboratory, with the Westinghouse Co., and with various other organizations.

The second major center is the Knolls Atomic Power Laboratory, operated by the General Electric Co. at Schenectady.

In considering this program of reactor development we have had the advice and assistance of one of these advisory committees mentioned in our report, the Reactor Safeguard Committee, in helping us to develop the criteria necessary for determining where reactors can be safely and suitably built.

As we look at the reactors which we are proposing to design and build we have concluded that a reactor field station is a necessary part of this program, and we are currently studying various possible sites which would have the elbow room, the power, the water, the conditions for construction and other things which would be necessary.

Mr. Lilienthal mentioned that as a part of this reactor program an essential element is the chemical end of it. We are fortunate in having the du Pont Co. engaged in a survey of all of the problems relating to plutonium chemistry. They put an excellent team on it and I am sure that we will benefit by that study which will be available in a few months.

Mr. DURHAM. Did I understand you to say that Westinghouse operates at the present time under contract at Argonne?

Mr. WILSON. No, sir. Argonne is the central reactor development laboratory. We have a parallel contract with the Westinghouse Co., who are working with the Argonne Laboratory in the engineering phase of one of the reactors being built at Argonne.

Mr. DURHAM. Which is the one at the University of Chicago?

Mr. WILSON. Argonne is operated by the University of Chicago, but the governing board is made up of 29 representatives of directors of universities in the Middle West.

The CHAIRMAN. Mr. Wilson, you, I take it, have come to the end of the reactor phase of the program now?

Mr. WILSON. Yes, sir. I will be glad to answer questions.

The CHAIRMAN. You have other major divisions in your mind to give us. What are those divisions?

Mr. WILSON. The other major divisions of the Commission's organization, the program divisions, are first the Division of Production, which is responsible for the production of fissionable materials.

This embraces raw materials, exploration, development, mining; the preparation of feed materials for the plants, that is, taking the ore concentrates and making metal or feed for Oak Ridge.

The third component is Oak Ridge, which is the production of uranium 235; the fourth component is Hanford, which is the production of plutonium.

The second division of the Commission's program operation is the Division of Military Applications, responsible for research, development, production, and test of atomic weapons.

The third component is the Division of Reactor Development, responsible for the program I have described.

The fourth is the Division of Biology and Medicine, which is responsible for the program of research and training in the field of biology and medicine.

The fifth, and final component is the Division of Research which is responsible for research in the physical sciences.

The CHAIRMAN. There are some members of the committee who have notified me that they have engagements at 4 o'clock. This would seem to be, therefore, unless there is objection, a good place to desist for the day.

Senator KNOWLAND. Mr. Chairman?

The CHAIRMAN. Senator Knowland.

Senator KNOWLAND. I have no question of the Commission. I would like to inquire from the chairman just how soon you expect to have an executive session with the Commission.

I am sure there are a number of questions that some of us desire to go into quite thoroughly, and obviously that cannot be done at a public hearing.

The CHAIRMAN. I think we must have one very soon, because the chairman was handed, before you came in, the quarterly top-secret report, which I think the committee in full should go over with the Commission in full, as much of the Commission as we have, with one member missing.

I have no particular idea on that, Senator, but I will endeavor to accommodate as many of the members as I can.

Senator HICKENLOOPER. May I ask that you contemplate a meeting with the Commission to review this report after we have had a chance to read it?

The CHAIRMAN. I think that we ought to perhaps do it at a regular meeting day.

It has been suggested, I believe, by Mr. Durham, vice chairman of the committee, that we make it Wednesday afternoon. That would seem to be the most suitable time for the Members of the House. Am I correct in that?

Senator HICKENLOOPER. Afternoon meetings will interfere with sessions, would they not?

The CHAIRMAN. At least until the sessions of the Senate are interfered with, perhaps we can tentatively agree to meet on that day. I am open to suggestions, Senator. If you have any suggestion, I will be glad to have it.

Senator HICKENLOOPER. No, sir. It seems to me it would be better in the morning. But that may not meet the convenience of the House.

The CHAIRMAN. I have had many requests from Members saying do not make it on this day, or that day, or the other day. We have the chairmen of other committees on here, as you know.

Senator Tydings has his Armed Services Committee on Thursday, and Foreign Relations on Tuesday.

Senator TYDINGS. I would suggest, for the sake of discussion, that we make it 2 o'clock on Wednesday, and if either the House or Senate is in session, that if it be convenient the appropriate members ask to be excused.

If we find the session is fully under way, we can then take new stock and fix some other day.

The CHAIRMAN. If that is agreeable to the membership of the committee, we will consider it settled, at least, temporarily.

Perhaps we can have an executive session with the Commission on Friday morning of this week, if that is convenient to the membership of the committee.

Mr. HINSHAW. That is convenient, sir, if we get an opportunity to see this report in the meantime.

The CHAIRMAN. You mean the top secret report?

Mr. HINSHAW. Yes, sir.

The CHAIRMAN. Perhaps we could read it aloud in the meeting. Do you think that would suffice?

Mr. HINSHAW. If it is not too long, yes.

The CHAIRMAN. It is not too long. We can read it in 20 minutes. It will obviate the necessity of getting it around. If that is agreeable we will recess until Friday morning at 10 o'clock.

(Whereupon, at 4 o'clock p. m., the hearing was adjourned.)

X



**CONFIRMATION OF  
GORDON E. DEAN AND HENRY DeWOLF SMYTH AS  
MEMBERS OF THE ATOMIC ENERGY COMMISSION**

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**HEARINGS  
BEFORE THE  
SENATE SECTION OF THE  
JOINT COMMITTEE ON ATOMIC ENERGY  
EIGHTY-FIRST CONGRESS  
FIRST SESSION  
ON  
CONFIRMATION OF GORDON E. DEAN AND  
HENRY DeWOLF SMYTH AS MEMBERS OF  
THE ATOMIC ENERGY COMMISSION**

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MAY 12 AND 18, 1949

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# CONFIRMATION OF GORDON E. DEAN AND HENRY DeWOLF SMYTH AS MEMBERS OF THE ATOMIC ENERGY COMMISSION

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THURSDAY, MAY 12, 1949

UNITED STATES SENATE,  
SENATE SECTION OF THE  
JOINT COMMITTEE ON ATOMIC ENERGY,  
*Washington, D. C.*

The committee met at 10:30 a. m., pursuant to call, in the Senate District of Columbia committee room, the Capitol, Senator Brien McMahon (chairman) presiding.

Present: Senators McMahon (chairman), and Hickenlooper.

Also present: Representative Price.

The CHAIRMAN. Come to order, please.

Dr. Smyth, would you come over here, please?

The meeting this morning is for the purpose of considering the nomination of Dr. Smyth and Mr. Dean to be members of the Atomic Energy Commission.

Mr. Dean advised me by telegram that due to an illness in his family he will be unable to be here until Saturday, and so we will schedule another meeting on either Monday or Tuesday. We will advise the press later as to whether it will be on Monday or Tuesday.

But we have with us this morning Dr. Smyth, Dr. Henry DeWolf Smyth, who has been nominated by the President to be a member of the Commission.

I have here a biographical sketch of Dr. Smyth submitted to the Senate by the White House, and I shall read it for the record.

The doctor lives in Lafayette Road in Princeton, N. J. He was born in Clinton, N. Y., on May 1, 1898.

Doctor, that makes you——

Dr. SMYTH. Fifty-one.

The CHAIRMAN. In 1918 you received an AB at Princeton. In 1920 you received an AM at Princeton. In 1921, Princeton seemed still to approve of you, because they granted you a degree of doctor of philosophy. And in 1923 that was repeated by Cambridge University.

Under the table of experience, from 1921 to 1923 Dr. Smyth was a fellow of the National Research Council, in Cambridge, England. In 1923 and 1924 he was at Princeton University, and in 1924 and 1925 he was an instructor in physics at Princeton.

From 1925 through 1929 he was an assistant professor at that university, from 1929 through 1936 an associate professor, and since 1936 a full professor.

Since 1935 he has been chairman of the department of physics at Princeton, and from 1927 through 1930 he was associate editor of the *Physical Review*.

I suppose that is a magazine devoted to the physical sciences.

Dr. SMYTH. Yes, that is right. It is the professional journal of the American Physical Society.

The CHAIRMAN. From 1940 to 1945 Dr. Smyth was consultant on war-research projects to the National Research Council and to the Office of Scientific Research and Development. From 1943 to 1945 he was consultant to the Manhattan Engineer District (atomic bombs), United States engineers.

And there is one thing that is not on here, Doctor. You are the author of what has become known as the Smyth report, quite a famous document, of which I believe many thousands of copies have been printed and distributed. Am I right about that?

Dr. SMYTH. As far as I know, the University Press at Princeton—their particular edition has sold about 120,000 copies.

The CHAIRMAN. It has been printed by the Government Printing Office, though, too?

Dr. SMYTH. By the Government Printing Office, yes. Why the public prefers to pay a dollar and a quarter to the University Press rather than 45 cents, or whatever it is, to the Government Printing Office, I don't know, but that seems to be the way it works.

The CHAIRMAN. Do you know how many copies have gone through the Government Printing Office?

Dr. SMYTH. No, I don't.

The CHAIRMAN. Doctor, what date was the report issued?

Dr. SMYTH. It was issued first in a litho-printed form in the summer of 1945. I can't give you the exact date, but it was just a few days after President Truman returned. It must have been 2 or 3 weeks after the dropping of the bomb on Hiroshima.

The CHAIRMAN. I think it would be of considerable interest to the committee and to the public, Doctor, if you were to trace the report from its genesis to its release, with your part in it.

#### STATEMENT OF HENRY DeWOLF SMYTH, PRESIDENTIAL NOMINEE TO THE ATOMIC ENERGY COMMISSION

Dr. SMYTH. I will be glad to do that as well as I can recall it.

I know my first participation in the idea was when I was at the metallurgical project in Chicago in the winter of 1944. That was, I should say, in February. I remember discussing the general idea of a report that might be eventually released to the public first with Dr. Compton and then with Dr. Conant when he came out there.

I am not sure where the idea originated, but I at least showed interest in the idea, and a month or two after that I was called here to Washington to talk with Dr. Conant and General Groves, and at that time General Groves asked me if I would undertake the preparation of such a report.

There was at that time no decision, obviously, as to whether it could ever be used, or in what form it could be used, or what parts of it could be used.

I started work almost immediately, although I had other duties, so it was not a full-time job. I worked on it, there, for around 15

months, off and on, at various times submitting outlines and chapters, and at one time most of the report to General Groves and Dr. Conant and others for their criticism.

In fact, it was rewritten two or three times, most of it.

Then, in May of 1945, I was called to Washington and told by General Groves and Dr. Conant that they felt they would like to have this report really prepared in such form that it might be released. In fact, they asked me if I could have it done by—I think the date they asked for was June 10, or something like that; and I said I couldn't, but I would try to have it done by the first of July.

I had, of course, in the meantime, shown revelant sections of the report to a number of the project leaders. And then, in July, I completed the report. No, it was earlier than that, I think. I had talked with General Groves earlier, and pointed out, which was something that he obviously didn't need to have pointed out to him, that I couldn't take the responsibility alone as to what should and should not be in the report. He therefore suggested that Dr. Tolman should collaborate with me in going over the material that I had prepared. Dr. Tolman and Dr. Conant were the two principal scientific advisors of General Groves. Dr. Tolman and I discussed at considerable length what we thought should and should not be in the report, in terms of both positive criteria and negative ones. We then drew up a list of those and submitted them to General Groves, and he considered them, modified them somewhat, and then issued to us a directive of what should and should not be in the report.

We then, each of us, separately, went through the copies that I had prepared at that time, with a red pencil, and cut out a good deal of material. I had felt that the only way to prepare the report was to be rather complete, and then eliminate; rather than trying to eliminate as I went along.

We cut out a great deal of material. We then submitted it to General Groves again. I am not quite sure who read it at exactly that stage. I think General Groves and Dr. Conant did, and probably General Farrell. They made some suggestions and some further eliminations.

It was then mimeographed in that form as a top-secret document, and sent out to the various projects by courier, and the project heads were asked to look over the sections that were of particular relevance to their work, and also to have some few of their senior men look them over, with a view to considering, first, whether what I had said in the report was accurate and, second, whether it was releasable; that is, whether it would in any way damage the security of the country to release it, whether such release was inadvisable.

Those men actually were asked to sign clearances of some sort covering those two points, as I remember.

It then came back, and we incorporated many of their suggestions, I think most of their suggestions, into the report. There weren't very many. It had to be done rather hastily. I mean the actual circulation was done somewhat hastily. I don't mean that we didn't have time to consider their suggestions. Those, I think we considered carefully.

Then, as we were preparing it for publication in final form, Dr. Tolman went over the entire report, paragraph by paragraph, with a copy of the directive that General Groves had given us beside him

for any paragraph which he thought might possibly be questionable, citing justification in terms of the directive.

I think that is the last stage with which I am familiar.

The CHAIRMAN. Was there not a board of advisors that General Groves had, Doctor, of which Mr. Harrison of New York Life was a member?

Dr. SMYTH. Yes.

The CHAIRMAN. Did that Board have anything to do with the release of the report?

Dr. SMYTH. I am now speaking of things of which I have no direct knowledge, since I was at a lower level.

There was such a board. It included Dr. Bush, I think, and Mr. Harrison, and others. I assume—in fact I am practically certain, and only my scientific caution makes me qualify the statement—that they passed on the question of whether this report should be released or not, and made a recommendation that it should be released.

The CHAIRMAN. That was the committee that was appointed by the then Secretary of War, Mr. Stimson, I believe, Mr. Henry L. Stimson.

Dr. SMYTH. Yes.

The CHAIRMAN. I do not recall every member of the Board, but I do recall that Dr. Bush and Mr. Harrison were members, and I vaguely recollect that at some point in our work here, it was represented to me that that Board had passed upon the release of the report.

Well, Doctor, do you think that report helped anybody materially to construct atomic weapons or make fissionable material? I might say, Doctor, that you are not unaware of the fact that there has been a controversy on this matter. At some times it gets more virulent than at others, depending upon the particular incident that is under examination, or depending more particularly on who is talking about it. The allegation has been made that the Smyth report has helped, for instance, the Soviet Government to make progress faster than they would have if the Smyth report had not been issued.

I realize, Doctor, that you were an employee; that you had your orders to write this report; that you wrote it; and that, as far as I can ascertain, you did not make the decision as to publication of it. That is correct, is it not?

Dr. SMYTH. That is correct.

The CHAIRMAN. Not that I want to put you in the position of disclaiming responsibility for it. I do not. I just want you to state that is factually true.

Dr. SMYTH. That is factually true. Also, I would not want to disclaim the responsibility for it, because I believe the decision to publish it was a correct decision.

The CHAIRMAN. I notice that General Groves as late as last summer, in a magazine article he wrote for the Saturday Evening Post, stated at some length his vehement belief that that was a correct decision when it was made, and that it is correct now. So you are not alone in that.

Dr. SMYTH. In answer to your question as to whether it may have helped the Russians to produce fissionable material: To know how much it helped them, I would have to know a very great deal more about technology in Russia than I do know. In fact, I know nothing about the state of technology in Russia.

I would suppose that it might have helped them a little bit. I think it helped us very much more. I have seen statements by supposedly

responsible people that that report contains complete directions for making an atomic bomb. All I would say is that I would hate to be the director of a project that was handed that report and asked to make atomic bombs on the basis of it, because I don't believe I would get very far.

In considering whether it was right to release the information in that report, in forming a judgment on that, I think it is necessary to know not only what is in the report but what is not in the report. And that is obviously something that I cannot discuss.

The CHAIRMAN. In other words, what is not in the report is the material anyone who was asked to construct a bomb would need and want.

Dr. SMYTH. Yes.

The CHAIRMAN. Doctor, I would like to have you develop for us for the record your authority for your statement that to publish the report helped us.

Dr. SMYTH. Well, I feel that the whole atomic energy project, the existence of atomic bombs, the possibility of using atomic power for peaceful purposes, is a very startling and a very new development in science and technology, and I feel that it posed a great many problems of administration and control, of security, a great host of problems that were too big to be settled in secret by a few officials "in the know."

I feel that it was quite essential that the American people should know the general outlines of this development, and that is the reason why I was very much interested in writing the report, and one reason why I still feel it was right to have it released. I tried to phrase that in the foreword to my report, and I would merely repeat that. I want to explain it more fully.

There is another reason, which turns out to be a very practical one, and that is that having that report delimits the area of publication. That is, there were many thousands of people who had worked on this project. I think it would have been entirely impractical to say to all of them, "You mustn't say anything about this." Particularly once the bomb had been dropped, the fundamental information, the great secret, was whether this would or would not work. And that was settled very clearly.

The CHAIRMAN. I think you said that, at one time, if I am not mistaken, the greatest secret disappeared at Hiroshima.

Dr. SMYTH. I have said that several times, and I think that is true. The fundamental information, the fundamental scientific information, was general knowledge in 1940; I mean general knowledge throughout the scientific world. The great question was, Would it work, or wouldn't it work? And to tell people that it would work was a much greater help to anyone who wanted to make one than to give an outline of some of the procedures that were carried out in making it work.

The CHAIRMAN. Have you any other observations, Doctor? I want you to feel free to volunteer anything that you would like to say.

Dr. SMYTH. Well, I am not sure that I have entirely finished this statement about the area of secrecy.

The CHAIRMAN. I think that is very important. Why not develop that now?

Dr. SMYTH. I think the general problem of secrecy is often misunderstood.

The CHAIRMAN. I will guarantee that that is right.

Dr. SMYTH. The reasons for keeping things secret are often very tangible and very simple and clear and obvious. The reasons for not keeping things secret are often much more intangible, but I think often equally valid or more valid. And I believe that what one has to do is to consider each case, each question on its merits, to consider whether revealing something will be of greater help to you, to us, than to a potential enemy; and, on the other hand, I believe one has to always remember that when you keep something secret you are paying a very heavy cost; it is going to cost you something, not just the trivial matter of paying a lot for guards and security police, and so on, but in slowing down your work, in preventing the criticism of the work that is the very lifeblood of scientific work and of many other kinds of enterprise in a healthy democracy.

The CHAIRMAN. Including administration of public business.

Dr. SMYTH. Including administration of public business; yes.

So that I think you do pay a great price for secrecy.

On the other hand, it is clear that in this project you must have some secrecy. And returning to our original point, the publication of this report did give a standard to which people could adhere, so that you didn't have everybody rushing off in all directions, talking about what they had done.

The CHAIRMAN. Of course, Doctor, implied in what you said, and I am sure specifically stated at one point, there is the thought that there are some things which we of necessity must keep secret in the present state of the world's condition.

Dr. SMYTH. Certainly.

The CHAIRMAN. Knowledge as to how to fabricate the weapon, certainly, I am sure you must agree, must be kept inviolate, if it can be; and at least I am hopeful that it can.

Dr. SMYTH. Certainly.

The CHAIRMAN. Also mechanical know-how in the production of fissionable material should, I am sure you will agree, be kept as secret as possible.

Dr. SMYTH. Yes.

The CHAIRMAN. Now, Doctor, I think I have just about covered everything that I wanted to have disclosed in the record, and so I am going to turn you over to Senator Hickenlooper, the ranking member of the committee.

Senator HICKENLOOPER. Doctor, I am very interested in your discussion of the Smyth report. I want to make it perfectly clear that I not only have never criticized the Smyth report but I believe it is an unusually able and a highly helpful document in the development of this science. But it has been controversial. I think you will recall that Mr. Lilienthal said about 2 years ago that it probably was one of the biggest breaches of secrecy—I am paraphrasing—that had happened in the project. And then, sometime later, he said it was one of the greatest helps in the education of the public. So we run the gainst of people who know about it, who have taken different positions.

But I just want to assure you that I feel that you have contributed a highly able and a highly essential work in this new science. So I have no criticism, and never have had, of the Smyth report. Perhaps all of us would rather that the weapon end of it could have been kept under complete wraps and locked up some place; but, as you did originally point out, perhaps the biggest secret of all was that the thing would go, and that was what the scientific world had been speculating about since the thirties, and even before that.

So as far as I am concerned, the Smyth report is on the credit side with me, and I think you can be well proud of the part you had in it.

There are one or two phases of the operations of the Commission that I would like to get your views on, however, because the Commission is not only charged with this tremendous scientific business but it also has vast public responsibilities, such as operating physical plants, and operating a Government monopoly, one which is extremely monopolistic, and extremely secret in its operation, and which therefore has a relationship to the Congress, which has set the original policy, and a relationship to the public.

I take it that you have read the act itself.

Dr. SMYTH. I am ashamed to say that I haven't reread it. I have read it.

Senator HICKENLOOPER. The policy set out in the act is quite a unique policy in the handling of public affairs, I believe. Do you agree with that?

Dr. SMYTH. I would certainly agree with that, yes.

Senator HICKENLOOPER. I am not critical of the policy, because I am sure all members of the special committee that sat in on this in the early days of the hearings on the law will agree that we could find no other way of handling this at that time. And, perhaps, the present time. But because of its monopolistic phases and because of its relationship to the public and the vast public interest and, sometimes, public apprehension as to this whole mysterious business, I think the relationship between the Commission and the joint committee of the Congress is a most important thing. Because the joint committee is the only genuinely and thoroughly informed source that either the Congress or the public has to rely upon in the operation and development of this thing. Manifestly, that comes from the secrecy involved and the necessity for controlling information on weapons.

In the provision setting up the joint committee in this bill, there is a requirement. Well, it is a mandatory duty, as I interpret it at least, both upon the joint committee and upon the Commission. The joint committee is charged with the responsibility of making—

continuing studies of the activities of the Atomic Energy Commission, and of problems relating to the development, use, and control of atomic energy.

I am quoting from the act.

On the other hand, the Commission—

shall keep the joint committee fully and currently informed with respect to the Commission's activities.

So that puts an injunction on both the committee and the Commission, and I do not think there is any dispute about the fact that it was put in there because the device of a joint committee was the only device that could be found for a liaison between this secret monopoly

of the Government, on the one hand, and the Congress and the general public.

As far as my own personal opinion is concerned, I think it is working very well. But I merely wonder what your attitude would be; that is, as a member of the Commission, toward the fullest possible cooperation with this joint committee of the Congress.

Dr. SMYTH. I have tried to make clear that one of the reasons why I was interested in having the report published was because I felt that in this country it was essential that the people should be informed, so that through their representatives in Congress they could follow and control the development of this field. I think that is really my answer, but I will answer more specifically. I would certainly hope, as a member of the Commission, should I be confirmed, that I would do everything I could to cooperate with the joint committee. In other words, I thoroughly approve of the way it is set up.

Senator HICKENLOOPER. That is fine. I think that is ample.

I do not have before me the original hearings on the confirmations of the first Commissioners, but I may suggest that in those hearings it was very clearly brought out by those first Commissioners themselves—Mr. Lilienthal, Mr. Strauss, Mr. Waymack, and the others—that the cooperation of the joint committee would extend even to those occasions in which participation by the joint committee in the deliberations of the Commission would be indicated. They all expressed themselves as feeling that way about it. I do not believe such participation has ever occurred, but I believe they went that far. I believe you will find that in the testimony of the Commissioners; access to the minutes of the Commission's activities, and all those things.

I wonder if you feel that your attitude is the same, generally, as the Commissioners expressed. I could not expect you to affirm the specific words I am using, because I cannot give you the accurate statement as to that; but it indicates the full degree of participation that the Commission members now in office felt that this cooperation should attain.

Dr. SMYTH. I would hesitate to give you a specific answer in terms of administrative set-ups.

Senator HICKENLOOPER. I understand that. I do not want you to be too meticulous about it.

Dr. SMYTH. But certainly it seems to me that the whole enterprise will work best with the closest possible cooperation. I think the danger in the enterprise lies in the necessity for secrecy, and therefore one must have internal criticism such as perhaps only the joint committee can provide. Well, it isn't exactly internal criticism, but at least the joint committee is a qualified body which can be told the secrets and therefore can criticize objectively; in the way in which I wish the whole Congress could, theoretically, at least, if it weren't for the secrecy.

Senator HICKENLOOPER. I think there is a restlessness on the part of everyone and we cannot just open this whole coconut, and permit everybody to look inside of it. I think we are in agreement that there are practical reasons why we cannot.

This project, up to now, at least, and for some time to come, I am personally convinced, is largely, in bulk of money and in bulk of installations, a weapon project. That is, the major end of it is accented toward weapons at this moment. I take it from your answers

to Senator McMahon that you are in thorough accord with the maintenance of the utmost secrecy and the safeguarding to the highest degree within this country of information leading to, or bearing directly upon, weapon production from atomic energy.

Dr. SMYTH. That is correct. And I would like to just reaffirm that.

In the past 3 years I have made a number of speeches in which I have tried to explain the problem of secrecy. I have always emphasized at the beginning of those speeches that there are fairly large areas, such as weapons production, that should be, will have to be, kept secret at the present time.

Senator HICKENLOOPER. The reason for my question, there, roughly stated, is that, as I think you will agree, there are people in the country who, without doubt utterly sincerely, urge the publication of all information about weapons and everything else that we know about this project. I have to thoroughly disagree with them myself, but I was interested in what your personal attitude would be, as I might rely upon it being reflected in Commission activities.

Dr. SMYTH. I can give you a somewhat fuller statement about the secrecy problems, if you wish, but I think it is essentially a repetition.

Senator HICKENLOOPER. I do not want you to repeat any more than necessary. But I think this is a tremendously vital phase of this thing.

You stated a moment ago that while the release of this information might have benefited someone else, it was more beneficial to us. To give you a very crude illustration of what I am trying to get at in the differentiation of attitudes on release of information, let us assume that some other nation was able to build and fabricate a substantial number of the Hiroshima-type bombs but that meanwhile we had been able to go ahead and build better bombs and more bombs. I have leaned quite strongly to the idea that there might come a time when it would not make any difference how many more bombs we had than somebody else.

If the other fellow had enough bombs to blow us out of the water, that would be the test. It would not make much difference whether he had a cruder bomb than we might have, or a less efficient bomb than we might have; he could still do the damage, in spite of our fancier bomb, or more efficient bomb.

It is that particular line of thinking that I am wondering about—whether you might think that the release of information which would lead to weapon making might be justified because by its release we would be able to make a more efficient bomb or develop more information. I do not know whether I make myself clear or not, Doctor, but I think perhaps I am just a little bit adamant on this position.

Dr. SMYTH. My training is such as to make me willing to consider almost any proposal, almost any flight of the imagination, and yet it is very difficult for me to conceive of a situation where the release of information about how to make a bomb would help us enough in the making of a better bomb to justify that release. Does that answer your question?

Senator HICKENLOOPER. Yes. It does as to your attitude, I think. And I think it is a satisfactory answer. It is a rather difficult field to explore, but I have the feeling, myself, that at the moment and in the reasonably foreseeable future, it is tremendously important to us

and to the world that we do not give any aid to anybody in the manufacture of atomic weapons except our own people. And I am not able in my own mind to conceive of any situation in which the giving of any information respecting weapons would have an overriding benefit to us here. I am just expressing an attitude.

Dr. SMYTH. The only situation that I can conceive of would be something in the development of the problem of international control. I would merely say, there, that I don't want to get into a hypothetical discussion.

Senator HICKENLOOPER. I am leaving out the matter of international control. I am thoroughly committed to the idea that if proper machinery can be set up and satisfactorily safeguarded, international control would be desirable. So I am not trying to talk about that phase of it.

I do feel that the greatest possible attention and the most meticulous care must be exercised to prevent our aiding any other individual nation or combination of two or three nations toward their development of atomic weapons, either directly or indirectly. And I am also aware of the great advantages of scientific information being disseminated with the greatest possible freedom, short of that point.

There is another phase upon which I would like to get your attitude, Doctor, and it is a phase of this thing that I think is of tremendous importance. It is on the personnel end of the operation of this very great project.

Because of this secrecy that comes as a result of weapon production, we have had to establish some quite rigid safeguards against the wrong kind of personnel being employed in the project. The law in general provides that before people can have access to restricted data, or be cleared for any access to restricted data, they must have been investigated by the Federal Bureau of Investigation. Do you disagree with that philosophy of the law, under all present circumstances?

Dr. SMYTH. No. I agree with that.

Senator HICKENLOOPER. I would hope that the time might come sometime when we would not have to do that. But you do agree with that philosophy?

Dr. SMYTH. I do.

Senator HICKENLOOPER. In connection with some of the examinations and the historic associations of some employees of the Commission who have been given what we call a "q" clearance for access to restricted data, there developed facts and circumstances surrounding the history and background and associations of some of these people which raised very substantial doubts as to their being good security risks for clearance.

I would like to ask you a question in that connection; and I don't mean this question to be embarrassing, but I think it is very vital that it be asked.

Let us take a hypothetical case where investigation of a man or a woman, who is posted for a "q" clearance, discloses a substantial association with subversive groups, or with individuals who are known to be spokesmen and leaders and agitators of subversive groups, with especial emphasis on the list of subversive organizations that the Attorney General has set up.

Generally, could you express what your attitude would be toward a clearance or a nonclearance of people of that kind for access to restricted data, in view of the fact that the Commission has the sole and final authority to clear or not clear?

Dr. SMYTH. Well, I will say this: It is perfectly clear that security is something quite different from loyalty. It is perfectly clear that you might refuse to give "q" clearance to Mr. "X" or Mr. "Y" even if they had no association with any so-called subversive group, just if he talked too much, or got drunk and talked too much.

Senator HICKENLOOPER. I will call your attention to the fact that the law says that they shall pass upon the loyalty, character, and associations; I mean, those are the three categories.

Dr. SMYTH. Yes. I am not suggesting that the man should not be adjudged loyal. I am suggesting that the criterion is a much stiffer one than that.

Senator HICKENLOOPER. I think you have a very good grasp of the field there, and I am glad you have.

Dr. SMYTH. I am sorry that the public sometimes gets confused on that, because I think it is very unfortunate that when a man gets refused clearance for work on secret material it sometimes is interpreted as meaning that the man is disloyal, which it may not mean at all.

It is also unfortunately the case that there are those who feel that because they are American citizens, they are entitled to work on this project, and have access to secret materials, just by reason of that fact, just because they are free, loyal Americans. I think that is nonsense.

Senator HICKENLOOPER. I thoroughly agree with you. I could not have stated it as well myself.

Dr. SMYTH. I do feel that the whole process of clearance, of investigating large numbers of people by having the FBI make investigations of them, is an unpleasant business. I think it is essentially contrary to our American tradition. In other words, I consider it a necessary evil. I would like to limit it as much as possible. I would like, where possible, to avoid this process. I do not at all enjoy the idea that there is a stack of documents somewhere here in Washington that tells all about my past history. I am not ashamed of my history, but I would rather not have a dossier here on it.

Senator HICKENLOOPER. I have every reason to believe that you have no reason to be ashamed of what is in that file.

Dr. SMYTH. Well, that is very kind of you. I don't know. They may have missed some things.

The CHAIRMAN. You know, Doctor, I have the same feeling about having my fingerprints on file. I do not know whether they are or not. I know they have many millions of them; and undoubtedly it furnishes a good record in the event of, oh, many unfortunate accidents that can happen to a person. But the idea of having your fingerprints down on a card on file—it is not reasonable to resent it, but I just do not like it.

Senator HICKENLOOPER. I took my whole family and had them fingerprinted some years ago, and have them on file. My wife usually runs our family affairs, and she agreed to it.

The CHAIRMAN. Doctor, you have to agree that many millions of Americans sent in their fingerprints voluntarily. So your feeling and mine is not universal. But it is one that we share.

Dr. SMYTH. If I may return to this question of clearance. At present the work of the Atomic Energy Commission impinges on so many fields in science, and particularly in the physical sciences, that it can be a very serious handicap to a man in getting a position if he has been refused clearance. That is the reason I wanted to emphasize the fact that the refusal of clearance was not necessarily a reflection on loyalty.

Senator HICKENLOOPER. Yes. That gets me to another phase of this very difficult problem.

There are two difficulties, or two major fields of difficulty, in the question of clearance, that arise where something questionable appears, or a danger flag is raised against somebody who is being investigated.

One of the most difficult things, from a human standpoint, is to raise that question about someone who has already been employed, and has had a history of continuous employment for some time, where investigation shows that there is something derogatory, substantially so, in that person's habits, attitudes, or things of that kind. It then becomes a question of removing that person or not removing him from a job. That poses a difficult human problem.

There is another difficulty, however, that I cannot say is customary, but has too often arisen in Commission activities in the past, where some individual would be engaged for a job, practically put on the job, permitted to stand around for 2 or 3 months cooling his heels, and then has something come up in his investigation, upon which the argument is advanced, "Well, he is already practically on the job; therefore, we must overlook certain derogatory signs in his background."

It has always seemed to me that a person who is being considered for employment, or for a "q" clearance, could well be looked into in advance, before any commitments have been made; and that it would eliminate all this human element of offense to an individual, or blocking him from getting a job some place else, if they would merely look into it in advance of the commitment. Then there would be no publicity about it. There would be no question of hearings. There would be no fanfare. And this issue of blasting a person's character, or making possible a misunderstanding of the reasons for his being refused employment, could all be eliminated. The Commission could very well say, "No, we will not make that man a proposition," or "We will not solicit his services."

I hope you realize I am not trying to commit you in advance to any particular decision, or as to any particular case. Perhaps I am expressing my own views as a result of some experience in this thing.

Then, of course, there is the case where examinations may be made quietly, without the individual necessarily knowing it. Those cause no trouble if something derogatory comes up.

There are those cases where the man or the woman has been actually on the job, maybe at the Manhattan District, or some place else, or came to the Manhattan District prior to an examination. There is the difficulty, of course, of having to fire such persons, of having to tell them, "We do not need you any more."

Then there is the practice in, I would say, a great minority of the cases, a practice which it seems to me should be eliminated, of putting somebody on a job in a project, and then sending him for clearance. And then finding that there is something in that person's background which does not make him or her desirable as a security risk. It would seem to me that that practice could be eliminated, and that a practice could be substituted which would afford far less difficulty and far less embarrassment than often obtains now.

I might say, just to clarify this situation, that I think the record of loyalty and character in this whole project, from the Manhattan District down to the present time, through the present Commission, has been of an unusually high order. I think the percentage of undesirable people who would have occasion to have access to restricted data is remarkably low and indicates a standard that probably could not be excelled and perhaps not even equaled among any other group or class of people. So I do not take the attitude that everybody is bad.

But let me ask you about this, because this has apparently been bandied around somewhat: Sometime ago, last year in fact, the Commission adopted a policy of selecting younger men as follows: To be educated for doctorate and postdoctorate degrees, and to create a reservoir into which the Commission might later dip to get highly trained people to do classified work and other work.

When that program was suggested, I personally said that the theory was, in my mind, good. I had no objection to it. I thought it was a constructive theory. But at the same time I raised the question with the Commission: "Are you going to have these people investigated by the Federal Bureau of Investigation before you put them on the Government pay roll and educate them at Government expense?"

I realize fully that in their fellowship activities, they do not have access to restricted data. I realize that. But they are being educated at Government expense, and they are to constitute a reservoir from which able people may be available in the future to the Commission.

I was told, when the program first came up, in my communications with the Commission, that they would, of course be investigated by the Federal Bureau to see whether or not there was anything in their backgrounds that would eventually make them undesirable for clearance for access to restricted data if, as, and when the Commission, after educating them, might want to use them.

I find now that a very few of the first 246, I believe, were in fact investigated by the FBI, but that thereafter investigation ceased, and that as to probably 200 of them no investigation, no genuine investigation has been made.

Investigation, however, did disclose that one man who is now receiving a substantial stipend from the Atomic Energy Commission is being educated, I think, in a postdoctorate field. I have his name here; it was published in the fifth semiannual report. He is taking postdoctoral work now, I am told, at somewhere around \$3,600 to \$3,800 a year. He is known to be a Communist. His wife is known to be a Communist. I am told that in the first few that were investigated, a number of others had extremely derogatory information in, as generally outlined in the act, their "backgrounds and associations." And while I knew nothing about this matter yet, the night before last a radio news commentator, Mr. Fulton Lewis, Jr., talked about the

approval of and the offering of a scholarship to a young man at the University of North Carolina who has been a Communist leader in Chicago, and who is reputed to be the Communist spearhead in the student body at the University of North Carolina. As I say, I have no information on that, other than the information I got from the broadcast. I was called about this information two or three times on the day of the broadcast. I had to confess that I knew nothing about the case; that I had no idea about it; that it had never come to my attention. I do not know about the truth of the matter, except that I have done some checking and find that this young man is generally reputed to be the spearhead of the Communist agitation at the University of North Carolina.

I would like to ask your opinion, if you care to give it, whether in this program these people who are to be educated at Government expense with the avowed purpose of, first, I think, creating a reservoir from whom able people, trained people in nuclear physics, can be brought into Government service at some later time, not all of them, again I say, to be brought into Government service, but people to provide a reservoir from which selection could be made, should be examined beforehand; and I would like to ask what your opinion would be as to the advisability of examining those people before they go on the Government pay roll to become, at Government expense, a part of this reservoir.

Dr. SMYTH. Well, I should first make it clear that I am not a Commissioner.

Senator HICKENLOOPER. Again, let me say to you that I am not going to pull out any particular record on you and say, "You promised to cross this 't' and dot this 'i'," and so on. I am trying to get some idea of your general philosophy on what I believe to be the most vital human element.

The CHAIRMAN. Might I interrupt, Doctor, just to say this to the Senator?

Of course, as you know, we have set down a fellowship program hearing for an open meeting on Monday, May 23, at 10:30 a. m. We have already had one short meeting on the subject, and the whole program has been under the scrutiny of the staff for some time. Of course, that has no bearing on the questions directed to Dr. Smyth, but I just want to say, since this is an open meeting, that that program is being looked into.

Senator HICKENLOOPER. Well, Mr. Chairman, may I say this:

I am frank to say that I believe you are going to be confirmed, Dr. Smyth. I am not hostile in this at all. The reason I am asking you this now is that it is very likely that before we can conclude the hearings on the fellowship program—I believe we originally intended to have them this week did we not, Mr. Chairman?

The CHAIRMAN. That is right.

Senator HICKENLOOPER. Before we conclude those, it is very likely that you will be confirmed as a Commissioner. And I am very, very sorry that this matter was not up 2 years ago, so that I could have asked the other Commissioners prior to their confirmation what their general attitude would be on this thing.

The fact of the matter is that I am somewhat surprised that they changed their attitude on the investigation of these students, when I did have the assurance that a preliminary or prior investigation of

these people was a part of the program when they first set it up. Now it seems not to be. So I am very interested in attitudes on this matter.

The CHAIRMAN. I want to be clearly understood. I just wanted to point out that I realize it is a perfectly proper question of Dr. Smyth, and one on which you are certainly entitled to have an answer. I might say for the record that I have not come to any firm opinion as to whether or not there should be a full scale FBI investigation of the young men, Senator, but I certainly agree with you that if we are going to dispense public money, the applicant should be required to fill out and swear to a very full statement of his credentials and the organizations to which he belongs, and I believe he should be required to state his loyalty to the United States Government. Then, if it develops later that any statement therein is untrue, he certainly would have opened himself to the charge of perjury. That, however, would be a matter of the mechanics, related to the full scale FBI investigation, and laying a predicate, if a man is untruthful, for making him pay the penalty for his untruths.

I am sorry I interrupted.

Senator HICKENLOOPER. That is all right. I might say, just as a sequel to that, and just to make this situation perfectly clear, that there have been instances in this project where people have been required to make out what we call a "PSQ," in which they swear to their associations, and so on; and that a later investigation, after these people have gone into some important positions, has shown, I will say just by way of illustration, that they have belonged, as a matter of proof and later admission, to organizations that I do not believe you and I tolerate.

The CHAIRMAN. If they perjured themselves, they should be held to account.

Senator HICKENLOOPER. But the point is that the cat was out of the bag. They were given access to important information meanwhile.

I know the chairman and I have discussed this, and I do not believe we have any substantial disagreement on the philosophy of the thing, but I am definitely taking a position on this, so that there will be no question about it. I do not mean to oppose education. If a man is a Communist, he can go and get himself educated any place he wants to. But I do not want him to do it with public money. That is probably it, in a nutshell. And for any person who is maintained at public expense, educated in this highly specialized field, expected to become a part of a reservoir from which we can later obtain specialized people, I think there should be a thorough FBI investigation, just the same as for anyone else on the project, and before he begins to be educated at public expense.

I agree that I would welcome the time when we could safely get away from these investigations. They are offensive to me too. But I think they are necessary in the case of those who are going to work on the project, and I think they are just as necessary where public money is being used to educate these people; and people who at least in several instances could not by any stretch of the imagination pass the investigation for a "q" clearance later. That is my philosophy on that, Doctor.

Dr. SMYTH. First I ought to make it clear that the only position I can take, in answering you, is the position that is taken by a man who

has been chairman of a physics department for a good many years, and has seen a good many young students in training. And actually we have now several AEC fellows, both predoctoral and postdoctoral, at Princeton.

My position would be that I would hope that this clearance procedure would not be necessary. As you have pointed out, these men have no access to secret material. Many of these universities, I think, take the position that we do at Princeton, that secret work is inappropriate at the university; so there isn't any secret work around.

Senator HICKENLOOPER. On that point, and in that limited sphere, I agree with you that, per se, education and training in a college or university should not require investigation. I mean, people have to stand on their own and be responsible for their own affairs. This goes further than that, however. It goes to the point of the use of public funds to educate people who will be available later for use on highly secret and classified matters.

The use of the public funds to educate them at public expense seems to me to put them in a different category, than, say, the mill-run of research people, who certainly have a right to educate themselves, or get their education, as they may. So it is just a little different. I agree with the major portion of your philosophy.

Dr. SMYTH. All I am saying at present is that I hope this will not be necessary. In other words, I would like to give you some of the reasons why I hope it will not be necessary.

These boys who are the best people going into scientific research, the best material for graduate students, the best material to make scientists out of, are the people with an inquiring turn of mind. They are the kind of people who question the validity of scientific principles. And that is the way we modify scientific principles and get them more nearly correct; that is the way we make scientific advances: by having men of questioning minds. They are apt to be politically rather naive, certainly in their early stages. They are apt to have concentrated on their scientific work.

I would say that I would consider it more difficult to judge a student of 21 or 22 years old in terms of fundamental loyalty and discretion, particularly as to what he is going to turn into after 2 or 3 years of graduate training, than almost any other class.

Among that group I think it is extremely difficult to set up a reasonable standard of loyalty to apply to these youngsters. I think if you apply this idea of FBI clearance for all these people, you will tend to get—

Senator HICKENLOOPER. May I just interrupt to correct that statement, Doctor, which you probably do not mean. The FBI does not clear anybody. The FBI only investigates, and says: "Here is the result of our investigation. We do not evaluate it. We do not say it is good, bad, or indifferent." The agency to which it reports has the duty and the burden of evaluating that and clearing or not clearing, you see.

Dr. SMYTH. Correct.

Senator HICKENLOOPER. There is some misconception about that.

Dr. SMYTH. That is correct. I spoke carelessly.

I am afraid that just the people you will most want to be trained in this field will be the people who will have the strongest objections, however irrational, the kind of irrational objections that Senator

McMahon and I have to this procedure. They will also be the kind of people who will not need the AEC fellowships—I don't know whether that is good or bad—because they will be the best ones. Or not necessarily. I am sorry.

I do not know anything in detail about the present procedure. I share your discomfort at the idea of public funds being used to educate members of the Communist Party. There certainly is not the slightest disagreement there. I do think I have a somewhat different conception of the value of the AEC fellowships; or at least that there is another objective, which I think you probably have in mind. I believe that they can be valuable not only in providing men who will go directly into Government projects, doing secret work, but I think they will be just enormously valuable in lifting the whole tone of science in this country. We have precedent for that in the National Research Fellowships.

Senator HICKENLOOPER. In that philosophy I certainly agree with you; that is, as to the broad objectives. And I did agree when the Commission set up the program. That is, I am in agreement as to the potential or very evident benefits that can come from this program.

I am also convinced that in this program there are, in numbers, very few involved. I do not know what the program eventually will be, but it may be a total program of five or six hundred, or something along in there. They have listed in the fifth semiannual report, I think, 245. I believe there are 245 listed here now as of January 1 in this fellowship program, and they are adding more. And frankly, I think there are very few, in numbers. Therefore it would seem to me that an elimination of the small minority who could not possibly, under their present records, at least, be considered for clearance for access to restricted data, would not in any way hurt the program. Oh, it is possible that someone who was eliminated might eventually, sometime in the future, turn out to be the top man in some line; but it seems to me that surely, out of all these hundreds of brilliant young men and women who would be otherwise eligible for these fellowships, there would be an ample reservoir, and that the few that could not qualify, would not foul this program up in any way, or substantially retard it.

Dr. SMYTH. May I ask you this: What would you feel about similar fellowships set up, let's say, by a national science foundation, where the individuals would also be supported by public funds?

Senator HICKENLOOPER. I would feel exactly the same way, if public funds go into it. If it is a private foundation, I think under our system the private foundation has the right to educate anybody that they want to, within, of course, reasonable limits. They cannot educate people and train them how to go out and kill people or assassinate the President, or anything of that sort. However, as a private foundation, I would say, they have their rights and their privileges. But when it comes to foundations or groups supported entirely by public funds, it is another matter. And these people would be maintained by the income derived from these public funds. They may be fortunate enough to have some money of their own, but I presume the overwhelming number, practically all of them, would be living on the public funds that go into this fellowship.

Dr. SMYTH. One of the laws of science is that nobody who has money ever goes into science. There are exceptions, of course, to that law.

The CHAIRMAN. If he does have money, he speedily loses.

Senator HICKENLOOPER. As I say, where public funds constitute the support for this thing, it is my opinion that we must be careful that we do not use those public funds to educate people who would not in the future be eligible to work for the Government in classified fields.

Dr. SMYTH. Well, I think our differences are probably in terms of mechanism, not in terms of philosophy, and I do not believe that my familiarity with the present procedures and the details of the problem is sufficient for me to say more; except that I hope that the idea will not get abroad that the only people who can get AEC fellowships are people who have been completely conformist. I know that is not your view.

Senator HICKENLOOPER. I would not put it that way myself, if I were stating it. I would say the people who cannot get the AEC fellowships are people about whose background and record there is certain derogatory information which would preclude them, under our rules at the present time, from having access to secret information. I would not say they would have to be conformists, in fact, we are all nonconformists. I suppose there is no normal human being, so everybody is a nonconformist. But I think there is a pretty well-defined category in which we believe that certain agitations and beliefs are not for the best interests of the body politic and our social and moral institutions.

Dr. SMYTH. Certainly.

Senator HICKENLOOPER. And I think we can define that line with reasonable exactitude, and I think it is the characteristic of the American people that they lean over backward to give the other fellow the benefit of the doubt, too, very often, so that there are many who are not as rigid in these matters as perhaps I would be, and I may be too rigid in my attitude. But I would emphasize that this is a specialized program of the Atomic Energy Commission and not necessarily a general educational program, because the Commission, under the law, has no business going into a general education program. Their business is atomic energy. The justification, I think, for their fellowship program is that they will build up a reservoir of specially trained people, people trained in nuclear fields, who eventually can be brought to the aid of this great new developing science, and I do not believe that the Atomic Energy Commission has any business going out and just educating people, willy-nilly, to advance the general level of the educational system. I think we have other means of doing that. Therefore I consider it a specialized activity. As a specialized activity, I believe it should be limited to people who can qualify within the very tolerable limits—the limits are not too severe—the very tolerable limits of security risks. That is my philosophy on it.

Dr. SMYTH. As I said before, I think I would be very distressed to have an AEC fellow, a predoctoral fellow, who had benefited by that training, and benefited by the public funds, come to his doctorate and then apply for a job at some AEC laboratory where clearance was required, and find that he was refused clearance.

Senator HICKENLOOPER. Exactly. My point is that we ought to do as much as we can to eliminate that possibility before we begin to ex-

pend money from the public funds on him. I realize that after you examine or investigate somebody for the purpose of having him go into this fellowship program, he can do many things between the time of that investigation and when he begins that work, and 2 or 3 or 4 years, maybe, or whatever time expires until he might become desirable otherwise, to work on this project. I realize that overnight he can do things after the investigation.

Dr. SMYTH. He can do things in either direction. I mean, maybe, when he is a senior, he thinks communism is wonderful. Maybe when he gets some sense, a year or two later, he thinks it is terrible. And I would rather have him investigated at the time that the clearance question becomes acute.

I am sorry. I am getting into detail here which I do not really think I am qualified to speak on.

Senator HICKENLOOPER. That last statement of yours I am in thorough disagreement with, Doctor. I just happen to be pretty adamant on the idea that the only sound procedure is to investigate these fellows before we start spending money on them. And there are plenty of people who have not developed these vagaries of social and political thought that a lot of us think are very harmful, and I think we could eliminate the others at the start and just not take them on.

Just one more observation, because I think I might make it now. I am sure you have a very substantial conception of the great extent of the physical operations of this Commission, and I am also quite confident that your attitude would be to operate it in the public interest as economically as possible, considering the justifiable programs that have to be developed, and the development of the science, and the maintenance of our preeminence in it; in other words, that it is a public thing, run by public money, and that economy is to be desired in this just as much as in anything else, but economy within reasonable limits of maintaining our preeminence in our development. I take it there is no disagreement with you on that.

Dr. SMYTH. I pay taxes. I don't want to pay any more.

Senator HICKENLOOPER. That is right. Well, I had something else that occurred to me a moment ago.

Dr. SMYTH. Might I return to the other question?

Senator HICKENLOOPER. Yes, indeed. I would be glad to have you say anything you want.

Dr. SMYTH. Because I may have given a false impression.

I would say, speaking as chairman of a physics department, that I hope it won't be necessary to have any people that we nominate in our department for AEC fellowships investigated.

Now, in our particular department, I would feel perfectly happy about it and perfectly safe. I don't think there would be any trouble, but I just hope it won't be necessary. Maybe it is. I understand your point of view.

The CHAIRMAN. You would not have the same objection, Doctor, or, to use a better word than "objection," the same "hope," as to procedure which would require any applicant in his application to state where he came from and all about himself, and what organizations he was a member of, and also to make an oath of allegiance to the United States. Would you have any objection to that?

Dr. SMYTH. I don't think so.

The CHAIRMAN. Without in any way wishing to preclude the Senator, I do want to reserve full discussion of this matter until we hold the hearing which has been scheduled for next week, an open hearing, on this whole problem. It is a very serious problem, a grave one. It is serious because we are operating in a democracy, and we must have support for our Government and we must have confidence in our Government. I am thinking now in terms of taxpayers, not the Rockefellers and the Vanderbilts but some fellow who is having some part of his wages withheld from him after he works, as a carpenter, perhaps, or in an automobile factory. And while we cannot, as I see it, jeopardize our scientific progress by attempting to conform to what may be that man's conception of how we should try to advance scientific progress, yet we must have a decent regard, Doctor, for the opinions of our citizens as a whole. I am sure there is something shocking to them in the thought that we would pay out public money for the education of a youngster who paraded his communism. It has a scandalous kind of a connotation.

This illustrates perfectly, it seems to me, the difficulties of operating this kind of a project in this kind of a democracy. It is a very difficult thing.

Against that, let me place the other proposition. We must not, it seems to me, so constrict this, so try to make it uniform, that all we get is the kind of person who must wear four buttons on his coat if all the others are wearing four buttons on their coats. It is a problem of balance here.

At any rate, perhaps on a full investigation of it, on May 23, we will be able to develop the facts and arrive at some kind of a conclusion.

Doctor, there is just one question I want to ask. I am pretty sure I know what the answer is going to be. Are you in general agreement with the United Nations' plan for control of atomic energy?

Dr. SMYTH. Yes; it seems to me an intelligent plan.

The CHAIRMAN. I have had a question suggested to me, Doctor, that I am going to ask you. It goes back to this other thing.

Would it not tend to discourage unwise experimentation by college youth in Communist front groups, if they knew in advance that such participation would bar them from a very desirable fellowship?

Dr. SMYTH. Well, that is a question having to do with the operation of the undergraduate mind. And after 30 years of experience, I hesitate to make any answer.

The CHAIRMAN. As to what induces them and what does not?

Dr. SMYTH. Exactly. There is always the problem, in teaching chemistry, I have been told, as to whether to tell the boys what particular mixtures are explosive or not to tell them, and I think most chemistry departments would oscillate between the two policies, because if you don't tell them, they may make up an explosive mixture by mistake. If you do tell them, they probably will make up an explosive mixture because they are interested in producing it.

Senator HICKENLOOPER. Is not that question a whole lot like the philosophy that one hears once in a while, that a minister ought to go out and raise the roof once in a while so that he would know what to preach against?

Dr. SMYTH. Yes, exactly.

The CHAIRMAN. Well, Doctor, there are no further questions that occur to me.

Senator HICKENLOOPER. There is just one that I have. It will be very short.

The CHAIRMAN. Go right ahead, sir.

Senator HICKENLOOPER. I would just like to have your expression on this, Doctor. Do you have any deep-seated convictions or feelings which, under the present circumstances—I am just talking about today and the immediate future—would cause you in any way to tend to oppose the continuing development of the weapons program in atomic energy?

Dr. SMYTH. No.

Senator HICKENLOOPER. I am speaking of present circumstances, now.

Dr. SMYTH. I understand.

Senator HICKENLOOPER. I am not speaking of the time when we hope the world may be reliably assured of peace, or anything of that kind.

Dr. SMYTH. If I had any such convictions, I would not have accepted the present appointment.

Senator HICKENLOOPER. Of course, I understand that we all wish we did not have to make weapons. I am not saying anything about that.

Dr. SMYTH. Of course. I do not enjoy the idea of making weapons. But I certainly have no convictions that would prevent me from accepting the job of doing so.

Senator HICKENLOOPER. And of promoting and developing a weapons program to the greatest possible degree consistent with the reasonable needs of the time and the occasion, and our own national security?

Dr. SMYTH. That is correct.

Senator HICKENLOOPER. All right, Mr. Chairman.

The CHAIRMAN. Doctor, it is obvious that we have been sitting as a subcommittee, Senator Hickenlooper and I, this morning. We will report to the full committee. The record will be available for each member of the committee.

I may say for the record that Senators Connally and Vanderberg are in the Foreign Relations Committee in hearings on the Atlantic Pact. Senator Tydings is presiding at the Armed Services Committee.

Senator HICKENLOOPER. I saw Senator Knowland in the hall on the way down, and I think this is an important meeting of the Armed Services Committee. He said that he had to attend that, and he said he did not dislike Dr. Smyth, anyway.

The CHAIRMAN. It is attributable, probably, Doctor, to their confidence in you, that they are willing to trust your at least immediate adjudication to Senator Hickenlooper and myself.

At any rate, we will report to them, and we will hear the other nominee to the Commission, Mr. Dean, on Tuesday next.

I am anxious to get this business concluded as quickly as possible, because the Commission now is operating with three members, and I think it is highly essential that you get into office as quickly as possible. So I assure you that we will not delay. You can make your arrangements accordingly.

Thank you very much, Dr. Smyth.

(Whereupon, at 12:20 p. m., the hearing was closed.)



# CONFIRMATION OF GORDON E. DEAN AND HENRY DeWOLF SMYTH AS MEMBERS OF THE ATOMIC ENERGY COMMISSION

WEDNESDAY, MAY 18, 1949

UNITED STATES SENATE,  
SENATE SECTION OF THE  
JOINT COMMITTEE ON ATOMIC ENERGY,  
*Washington, D. C.*

The committee met at 2:30 p. m., pursuant to call, in room G-48, the Capitol, Senator Brien McMahon (chairman) presiding.

Present: Senators McMahon (chairman), Knowland, and Hickenlooper.

Also present: William L. Borden, Executive Director, and Harold Bergman, Deputy Director, Joint Committee on Atomic Energy.

The CHAIRMAN. The meeting will come to order.

We have with us Mr. Gordon Dean, whose name has been sent by the President to the Senate as a nominee to the Atomic Energy Commission.

I have here biographical data on Mr. Dean as submitted to the Senate by the White House, which I will read into the record.

His address is Alta Vista Drive, Vista, Calif. He was born in Seattle, Wash., on Dec. 28, 1905. His education was as follows [reading]:

Attended public schools in Chicago, New York City, and Pasadena, Calif.

1927: A.B., University of Redlands, Calif.

1930: Doctor of jurisprudence, University of Southern California.

1932: Master of laws, Duke University Law School, Durham, N. C.

Then, under "Experience," the biographical data statement continues [reading]:

"1930-34: Assistant dean and instructor in law, Duke University Law School, Durham, N. C.

1934-36: Attorney, Criminal Division, United States Department of Justice.

1936-37: Chief, Appellate Section, Criminal Division.

1937-40: Special executive assistant to Attorney General Homer Cummings and later to Attorney General Robert H. Jackson.

1937: Special lecturer at American University on the American Legal System.

1940-43: Private practice of law, Washington, D. C.

1943-45: Entered United States Navy as lieutenant, senior grade, in the Intelligence Branch, and served until September 1945.

1945-46: In May 1945 named assistant to Justice Jackson, United States chief of counsel for the prosecution of the major Nazi war criminals, serving in London, Berlin, and Nuremberg. In charge of all public relations at the Nuremberg trials.

1946 to date: Professor of law, University of Southern California, private practice of law; owner and operator of Dean Ranch, Vista, Calif. Appointed February 1949 member, Western States Loyalty Board.

1940-44: Appointed by United States Supreme Court on advisory committee to draft rules of criminal procedure for the United States district courts and served until rules were adopted by the Congress and the United States Supreme Court.

I think it should be said that Senator Hickenlooper, Senator Knowland, and I will act as a subcommittee for the Senate committee members of the joint committee, who are either engaged in other committees or are on the floor of the Senate.

Mr. Dean, we have before us the consideration of your nomination to this very important post. I have read your biographical sketch as it has been submitted to us.

Now, sir, will you proceed to make any statement that you care to make in connection with your nomination?

### STATEMENT OF GORDON DEAN, PRESIDENTIAL NOMINEE TO THE ATOMIC ENERGY COMMISSION

Mr. DEAN. Mr. Chairman, I would prefer, since you have the biographical statement before you, to give any elaboration that your committee would like to have of it. It is necessarily rather brief. If there is any phase of it that you would like to inquire into, I would be happy to fill it out.

The CHAIRMAN. Well, from 1940 to 1943, you are listed as being in the private practice of law in Washington. You were associated then with the chairman of the joint committee in the practice of law?

Mr. DEAN. That is correct.

The CHAIRMAN. Did you sever your connection with the firm when you went into the Navy?

Mr. DEAN. Shortly thereafter.

The CHAIRMAN. What subjects have you been teaching at the University of Southern California up to this point?

Mr. DEAN. I have been teaching primarily criminal law at the University of Southern California. That happens to be one of my subjects. I have taught, however, other subjects in times past.

I should say, in order to clarify some of the newspaper accounts that have labeled me as a professor, that that is really not primarily my occupation. I would consider myself primarily as a lawyer. But I have, last year, and during a portion of the year before, taught at the University of Southern California on a rather crowded schedule, Mondays and Tuesdays.

The CHAIRMAN. You do not offer that clarification because you think there is any stigma attached to being a professor?

Mr. DEAN. Not at all.

The CHAIRMAN. Dr. Smyth might enter an objection.

I note that you were appointed by the United States Supreme Court on the Advisory Committee to draft rules of criminal procedure for the United States district courts. Would you mind elaborating on that?

Mr. DEAN. I was appointed by the then Chief Justice of the United States Supreme Court, Mr. Charles Evans Hughes, to serve on that committee. It was a committee of some 15 lawyers, which were spread from one coast to another. The task at that time was to simplify and unify the rules of criminal procedure for the United States district courts of this country.

The chairman of the committee was Arthur Vanderbilt, the former president of the American Bar Association and now, I believe, chief justice of the newly created Supreme Court of New Jersey.

The CHAIRMAN. Was that work completed?

Mr. DEAN. That work was completed. The Supreme Court adopted it about 3 years after the commencement of the work of the committee, and then it was finally submitted to the Congress, adopted by the Congress, and is now law.

As far as I know, there have been no changes in that original draft, so those that participated in it are rather proud of it.

The CHAIRMAN. I notice you served with Justice Jackson in connection with the Nazi war criminals trials at Nuremberg, and in London and Berlin. I presume that was preliminary work to the Nuremberg work.

Mr. DEAN. That was preliminary work. I was the first appointee on his staff. I was then in the Navy on the Pacific coast, just about to leave for Okinawa, when he asked that I be assigned to his staff. The staff originally was six members. It grew, I think, to something like a thousand within a period of about 6 months.

I went with him to London, and was in all of the negotiations with the British, the French, and the Russians, leading up to the creation of the tribunal, and in the formulation of the charter and rules of procedure by which that tribunal operated. I then left for a short period, and returned to the States for hospitalization, in August of 1945, and then went back to Berlin, where the indictment was returned and where for a period of 2 weeks I was in charge of the United States staff, Justice Jackson having gone to Nuremberg.

I then went back to Nuremberg, and my principal duty there was the establishment of what might be termed the public relations set-up for the trials; that is, the press, radio, motion pictures. I didn't do it myself, I assure you. It was done with the cooperation of many other people, but I headed that phase of it.

The CHAIRMAN. When did you come home from there?

Mr. DEAN. I came home from there in the spring of 1946, at the conclusion of the American and British case.

The CHAIRMAN. Now, Mr. Dean, since your nomination and, in fact, in the last few days, the question of the fellowship program of the Commission and how it should be administered has arisen. I believe that was since you have come to Washington upon the committee's request to appear.

Mr. DEAN. That is correct.

The CHAIRMAN. Are you familiar with the hearings that we have had and the testimony that has been given?

Mr. DEAN. A portion of it. I heard the testimony yesterday morning of Dr. Bronk, and a portion of the testimony yesterday afternoon, and the testimony of Freistadt this morning.

The CHAIRMAN. I could frame a lot of questions about that for specific answers, but I think it would simplify it if you would tell the committee your thoughts about this matter. Obviously it is a proper question for a nominee to the Commission at this time.

Mr. DEAN. Well, I feel somewhat handicapped by the fact that I have not had the advantage of experience over the months, which a commissioner would have had he dealt with this problem, and all of

its headaches, so that anything I might say I would ask the committee to treat as thinking out loud, and as perhaps thinking without some of the premises that I might like to have, and which I would have had if I had been sitting on the Commission, or on this committee, possibly.

I am quite aware of, and I think I appreciate, the considerations which Dr. Bronk listed yesterday morning. In other words, I think I know what he fears when he says he fears an invasion of the freedom of academic life. I have yet to hear the reason why he fears it, or to see the evidence that the program could not be so carried out as to guarantee that we do not have a repetition of the Freistadt incident. I think that it may have set the program back considerably in the public mind to have had this thing come forward at this time, because I think the public has placed the Commission on a very high level, and I think they like to feel, and I know I do, that it is somehow above reproach, and that it is just all being run right. If they do not think that, they hope it and pray it every night.

So I should definitely and flatly state that I see no reason why we should ever have a Freistadt case arise again. And when I say a "Freistadt case," I have no reference to this particular young man's capabilities or qualifications. He is just an incident in the program, as I see it.

Does that answer your question?

The CHAIRMAN. Well, temporarily, at least.

Senator Hickenlooper?

Senator HICKENLOOPER. Mr. Dean, I will say that I do not know that there is anything I could add to my store of knowledge about you, as far as your character and ability are concerned. I made some inquiry about you from people who know you, and I am thoroughly satisfied that you are a man of ability and character.

Mr. DEAN. Thank you, sir.

Senator HICKENLOOPER. So I shall not go into that unless something that I do not know about would develop, which I do not anticipate. But I can say to you that I am satisfied on that score without further interrogation.

However, I am concerned about this matter that has beset us in the last few days, here. I think, with the publicity that has been given it, the exploration that it has had, that as a member of the committee I should ask for just as specific and concrete and detailed an answer on the general attitude connoted by this whole situation as you can give.

Perhaps I can ask you a question or two.

Here is an instance of a young man who is an admitted Communist, who is openly, publicly, a Communist. The Attorney General of the United States has classified the Communist Party in this country as subversive. I want to ask you flatly:

In such a case, would you, as a commissioner, authorize the contribution of a fellowship, or public support, to a man who is admittedly, or is known to be, a subversive or a member of a subversive organization?

Mr. DEAN. I would not, Senator, and I could not.

Senator HICKENLOOPER. Thank you.

I would like to get your view on whether or not it would be your policy, as a commissioner, in this whole field of the fellowship pro-

gram, or other activities of this kind, to use every reasonable means or to insist upon the use of every reasonable means, to give all reasonable assurance, in such instances, that an applicant, or a person who was proposed to receive aid or assistance, or a grant of this kind, was not a subversive? I say: Would it be your policy to make such reasonable inquiry as to give you all reasonable assurance that he was not?

I realize, of course, that nobody could ever say, "Well that closes the door, and there is no possibility of any other interpretation," but I ask you to consider this from the standpoint of a reasonable man and a practical man.

Mr. DEAN. My answer is that it would.

Senator HICKENLOOPER. I do want to ask you about this, Mr. Dean: What connection or background is there, as far as you are concerned, as to the atomic energy program, under the Commission that we have set up? I mean, What connection have you had with this whole thing, if any?

Mr. DEAN. You are not speaking of talents that I may have that would be adaptable to it.

Senator HICKENLOOPER. I understand that you are not a scientist and not a technician. I understand that.

Mr. DEAN. I do not pretend to be, Senator.

Senator HICKENLOOPER. Have you had any intimate association? I will illustrate:

Mr. Lillenthal had been chairman of the Acheson-Lilienthal committee, and Admiral Strauss has a history of a good many years of an avocation in nuclear science as a private individual. And Dr. Bacher was a top flight scientist in the nuclear field, and so on. Do you have any such connection or association in the nuclear field?

Mr. DEAN. No; if I understand your question. I have tried to keep myself informed, but it has not been information gained through any advisory committee or through any governmental connection, or anything of that type.

Senator HICKENLOOPER. In other words, your information on this field is as a layman who is a citizen and interested, and who reads what he can about the development of it.

Mr. DEAN. As far as the technical phases of the problem are concerned, that would be true. I think I would be about the same as the man whose vacancy I might fill if I were confirmed, Mr. Waymack.

Mr. HICKENLOOPER. I do not want you to understand that I think we must have a nuclear scientist in that position.

Mr. DEAN. I want you to understand that I have not had that training.

Senator HICKENLOOPER. As we have done in the confirmation of the original appointees, and as they very freely expressed in those confirmation hearings—by the way, have you read the confirmation hearings of the original appointees at all?

Mr. DEAN. If I have, I do not recall.

Senator HICKENLOOPER. I thought if you had, you would be somewhat familiar with it.

Mr. DEAN. That was rather protracted; was it not?

Senator HICKENLOOPER. I will say that at least it had its moments.

Mr. DEAN. No; I am not familiar with it, Senator.

Senator HICKENLOOPER. I would merely, then, like to get an expression as to your general conception at this time of your relationship with the joint committee as a member of the Atomic Energy Commission, in the light of the law which charges the joint committee with making continuing studies of this whole program, and in the light of the injunction upon the Commission to keep the joint committee constantly and fully informed as to the whole situation. I would like to have an expression of your idea on that, whatever it might be.

Mr. DEAN. I would say that I would have to comply with the specific requirement that is contained in the act. I believe in that requirement. I regard this committee, for example, pretty much as the watchdog for the public that has been superimposed over the Commission, a commission which has been granted extremely unusual powers, and powers upon which there must be a check. I think the relationship set up in the Atomic Energy Act between the committee and the Commission is a healthy one, and one which I should think would call for the fullest disclosure between the two, rather than the least, if there were a question of emphasis.

Senator HICKENLOOPER. In other words, I take it that you would approach it from the standpoint that this joint committee is in fact a trustee for the progress of atomic energy, on behalf of the Congress, and in turn on behalf of the public.

Mr. DEAN. That is my conception of it.

Senator HICKENLOOPER. From a legislative standpoint, that is, that Commission being the trustee from an administrative standpoint.

Mr. DEAN. And the joint committee may be regarded as a trustee immediately on behalf of the public, perhaps, because it would be impracticable to require the House and the Senate to do the specialized job that this committee does.

Senator HICKENLOOPER. I do not think that I have any further questions.

I may say, as far as that is concerned, that I have no questions because no one has raised any charge against you one way or the other, Mr. Dean. I congratulate you.

Mr. DEAN. Thank you, Senator.

The CHAIRMAN. All right, Mr. Dean. I guess that concludes the hearing. We will inform the other senatorial members of the committee. We will poll them, and we will notify you as to the action we take. Thank you very much.

Mr. DEAN. Thank you.

The CHAIRMAN. Dr. Smyth?

Doctor, you appeared before the subcommittee one day last week. What day was it?

#### STATEMENT OF HENRY DeWOLF SMYTH, PRESIDENTIAL NOMINEE TO THE ATOMIC ENERGY COMMISSION

Dr. SMYTH. Last Thursday.

The CHAIRMAN. And over the week end I had a talk with Senator Hickenlooper. He had read the record of the testimony you had given us on that day, and the Senator requested we ask you to pay us a return visit because there were a couple of questions that he wanted to address to you. Thank you for coming down again.

Senator Hickenlooper?

Senator HICKENLOOPER. I want to say, Doctor, that I am sorry to have caused you any inconvenience in coming back. One reason that I did not pursue this particular line of questioning before was that I felt your position here the other day in not being quite fully informed, or aware of what the particular controversy in connection with these fellowships might have been did not warrant my urging you to make any particularly definite commitments at that time on what you would or would not do. But I do feel that as the record was left, it is not fully satisfactory to me, and I would like this opportunity of just seeing if we cannot clear up this field just a little bit for my own peace of mind.

I think there may be somewhat of a difference in your approach and mine to this program as far as certain parts of it are concerned. I again repeat that I have not only no objection to a fellowship program, within reasonable limits, but I have expressed my approval of the philosophy of the thing.

We have this situation, now, which has been given considerable attention, where this young man, who was and is an admitted Communist, a member of an organization that has been designated by the Attorney General as subversive, has been awarded a fellowship which carries with it a certain amount of support in grant.

I would just like to have you express your views on this situation. It seems clear to me that it is quite apart from the standpoint of the question of freedom of education. Because to my mind education is still free in this country. There are hundreds of schools and colleges and other mediums for getting an education. I ask that you consider it from the standpoint of the appropriation of public funds to support an individual who is a member of and a supporter of a subversive movement.

Dr. SMYTH. Senator Hickenlooper, I assumed that it was in connection with the general question of fellowships that you wanted to ask me further questions, and I therefore prepared a statement on Sunday which I hope will clarify my general position in regard to these fellowships, and then I would be glad to answer more specific questions as well as I can.

May I read this very brief statement?

Senator HICKENLOOPER. If it is all right with the chairman, it is all right with me.

The CHAIRMAN. Yes; certainly.

Dr. SMYTH. I want to emphasize that it was prepared on Sunday, previous to what I have heard in the last few days.

I am glad to have an opportunity to reaffirm my position with regard to the AEC fellowships as I gave it on Thursday, May 12. I shall try to amplify and clarify what I said in that previous hearing. Before doing so, I should once more point out that I am not a commissioner. Yet, as chairman of a physics department, I do speak from a background of considerable experience with questions of this kind. By that I mean questions concerning the young men who are interested in pursuing the study of science, and also questions of clearance, because I have a call from the FBI about once a week—not about myself, of course, but others.

The CHAIRMAN. Incidentally, Doctor, you have what is known as a "q" clearance; have you not?

Dr. SMYTH. That I believe is correct; yes.

Let me first state what I understand to be the areas of agreement between Senator Hickenlooper and myself. We both agree that the objectives of the AEC fellowships are desirable ones. We agree that it is a good idea to give certain individuals professional education in this field at the public expense.

I believe that it is impossible to guarantee the future behavior of those individuals. Most of them will be able and loyal citizens. A few will also be great scientists. And one in a million, or, I don't know, one in a thousand, or one in ten thousand, may perhaps become a traitor to his country, no matter what precautions are taken.

I believe Senator Hickenlooper agrees with me that the public funds should be used in such a way as to produce as many loyal, able men as possible, at the same time, we both want to keep even the tiny chance of educating a potential traitor as small as possible. I am afraid we disagree somewhat as to the methods. He suggests that full FBI investigation be made of students when they apply for these fellowships, or at least before they are appointed, even though these men are not to have access to any secrets.

I believe that such investigation should be postponed until these men are considered for access to restricted information, a time when investigation is clearly necessary. I base this belief on my knowledge of students, and on my knowledge of the atmosphere of suspicion created in a close knit community by a detailed investigation of a young man's ideas and associations. Investigations of this sort are a necessary evil; let us limit them to those occasions where they are required, remembering that such investigations create a fear psychology, particularly among young people. Good work is not done by people who are afraid.

To sum up, I think the damage that early FBI investigations would do to our first objective of developing able men is more important than the possible additional safeguard provided by these early investigations.

Besides the particular concern that I have in the matter of these AEC fellowships, I fear that FBI investigations will be extended to all students receiving any support from public funds. Logically, this would presumably include future fellowships of a national science foundation, students at the land-grant colleges, members of the ROTC units, and even students in schools receiving Federal aid. Once we give up the principle of confining investigation—and I mean FBI investigation—to those expected to have access to secret information, there seems to be no clear limit to the extension of police activities in our schools and colleges.

I would like to emphasize the fact that there I am speaking as the chairman of a department of physics. I am saying again, as was said several times before—that is, several times in the last few days, though not before I wrote this statement—that I believe the cost of this extensive an investigation to the fellowship program would be very severe.

Senator HICKENLOOPER. For your information, it is \$100 a person.

Dr. SMYTH. I don't mean the financial cost. I mean the cost in terms of the reactions of the students.

It is not easy to give tangible evidence of that. It is an opinion based on a long experience.

I am no longer reading my statement. I am trying to answer your question with regard to the particular case. I have said that I think it is impossible to guarantee the future behavior of the individuals that we appoint to this program. I think that is true.

Senator HICKENLOOPER. I am in wholehearted accord with that statement. There is no argument, as far as I am concerned, about that.

Dr. SMYTH. I also say that we want to keep the chance of educating a potential traitor as small as possible. And I think that is really what we are talking about. We are talking about someone who might go on into the atomic energy program, or in any other way in the future might in some way get away or sell secrets to the enemy. As far as the question of giving a fellowship to a member of the Communist Party is concerned, I feel that membership in the Communist Party indicates at best a fuzziness of mind, a lack of political insight; at worst, actual loyalty to some other country. Therefore, I feel that you are taking more than a reasonable chance of educating a traitor if you undertake to educate a member of the Communist Party on public funds. But I think that the question that one has to balance against that is whether the means that you followed to make sure that you do not educate a member of the Communist Party are, in the first place effective, and in the second place, not too damaging.

Senator KNOWLAND. Right at that point, might I ask a question, Mr. Chairman?

The CHAIRMAN. Yes; surely.

Senator KNOWLAND. In line with the statement that you have just made, could you see any objection, as a potential Commissioner of the Atomic Energy Commission, to having a question in the applications that are passed out to be filled in for the fellowship program, reading, "Are you or have you ever been a member of the Communist Party?"

We are getting aside now, for the moment, from any investigation, but considering merely an affidavit form which would be subscribed to and sworn to by any applicant for the fellowship.

Dr. SMYTH. I don't see any objection to that; no. If I may put it another way: In administering these fellowships, we have to consider not only that we should do the wisest job possible in terms of the fellowship; we also have to consider that we should appear to do the wisest job. And I mean in a legitimate sense.

The CHAIRMAN. May I interrupt?

In other words, Doctor, it is an old and wise bit of advice in public office, that you not only have to be right, but you have to seem to be right.

Dr. SMYTH. I am afraid that is true. I wish the two could always be the same.

Senator KNOWLAND. But at least in the instance of the case that has been before the country in the last few days, had that question been asked, the information would have been before the board making the

award; and in exercising their judgment, all factors considered, they would have at least had their eyes open when they made the decision and quite possibly would not have made the decision that they did.

Dr. SMYTH. Yes.

Senator HICKENLOOPER. The day before yesterday, Doctor, I asked Dr. Richards, whom you know, this question. It is somewhat involved and long, but maybe the meat of it can come out. I said:

I would like to ask, Dr. Richards, would you see any harm or any objection from the standpoint of the foundation, if the Atomic Energy Commission, in setting up this program, would state to your group: "We want to educate a certain number of brilliant young people, scientists, but we have certain qualifications that we would like to lay down in advance. No. 1, they must, within your judgment, be able and capable of doing a job. No. 2, they must be of good moral character; we want no immoral people, if we can help it, in the program. No. 3, they must not be people who are subversive or reasonably potentially subversive people, so far as the Government of the United States is concerned. We would like for your group to operate within that program. Do you think you could do it?" If they came to you and asked you something like that, would you see any great restrictions in trying to operate within a program ~~that you or I, 'dip' pur: s'etom poos 'puoos: 'Amiq' 'srl' :pud' taq' jo~~ people who are subversive in their beliefs or reasonably potentially subversive—would there be any harm in such?"

Then Dr. Richards said:

There wouldn't be any harm on the part of the Atomic Energy Commission making that request, but the National Research Council Committee might well say, "We are not equipped to discover potential communistic tendencies."

Then I said:

Granted, Doctor. And I should have gone a little further and said that in outlining that program the Commission would be, in effect, saying to you: "Now, gentlemen, we respect your judgment. You are able, capable, and zealous people, and we want you to help us, but please do not be offended if we discover in some of these recommendees some people that fall within the last two categories, either unacceptable as to morals, or subversive people. We just do not want you to be offended if we find some of those people and do not accept them, because we know you are not equipped to do that kind of a job."

Dr. RICHARDS. That would be O. K.

Now, can you say, Dr. Smyth, that you would subscribe to this kind of a guiding principle in your activities in connection with the Atomic Energy Commission: the principle that the Commission should insist on every reasonable inquiry and every reasonable means of inquiring into the backgrounds of applicants for fellowships, with a view to finding out if they belong to subversive organizations, or, for instance, had an objectionable degree of immorality in their backgrounds? Do you believe the Commission should assume that responsibility, or could you support such a policy?

Now, I am specifically leaving out the question of the mechanics of an investigation, of an FBI investigation, if you please. It may not be quite fair to pin you down to the use of any particular agency or group. But I am rather broadly suggesting a reasonably curious inquiry into the backgrounds of these people that would give reasonable assurance to reasonable men as to their associations, and their connection or lack of connection with subversive activities.

Dr. SMYTH. By "subversive activities," I presume you mean activities of people who believe in attempting to overthrow the Government of the United States by the use of force.

Senator HICKENLOOPER. Well, I hate to define the word "subversive," except that it probably means generally someone who believes in doing substantial harm to our form of government and to our institutions.

Dr. SMYTH. While my scientific training always inclines me to put qualifications on every statement, I don't see why the Atomic Energy Commission should not have such information; and I think our entire disagreement, insofar as there was a disagreement, last week, was in terms of the specific suggestion of a method of doing it. I would, if I should become a Commissioner, want to examine very carefully the method of doing it.

Senator HICKENLOOPER. Do you agree that it should be a part of the responsibility of the Commission to quite thoroughly satisfy itself as to the background and associations of an applicant for a fellowship prior to the awarding of public money to him?

Dr. SMYTH. Yes. Not because I think any grave damage would be done, actually, in educating some young students who are politically naive, and mistaken in their views, in educating them in a wide open field where all they are using is material that is completely available to everyone, but because the money that is being spent is the people's money; and not only that, but because the Atomic Energy Commission is associated in the people's mind with a highly secret enterprise. Therefore it seems to me unwise to run the risk of the appointment of someone—or I won't say "run the risk," because you can't avoid that. But I think it is wise to minimize the risk of the appointment of someone who has subversive political views to an Atomic Energy fellowship.

Senator HICKENLOOPER. The clearance under the Atomic Energy Act goes to loyalty, character, and associations, those three categories.

Dr. SMYTH. Yes. But that is clearance to restricted material.

Senator HICKENLOOPER. Well, that is clearance, under the act, to restricted data. It is entirely possible that an investigation on those three points will go infinitely further and take into account many factors which might deny the individual clearance to restricted data, but which for educational purposes might well be overlooked. I can see that side of it. But there is one thing that I think is quite fundamental, and that is as to an individual who is subversive, or belongs to subversive organizations which have the destruction of our present form for their purpose. While there might be some things in a man's character that might be sufficiently derogatory to deny him clearance to restricted data, yet by the same token they might not be sufficient to bar him from going ahead in a specialized training program in an education or fellowship field. His associations might be sufficiently bad to warrant denial of clearance for access to highly secret data in the atomic energy program, and yet I could imagine instances where those associations would not, in my own mind, be sufficient to shut the door of education against him under a fellowship program with Government funds.

But I do believe that the question of loyalty, the question of subversion, and of adherence to other ideologies to the prejudice of our own, is pretty much of a block in the road to the use of public money to support that individual in this program. This is not to close the doors of publicly supported universities, where he can go under his own power, but is a matter of special support in subsidy to that individual in this program.

The question of subversive beliefs would seem to be pretty much of a roadblock, to me, in that category. The other two might be pretty

well overlooked on occasions, either of them or both of them. But I am thoroughly convinced that the Commission has a responsibility to look pretty thoroughly into the broad political attitudes of individuals from the standpoint of membership in organizations of that kind before it considers the spending of public money.

Would you have any basic objection to reasonable assurance along that line on the part of the Commission before it grants fellowships?

Dr. SMYTH. No. Let me put it this way: If there were an oracle to which you could go and say, "Is this man loyal to the United States?" or, "Does he believe in changing the form of this Government by force, and will he work toward that?"—if there were such an oracle to which you could go and get a clear answer, and not have to go to all his friends and associates, all around, making an elaborate investigation, I would say that certainly would be wonderful. If you could find that out, then you would certainly say "No" as to the ones that did belong to a subversive organization in that sense.

Now, my understanding of the ancient oracles is that their answers were anything but unequivocal. And my chief concern is with the great difficulty of getting an unequivocal answer to this thing. And the real danger that you run is of destroying, or not destroying but weakening, the program if you take too elaborate measures to try to reduce probability of making a mistake from, let's say, a tenth of a percent to a hundredth of a percent.

Does that answer your question?

I think I am perhaps really talking to questions that we were talking about last Thursday, as to the FBI investigation, rather than your immediate question.

Senator HICKENLOOPER. Well, let me ask you this question: Would you have any objection to requiring applicants to fill out a questionnaire under oath as to their membership, their past or present membership, in various organizations?

Dr. SMYTH. No.

Senator HICKENLOOPER. And under the penalties of perjury, if they lied about it?

Dr. SMYTH. No. But I think I would object—let me put it this way. I will keep my personal objection out of it. I think that if you asked them to sign such a thing, and then, in order to make sure that they had not committed perjury, filled the campus with FBI agents who asked their friends all about their views and their associations, I think you are going to very seriously weaken your program. Maybe you have to do that in order to satisfy the feeling of the people that there is something very secret about atomic energy.

Senator HICKENLOOPER. It is the public's business, of course. This is not the business of science, or of the educators, but the public's business.

Dr. SMYTH. Yes. I do seriously say that you will weaken the program if you find such procedures necessary.

Senator HICKENLOOPER. I had not really intended to include the suggestion that such a questionnaire would be followed by the FBI. I was merely trying to see whether you would object to the requirement of a questionnaire under the penalties of perjury if a man had lied about certain organizations to which he might have belonged.

May we leave it this way, then, Doctor? Do I understand you to be in full accord with the idea that the Atomic Energy Commission has a responsibility, or should exercise a responsibility, to be as reasonably certain as they can that the individuals who are receiving these fellowships are not subversive people; that is, have no subversive background or subversive present tendencies at the time they receive the award?

Dr. SMYTH. Yes.

Senator HICKENLOOPER. Are we in any disagreement on that?

Dr. SMYTH. No; we are not in any disagreement on that.

Senator HICKENLOOPER. In view of the fact that I think to set up specific machinery at this time is impractical, I do not believe I will pursue that any further.

Dr. SMYTH. I would say that if this were a general educational program, then I might feel differently. But I feel that you are right in saying that this is not an educational problem.

Senator HICKENLOOPER. I think we have all been trying to insist, all of us on the committee, here, that this is not an issue involving general education. There have been many discussions on the freedom of education and the general field of education. I do not believe there is any disagreement with the philosophy about education and its freedom in this country. But this is a specific instance of the use of public funds to support a subversive individual in the program.

I do not believe I have any more questions, Mr. Chairman.

The CHAIRMAN. Senator Knowland?

Senator KNOWLAND. Doctor, do you agree that in the final analysis the Atomic Energy Commission itself cannot delegate its responsibility to the Congress and the people on any program of this kind? They may delegate certain phases of their preliminary work, but the ultimate responsibility still must rest with the Atomic Energy Commission?

Dr. SMYTH. Well, I certainly don't see how the Atomic Energy Commission can say that a mistake was made in appointing Mr. X to a fellowship "but it wasn't our fault."

My understanding of the delegated authority is that the person who delegates still keeps the responsibility.

Senator KNOWLAND. And your position, as I understand it, is that you can see no objection in this fellowship program to having a questionnaire that would ask that question, so that those facts would be before the fellowship board; that that information would also be available to the Commission itself in any decisions which they might ultimately care to make. Is that correct?

Dr. SMYTH. That is correct. I think it is possible you will lose some applicants who are peculiar but brilliant. I think that is perfectly true.

Senator KNOWLAND. But that is a calculated risk you would be willing to take?

Dr. SMYTH. That is a calculated risk; and as long as the funds come from the Atomic Energy Commission and the general public sentiment is as it is, whether right or wrong, I think it is a calculated risk that you would have to take.

Senator KNOWLAND. And while, of course, there is no way that you can guarantee that someone in the distant future might not become

subversive, and no one can write a guaranty on that, in the particular case we have before us, entirely without what is generally known as an FBI investigation, if the question had been asked and answered as it was to this committee in the letter to Senator Hoey that would have been the first red flag [laughter] or at least flag or notice, that might have been raised. And, secondly, had there been merely a simple check by the FBI in their own files, without sending anybody to a campus, all of this would have probably been disclosed at that point. Is that not correct?

Dr. SMYTH. Yes. I think this appointment was a very unfortunate one; not because I think this boy is going to learn anything secret—I doubt that he would, even if he did, give it away to anybody—but because the reaction reacts very badly on the Atomic Energy Commission, which has a great many other things to do.

Senator KNOWLAND. As I understand your statement to the committee, had you been on the board making the award of fellowships, had you been, entirely aside from your position on the Atomic Energy Commission, on one of the boards making such awards, with the facts before you that are now before this committee, it would have been your judgment that that would not have been a wise selection to make.

Dr. SMYTH. That is correct.

Senator KNOWLAND. That is all.

Senator HICKENLOOPER. Mr. Chairman, I have just one more question I would like to ask Dr. Smyth and also Mr. Dean.

I will preface this my saying that we live in a political government, administratively, and partisanship enters into our administration of government. I do not find myself in disagreement with that principle. But I feel that the Atomic Energy Commission, its personnel and its operation should be completely nonpartisan, that from a partisan political standpoint it should be above partisanship, and that it should in no way take partisanship or partisan political attitudes into account in its administrative affairs.

Do you agree with that, Dr. Smyth?

Dr. SMYTH. I certainly do.

Senator HICKENLOOPER. I will ask Mr. Dean: What do you think about that?

Mr. DEAN. I certainly do, Senator. There is no question about it.

The CHAIRMAN. Thank you very much, Dr. Smyth, for coming back.

What I said to Mr. Dean concerning the future you heard, of course.

Ladies and gentlemen, this meeting is now closed and, as you know, we are meeting in executive session with the Commission at 4 o'clock.

(Whereupon, at 3:45 p. m., the hearing in the above-entitled matter was closed.)

# HANFORD SCHOOL FACILITIES

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## HEARING

BEFORE A

### SUBCOMMITTEE OF THE JOINT COMMITTEE ON ATOMIC ENERGY CONGRESS OF THE UNITED STATES

EIGHTY-FIRST CONGRESS

FIRST SESSION

ON

### HANFORD SCHOOL FACILITIES

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AUGUST 2, 4, 8, AND 10, 1949

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**SUBCOMMITTEE OF THE JOINT COMMITTEE ON ATOMIC ENERGY TO INQUIRE INTO  
FEDERAL RESPONSIBILITY FOR CAPITAL CONTRIBUTIONS TO SCHOOLS IN THE  
AREA SURROUNDING RICHLAND, WASH.**

**HENRY M. JACKSON**, Washington, *Chairman*

**RICHARD B. RUSSELL**, Georgia

**W. STERLING COLE**, New York

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# HANFORD SCHOOL FACILITIES

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TUESDAY, AUGUST 2, 1949

CONGRESS OF THE UNITED STATES,  
SUBCOMMITTEE OF THE  
JOINT COMMITTEE ON ATOMIC ENERGY,  
*Washington, D. C.*

The subcommittee met, pursuant to notice, at 10:05 a. m., in room 304, Old House Office Building, Hon. Henry M. Jackson (chairman) presiding.

Present: Representatives Jackson (chairman) and Cole.

Mr. JACKSON. The committee will come to order.

This meeting has been called this morning, pursuant to the appointment by the chairman of the full committee of myself and the gentleman from New York, Mr. Cole, as a special subcommittee to look into the school problem at the Hanford atomic energy project.

Last April I was designated by the chairman of the full committee to look into, among other things, the responsibility, if any, of the Federal Government to provide school facilities to the school districts adjacent to the Hanford Atomic Energy Works in the State of Washington.

I visited Hanford in April, and during the course of that visit I met with the local school people and with the Hanford officials. I came to the conclusion that it would be advisable, at least, to have a committee designated by the Commission to look into all of the problems in connection with this matter.

As a result of that suggestion, a committee was set up consisting of Mr. H. F. Alves of the United States Office of Education, acting for the Commissioner, I believe; Mr. E. L. Lindman, representing the State superintendent of public construction, and Mr. E. S. Black, superintendent of schools at Kennewick, Wash., representing the local school districts.

I suggested that these people get together and determine what responsibility, if any, the Federal Government owed to the various school districts. I would like to make it clear that I requested that they determine not what the responsibility was that the Atomic Energy Commission, as such, owned to the districts, but the responsibility of the Federal Government to the districts in question.

Subsequently, this committee got together and agreed upon a proposed report, which has been submitted to the Commission and the Commission, in turn, has sent the report to the chairman of the full committee, together with a letter explaining its position on the matter.

Prior to going into that, in order to convenience Congressman Holmes, who has a urgent committee meeting, I would like to call on him to make a brief statement at this time.

I may say that Congressman Holmes has been in touch with me on this matter from time to time, and this particular problem is located in the heart of his district, and I know that he is most anxious that some amicable arrangement be worked out without delay because of the serious predicament in which the various school districts are at the present time.

Congressman Holmes.

**STATEMENT OF HON. HAL HOLMES, A REPRESENTATIVE IN CONGRESS FROM THE FOURTH CONGRESSIONAL DISTRICT, STATE OF WASHINGTON**

Mr. HOLMES. Thank you, Mr. Chairman.

The problem of dislocation brought about in the school systems in this area of the Fourth Congressional District is based primarily upon the impact of the increased population and is directly connected with the Hanford Engineer Works and the expansion that the Hanford Engineer Works has caused in this area, not only through people, numbers of people, but the problems pursuant to the increased population.

There are primarily six communities involved in varying degrees of directness: Grandview, Kennewick, Kiona-Benton City, Pasco, Prosser, and Sunnyside.

I have been working on this problem for the last year and a half, and we have pursued every avenue of approach open to us in trying to bring about its solution.

This subcommittee, being appointed by the atomic energy legislative committee, has before it now the results of work and findings of Mr. Alves of the Department of Education, who as the chairman, Mr. Jackson, said, went out there on June 20 and had a meeting with the people interested in the problem.

I understand the report that Mr. Alves is to make was unanimously agreed upon. It centers around three important points: (1) A large number of the Hanford employees with families residing in the area surrounding but excluding the city of Richland and commuting to the Hanford Engineer Works; (2) the population increase in this area resulting indirectly from the activities of the Hanford Works; and (3) the lack of essential school construction during the depression, war years, and postwar years.

In summing up before this subcommittee, I cannot overemphasize what I consider in my own mind to be the definite need for the solution of this problem, and I ask the counsel and wisdom of the subcommittee to give it their most careful attention and consideration, because definitely the dislocations in the school systems of these six communities that I have mentioned are very great and very serious.

Undoubtedly, Mr. Alves will give you his report from the region that he visited, and the area that is involved, and I wish to supplement his report with these remarks, emphasizing again the definite need for the solution of this problem. We have moved in every direction, and it looks now as if we have a report here upon which the committee can act and will help solve the problem.

I thank you very much for the opportunity of appearing before your committee.

Mr. JACKSON. Do you have any questions, Mr. Cole?

Mr. COLE. I wonder if you have had a chance to study the report of Mr. Alves?

Mr. HOLMES. Yes; I have studied the report.

Mr. COLE. With respect to the community—and I particularly call your attention to the committee's recommendations and to ask your comment with respect to the committee recommendations.

Mr. HOLMES. Of course, after studying the report and going over it, I am wholeheartedly in favor of the committee's recommendations.

Mr. COLE. Do you have any modifications or changes to suggest?

Mr. HOLMES. No; I think the committee has a good, sound, thorough piece of work.

Mr. COLE. I do not suppose you have any idea of what that recommendation will cost the Federal Government?

Mr. HOLMES. I have not the actual dollar values involved in that.

Mr. COLE. Do you even have the approximate value in cost?

Mr. HOLMES. As I understand it, it would be in the neighborhood of three and a half to four million dollars.

Mr. COLE. Annually?

Mr. HOLMES. No; not annually.

Mr. COLE. This is a capital contribution?

Mr. HOLMES. A capital contribution; yes, sir.

Mr. JACKSON. About a thousand dollars per pupil, I believe, net.

Mr. COLE. It does not contemplate a recurrent annual expenditure?

Mr. HOLMES. No; not this report.

Mr. COLE. Well, do you know of any further study or need that would contemplate an annual Federal contribution to the education in this area?

Mr. HOLMES. Not that I know of.

Mr. COLE. I realize that you have been interested and active on this problem for some time, because, as you know, you brought it to my attention, as I recall, longer ago than a year and a half. It was nearer 2 years ago, and I am glad to see that there is some progress being made toward finding a solution.

Mr. JACKSON. Just one question, Congressman Holmes. I recall the provisions of the laws in the State of Washington with reference to the raising of funds to build school buildings. They stipulate that all such revenue must be raised from the taxable property in the school districts.

Mr. HOLMES. That is right.

Mr. JACKSON. Plus whatever small allowance the legislature may appropriate from time to time.

Mr. HOLMES. That is right.

Mr. JACKSON. Is that correct?

Mr. HOLMES. Yes.

Mr. JACKSON. And in addition we have a limitation in our constitution known as the forty-mill tax law.

Mr. HOLMES. That is right.

Mr. JACKSON. And under certain circumstances, I think, they can raise up to possibly \$25,000,000 additional for school construction, but that is the very maximum.

Mr. HOLMES. That is true—excuse me. That is by way of the avenue of special levies.

Mr. JACKSON. Special levies; yes. But that is the only source of revenue which a school district can rely on to build a new building.

Mr. HOLMES. That is right.

Mr. JACKSON. In the absence of any other funds the districts are stuck, so to speak, in getting any further help.

Mr. HOLMES. And are taxed to the limit, and special levied to the limit, in relation to the supplying of physical facilities to the increased school population.

Mr. JACKSON. Any further questions?

Thank you very much. We appreciate your appearing here this morning so that we can have a first-hand view of the situation that the area faces over there.

Mr. HOLMES. Thank you very much, Mr. Chairman.

Mr. JACKSON. We will call Mr. Alves, the chairman of the committee, next. He is H. F. Alves, Director, Division of School Administration, United States Office of Education.

As I indicated earlier, Mr. Alves was designated by the Commission to go out to Hanford and look into this entire matter. He worked with Mr. Shaw, the Deputy Manager of Hanford, and with Mr. Lindman of the State Office of Public Instruction, and Mr. Black, and I believe the report submitted by this group to the Commission is a unanimous one, and we would appreciate hearing from you at this time, Mr. Alves.

I think, just before calling Mr. Alves, it might be well to place in the record the letter from the Commission dated July 29, 1949. I do not think we need to take the time to read it. It will be included at this point.

(The letter referred to is as follows:)

UNITED STATES ATOMIC ENERGY COMMISSION,  
Washington 25, D. C., July 29, 1949.

HON. BRIEN McMAHON,  
Chairman, Joint Committee on Atomic Energy,  
Washington, D. C.

DEAR SENATOR McMAHON: We have recently received a report, a copy of which is attached as appendix A, of a committee appointed to consider and make recommendations to the Commission with respect to requests of school districts in the vicinity of our Hanford Works for financial assistance to enable them to provide additional school plant facilities. The committee consisted of Mr. P. L. Lindman, deputy State superintendent of public construction, Washington; Mr. E. S. Black, superintendent of schools for the Kennewick school district; and Mr. D. F. Shaw, Deputy Manager, Hanford Operations Office. Mr. H. L. Alves, director, Division of School Administration, United States Office of Education, served in a consultant capacity. A copy of his report is attached as appendix B.

The committee concluded that, if essential school plant facilities are to become available, the Federal Government will have to provide immediate financial assistance to the State and local educational authorities concerned in meeting the school plant needs required for the school load resulting from the activities of the Commission. The committee recommends that the Federal Government render such financial assistance in accordance with a formula specified in its report. Mr. Alves has informed us of his concurrence with the findings and recommendations made by the committee.

We have already given considerable financial assistance to the school districts in the Hanford area in view of the additional enrollment which is AEC induced. The attached summary (appendix C) shows the approximate amount of the assistance which has been furnished by the AEC to these school districts. This assistance has been designed to meet emergency situations and to afford the State and the school districts time in which to devise measures to cope with the problem. While we have permitted the school districts at their option to use funds furnished for temporary facilities toward the cost of permanent facilities, we have not in the past furnished financial assistance based upon the cost of permanent facilities. The recommendations of the committee involve Federal contributions based upon

the cost of permanent facilities, and in our judgment, they pose a number of problems involving significant policy considerations.

The question of financial assistance by the Federal Government to schools for the building of permanent school facilities, including such assistance to schools overburdened with increased enrollments resulting from Federal activities, is one which the Congress has given considerable attention. There are now pending before the Congress various bills relating to the question. Thus, the problems faced by the Commission in this field are closely connected with legislative policies now being considered.

Accordingly, we should like to discuss the matter of financial assistance to the school districts in the Hanford area with the Joint Committee. The matter is one in which the Committee, through its representative Congressman Jackson, has taken an active interest.

Sincerely yours,

UNITED STATES ATOMIC ENERGY COMMISSION.  
CARLETON SHUGG, *Deputy General Manager.*

(Enclosures: Appendixes A, B, and C.)

(Appendixes A, B, and C, respectively, mentioned above as enclosures will be found on pp. 5, 7, and 12, respectively.)

### STATEMENT OF H. F. ALVES, DIRECTOR, DIVISION OF SCHOOL ADMINISTRATION, UNITED STATES OFFICE OF EDUCATION

Mr. ALVES. Do I assume, Mr. Chairman, that persons have had a chance to read both the statement filed by me and the committee report?

Mr. JACKSON. I think it might be well to read the report into the record.

(Discussion off the record.)

Mr. JACKSON. At this point in the record will be placed the findings of the committee and the statement submitted by Mr. Alves.

(The findings and statement referred to are as follows:)

(Appendix A)

JUNE 24, 1949.

#### FINDINGS OF A COMMITTEE CONSIDERING A PLAN FOR PROVIDING SCHOOL PLANT FACILITIES FOR THE ATOMIC ENERGY COMMISSION-INCURRED ENROLLMENT IN SIX SCHOOL SYSTEMS IN THE RICHLAND AREA

At the instance of Congressman Henry M. Jackson, a committee was formed for the purpose of working out certain recommendations regarding Federal contributions to school districts in the vicinity of the Hanford Works of the Atomic Energy Commission. The committee comprised:

- E. L. Lindman, deputy State superintendent of public instruction of Washington.
- E. S. Black, superintendent of schools of the Kennewick school district (serving as the designated representative of the six school systems involved).
- D. F. Shaw, deputy manager, Hanford Operations Office, Atomic Energy Commission.

This committee held three meetings (one each on June 21, 22, and 23) with H. F. Alves, Director, Division of School Administration, United States Office of Education, serving upon request in a consultant capacity to the Atomic Energy Commission.

At the first meeting, the chairmen of the boards of education and the superintendents of schools of each of these six school systems—Grandview, Kennewick, Kiona-Benton City, Pasco, Prosser, and Sunnyside—were present. At the second meeting these school systems, except Benton City, were represented by their superintendents of schools, who, by common consent, selected Superintendent E. S. Black to represent them at the meeting on June 23 of the committee. H. F. Alves served upon request as chairman of these three meetings.

The specific purpose of these meetings was to formulate, in terms of the facts and conditions revealed by analyses of the school situations in these districts, recommendations for the provision of essential school plant facilities for the

federally incurred school load in these districts. Federally incurred school load, as used in this report, is defined as those pupils whose parents or guardians were employees, during the 1948-49 school term, of the Atomic Energy Commission and the General Electric Co. and their subcontractors or concessionaires at the Hanford Works.

#### NEED FOR FACILITIES

The need for school plant facilities in these districts at the present time can be attributed to the following:

1. A large number of Hanford employees, with families, residing in the area surrounding, but excluding Richland, and commuting to the Hanford Works.
2. Population increase in this area resulting indirectly from the activities of the Hanford Works.
3. Lack of essential school construction during the depression, war years, and postwar years.

Since the year of the Federal impact, namely 1943, there has been a marked general population growth, accompanied by a related school population growth. Whereas, during the school year 1942-43, the combined school load of these six districts, as measured by average daily attendance, was approximately 4,400; in 1948-49 this load had increased to approximately 9,800. In terms of enrollment increases, as estimated in column 7, table I, attached, the combined increases as of 1948-49 was 5,940. Of this number, 3,266 represent the federally incurred school load, and 2,674 the nonfederally incurred load.

The combined total school load of these six districts has more than doubled in 6 years. The percentage of increase (see table I), in terms of average daily attendance, varies from approximately 68 in the Prosser school district to 268 in the Kennewick school district. The most seriously affected school district is Kennewick. During 1948-49 the federally incurred school load in this district was 1,573. This group of pupils represents a school load nearly twice that of the total school population in Kennewick in 1943.

#### COMMITTEE FINDINGS

The committee finds—

1. That these six school districts have experienced, during the past 6 years, a sudden and excessive increase in school load because of Atomic Energy Commission activities (including Manhattan Engineer District, United States Army activities prior to January 1, 1947).
2. That the incurred school enrollment, by reason of these Federal Government activities, constitutes in each of these districts a substantial percentage of its total school enrollment.
3. That these districts, under existing conditions of overcrowding because of lack of essential school plant facilities, cannot provide satisfactory minimum educational opportunities.
4. That these districts cannot secure from their local tax bases sufficient funds to provide their needed school-building requirements.
5. That the local and State educational authorities cannot be expected to secure sufficient funds from available sources to meet the costs of providing school-plant facilities necessary to house the total school impact in these districts.
6. That alleviating the school housing shortage, caused by the increased school load, other than the federally incurred school load, will require the maximum effort of both the local districts and the State.
7. That experience during the 6-year period indicates that the school impact, represented by the federally incurred school load, may be expected to be of a permanent nature.

The committee is agreed that the State and the local school districts involved should assume responsibility for providing school housing for the school impact exclusive of the federally incurred school load, and that the Federal Government should assume responsibility to assist the State and local school districts in providing facilities required to house the federally incurred school load. The committee is convinced that the provision of the latter facilities will require funds clearly in excess of those that the local and State educational authorities may be expected to derive, with due diligence, from available local and State sources. In short, the committee is of the opinion that, if essential school plant facilities are to become available, the Federal Government will have to provide immediate financial assistance to the State and local educational authorities concerned in meeting the school-plant needs required for the federally incurred school load.

## COMMITTEE RECOMMENDATIONS

In view of its careful analyses and its consideration of the afore-mentioned findings and related basic facts, the committee recommends that the Federal Government assume responsibility for its proportionate share of the cost of providing school-plant facilities for the federally incurred school load. Thus the Federal Government's share of the cost per pupil for providing these facilities for the federally incurred school load would be the State average per-pupil cost of school construction as certified by the State department of public instruction—

Less any other Federal contribution per pupil subsequent to the date of impact, usable by the district involved for permanent school construction;

Less a local contribution per pupil, in terms of the school district's assessed property valuation, determined in the proportion that the federally incurred school load (in terms of estimated enrollment increases set forth in table I, appendix) bears to the total estimated school enrollment of the district.

Less a State contribution per pupil to which the district involved is entitled under existing provisions of the State program of school-plant assistance.

E. L. LINDMAN.

E. S. BLACK.

DAVID F. SHAW.

TABLE I.—Showing average daily attendance and estimated enrollment data by designated years, increase in average daily attendance and in estimated enrollment for 6-year period, and Federal-incurred and non-Federal-incurred estimated enrollment for 1948-49<sup>1</sup>

District	Average daily attendance					Estimated enrollment		
	1942-43	1948-49	Increase	Percent increase	1948-49	Increase since 1943	Federal-incurred, 1948-49	Non-Federal-incurred, 1948-49
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Grandview.....	628	1,126	498	79.3	1,239	548	202	346
Kennewick.....	772	2,841	2,069	268.0	3,125	2,276	1,573	703
Kiona-Benton City..	150	452	302	201.3	497	332	242	90
Pasco.....	787	1,817	1,030	130.9	1,999	1,133	572	561
Prosser.....	658	1,106	448	68.08	1,217	493	237	256
Sunnyside.....	1,400	2,453	1,053	75.21	2,698	1,158	440	718
<b>Total.....</b>	<b>4,395</b>	<b>9,795</b>	<b>5,400</b>	<b>122.87</b>	<b>10,775</b>	<b>5,940</b>	<b>3,266</b>	<b>2,674</b>

<sup>1</sup> Column 6 equals column 3 times 1.1. Column 7 equals column 4 times 1.1. Column 9 equals column 7 minus column 8.

## (Appendix B)

JULY 15, 1949.

STATEMENT BY H. F. ALVES OF HIS ACTIVITIES AT THE HANFORD OPERATIONS OFFICE, ATOMIC ENERGY COMMISSION, RICHLAND, WASH., DURING THE WEEK OF JUNE 20

In accordance with arrangements made with Mr. David F. Shaw, Deputy Manager, Hanford Operations Office, I spent June 20-24, inclusive, in Richland, Wash. The purpose of my visit was to meet and cooperate with a committee, formed at the suggestion of Hon. Henry M. Jackson, Member of Congress from Washington, in formulating recommendations concerning the provision of school facilities in certain school districts in the Richland area for children of project-connected workers of the Atomic Energy Commission. This committee consisted of the following:

E. L. Lindman, deputy State superintendent of public instruction, Olympia, Wash.

E. S. Black, superintendent of schools of Kennewick School District, representing by agreement the affected school systems.

David F. Shaw, Deputy Manager, Hanford Operations Office, Atomic Energy Commission, Richland, Wash.

In my conference on Monday with Mr. Shaw and Mr. Norman G. Fuller, Chief, Office of Community Management, it was agreed that affected boards of education should be represented at a meeting scheduled for Tuesday of the superintendents of schools of the school districts involved, a representative of the State

department of education, and representatives of the Atomic Energy Commission. An invitation was extended that day to the chairman of the boards of education. The following school districts were represented at this meeting: Grandview, Kennewick, Kiona-Benton City, Pasco, Prosser, and Sunnyside.

The purpose of the Tuesday meeting was to give these local school authorities opportunity to discuss the developing educational situations in their several districts since the date of impact of the activities of the AEC and particularly during the past 2 years, and to consider problems involved in the efforts of these districts to provide adequate programs of education. Certain basic and derived data, as set forth in tables A, B, and C (attached), were made available to this and following meetings. The schools in these districts, referred to in table C as off-project schools, have experienced during the past 6 years, and especially since the school year 1946-47, marked increases in school population because of Federal Government activities in the Richland area. These increases in school load, measured by average daily attendance, are shown by districts in table A. A study of the data in this table reveals that the increases in school load and consequently in school attendance of these districts have been rapid and excessive. Resultingly, these districts face a critical shortage of school housing facilities.

For purposes of considering school-plant requirements, it was recognized in the discussions that membership (or net enrollment) would be a better measure than average daily attendance. The former figures were, however, not uniformly available. Increases in school load, as measured by average daily attendance and estimated enrollments, for the 6-year period are reported in columns 6 and 8 of table B. Some consideration was given to the nonproject-connected school increases in contrast to those represented by dependents of workers directly connected with the Federal Government project.

The chairman of the boards of education in attendance agreed that the superintendents of schools should represent the school districts at the Wednesday afternoon meeting.

The purpose of the Wednesday meeting was to consider possibilities of providing needed school-plant facilities with State and local funds, and to establish a basis for determining responsibility, if any, of the Federal Government to assist in this program.

Careful analyses were made of the data in tables B and C, with particular emphasis on the ability of these districts to raise, from local and State sources, sufficient funds for respective capital-outlay needs. In these analyses, full consideration was given to the legal provisions and limitations for securing capital-outlay funds, and to the amounts of these funds that could reasonably be secured from currently available sources in relation to total funds required to provide, without further delay, critically needed school housing facilities. There was general agreement on certain findings revealed by these analyses. These findings were considered so significant that the committee incorporated them in its report. There was also general agreement that the major concern at this time of these six school districts was the provision of permanent school housing for what could be reasonably determined as a permanent school impact. It was clearly recognized and accepted that temporary facilities only should be provided for temporary school impacts. Some temporary facilities have been provided by the AEC during the past 2 years in several of these districts.

General agreement was reached to the effect that the State and the school districts involved should assume full responsibility for providing facilities needed for the increase in school load not directly connected with AEC activities and that the Federal Government should assume responsibility for assisting the State and local school districts in providing facilities for children of workers directly connected with these activities; that is, the federally incurred school load (see definition in committee report). It was also agreed that the committee should prepare its report of findings and recommendations, as they relate to this Federal responsibility, without reference to possible limitations in existing authority of the Atomic Energy Commission.

The purpose of my meeting on Thursday with the committee was to outline the proposal for a committee statement in terms of the general agreements reached by the representatives of the meeting on Wednesday and to translate into as objective terms as possible their agreements regarding the respective responsibilities of the local, State, and Federal Governments for providing school-plant facilities for the federally incurred school load. After this had been done, the committee requested that I draft, in accordance with the outline set forth, a statement of findings and recommendations as the basis for the committee report. It was decided that one table of selected basic and derived items of information be made an integral part of the committee report. Table 1, incorporated in the

committee report, presents among other significant items the Federal-incurred and the non-Federal-incurred school loads as of the school year 1948-49 (see columns 8 and 9, table 1, committee report).

My draft of this statement was checked carefully late Friday, June 24, with Messrs. Shaw and Fuller, who attended the three meetings. Certain revisions were made by us. These are incorporated in the committee report entitled "Findings of a Committee Considering a Plan for Providing School-Plant Facilities for the Atomic Energy Commission—Incurred Enrollment in Six School Systems in the Richland Area." This report is dated June 24, 1949.

Mr. Shaw sent copies of this report to Mr. E. L. Lindman and to Mr. E. S. Black for their concurrence. I have been advised that the report has been accepted by the three members of the committee and that, in the absence of a copy signed by them, I should feel free to transmit the committee report indicating that the three members had accepted the report. Mr. Norman G. Fuller provided me with the above information last week by telephone and also supplied me with 1948-49 data, as incorporated in table A of this statement.

I feel that the committee's approach to the solution of the problem is logical; that its findings, based on careful analyses of existing facts and conditions, are sound, and that its recommendations are fair and equitable.

A copy of the committee report is attached.

H. F. ALVES, *Director, Division of School Administration.*

TABLE A.—Average daily attendance, by schools, from 1940-41, through the school year 1948-49

District	Average daily attendance								
	1940-41	1941-42	1942-43	1943-44	1944-45	1945-46	1946-47	1947-48	1948-49
<b>Grandview:</b>									
Elementary.....	458	460	463	532	589	662	755	781	866
High school.....	173	164	165	166	172	178	233	240	260
Total average daily attendance.....	631	624	628	698	761	840	988	1,021	1,126
<b>Kennewick:</b>									
Elementary.....	375	377	410	855	1,009	883	929	1,413	1,830
Junior high.....	183	194	210	333	389	348	342	557	623
Senior high.....	205	180	152	199	252	259	266	300	388
Total average daily attendance.....	763	751	772	1,387	1,650	1,490	1,537	2,270	2,841
<b>Kiona-Benton City:</b>									
Elementary.....	131	126	117	217	343	178	194	234	358
High school.....	38	38	33	64	78	50	63	64	82
Total average daily attendance.....	169	164	150	281	421	228	257	298	450
<b>Pasco:</b>									
Elementary.....	547	541	552	784	886	870	967	1,171	1,424
High school.....	296	258	235	248	270	306	319	353	393
Total average daily attendance.....	843	799	787	1,032	1,156	1,176	1,286	1,524	1,817
<b>Prosser:</b>									
Elementary.....	343	307	333	429	423	441	492	557	640
Junior high.....	186	180	165	171	213	217	222	272	278
Senior high.....	209	180	160	173	172	149	169	173	188
Total average daily attendance.....	738	667	658	773	808	807	883	1,002	1,106
<b>Sunnyside:</b>									
Elementary.....				1,136	1,165	1,372	1,586	1,761	1,858
High school.....				378	394	428	494	539	595
Total, average daily attendance.....			1,400	1,514	1,559	1,800	2,080	2,300	2,455

<sup>1</sup> This is an estimate supplied by the superintendent of schools. This district was newly formed in 1942-43 by combining a number of districts and parts of several others. No exact data available.

TABLE B.—Assessed valuations, average daily attendance, and estimated enrollments for designated years by school districts

District (1)	Assessed valuations		Average daily attendance		Estimated enrollments <sup>1</sup>		Valuations	
	Total in 1942-43 (2)	Total in 1949-49 (3)	Increase (column 3- column 2) (4)	Total in 1949-49 (5)	Increase 1949-49 over 1942-43 (6)	Total 1949-49 (column 5×1.1) (7)	Increase per additional pupil (column 4÷column 8) (9)	Per pupil enrollment in 1949-49 (column 3÷column 7) (10)
Grandview.....	1,600,000	2,867,000	1,267,000	1,126	498	1,239	2,312	2,314
Kennewick.....	2,837,000	7,075,000	4,238,000	2,841	2,069	3,125	1,862	2,264
Benton City.....	734,000	1,459,000	725,000	452	302	497	2,332	2,836
Pasco.....	3,329,000	6,136,000	2,807,000	1,817	1,030	1,999	1,133	3,069
Prosser.....	2,389,000	5,594,000	3,205,000	1,106	448	1,217	2,477	4,596
Sunnyside.....	2,700,000	4,800,000	2,100,000	2,453	1,053	2,698	1,813	1,779
Total.....	13,589,000	27,931,000	14,342,000	9,795	5,400	10,775	2,414	2,592

<sup>1</sup> Average daily attendance figures were uniformly supplied by the six districts. By agreement, these average daily attendance figures were converted to estimated enrollments by multiplying by 1.1 to assure comparability. (Net enrollment figures, derived on a common basis, were not available.)

TABLE C.—Funds raised by off-project schools for building purposes from the 1940-41 school year through 1948-49<sup>1</sup>

School	1940-41	1941-42	1942-43	1943-44	1944-45	1945-46	1946-47	1947-48	1948-49	Total
<b>Grandview:</b>										
Valuation.....	\$1,075,252	\$1,078,389	\$1,096,200	\$1,432,630	\$1,626,636	\$1,725,726	\$2,306,396	\$2,515,027	\$2,866,667	-----
Mills.....	0	0	0	0	20	20	30	30	30	130
Bonds.....	0	0	0	0	0	0	0	0	0	0
Funds raised.....	0	0	0	0	\$32,533	\$34,514	\$75,189	\$78,450	\$86,000	\$303,686
<b>Kennewick:</b>										
Valuation.....	\$2,350,795	\$2,447,345	\$2,836,973	\$3,660,000	\$3,467,435	\$4,416,287	\$4,906,527	\$5,783,320	\$7,075,230	-----
Mills.....	0	0	0	5	0	0	0	0	0	5
Bonds.....	0	0	0	0	0	0	0	0	0	0
Funds raised.....	0	0	0	\$17,900	0	0	0	0	0	\$300,000
<b>Klone-Benton City:</b>										
Valuation.....	\$717,032	\$709,162	\$723,556	\$782,316	\$1,093,381	\$1,227,041	\$1,300,778	\$1,354,621	\$1,459,355	-----
Mills.....	0	0	0	0	0	0	0	10	0	10
Bonds.....	0	0	0	0	0	0	0	0	\$70,000	\$70,000
Funds raised.....	0	0	0	0	0	0	0	\$12,700	\$70,000	\$82,700
<b>Pasco:</b>										
Valuation.....	\$3,056,000	\$3,238,000	\$3,329,000	\$3,496,000	\$3,733,000	\$4,172,000	\$4,496,000	\$5,007,000	\$6,500,000	-----
Mills.....	0	0	0	0	0	0	0	4	17	21
Bonds.....	\$50,000	0	0	0	0	0	\$175,000	0	0	\$225,000
Funds raised.....	\$50,000	0	0	0	0	0	\$175,000	\$24,500	\$110,000	\$359,500
<b>Prosser:</b>										
Valuation.....	\$2,164,208	\$2,138,552	\$2,388,699	\$3,053,147	\$3,123,689	\$3,830,022	\$4,356,717	\$4,669,176	\$5,563,518	-----
Mills.....	0	2	2	4	0	2	10	0	0	30
Bonds.....	0	0	0	0	0	0	\$181,000	0	0	\$181,000
Funds raised.....	0	\$4,277	\$4,777	\$12,212	0	\$7,660	\$234,568	0	0	\$258,494
<b>Sunnyside:</b>										
Valuation.....	\$1,583,384	\$1,583,384	\$1,694,161	\$1,730,545	\$2,700,542	\$2,930,000	\$3,489,958	\$4,393,195	\$5,000,000	-----
Mills.....	0	0	0	0	0	0	0	20	40	90
Bonds.....	0	0	0	0	0	\$100,000	\$3,489,958	\$175,000	0	\$275,000
Funds raised.....	0	0	0	0	0	\$100,000	\$104,700	\$262,900	\$200,000	\$667,600

<sup>1</sup> A school district secures these funds by voting bonds (limited to 5 percent of its valuation) and by special millage levy voted by the people.

## (Appendix C)

*Summary of the approximate amount of the assistance which has been furnished by the Atomic Energy Commission to the off-site school districts in the Hanford area*

School districts	Maintenance and operations		Building fund <sup>2</sup>	Total	Number school busses loaned
	1947-48	Estimate <sup>1</sup> 1948-49			
Grandview.....	\$10, 225	\$17, 000	\$54, 800	\$82, 023	1
Kennewick.....	142, 758+	100, 000	470, 000	712, 758	15
Kione-Benton City.....	15, 575*	38, 000	68, 400	121, 975	2
Pasco.....	52, 783	24, 000	187, 000	263, 783	3
Prosser.....	12, 157	21, 000	72, 800	105, 957	2
Sunnyside.....	20, 730	32, 000	130, 000	182, 730	4
Whitstran.....	0	5, 300	0	5, 300	0
Total.....	254, 228	237, 300	983, 000	1, 474, 526	27

<sup>1</sup> Since the amounts of the payments made by the Atomic Energy Commission for operation and maintenance under its agreements with the school districts are dependent in part upon the average daily attendance, and inasmuch as the sums listed in this column represent estimates made prior to the completion of the 1948-49 school year, some revision in the sums listed may be necessary.

<sup>2</sup> The sums listed in this column represent payments made by the Atomic Energy Commission in lieu of furnishing temporary school facilities. The Atomic Energy Commission also furnished certain temporary school facilities on a loan basis to a number of the school districts during 1947-48 and 1948-49.

Mr. JACKSON. Suppose you just summarize the report.

Mr. ALVES. My trip out there, or just the report?

Mr. JACKSON. Summarize the trip out there and the report.

Mr. ALVES. All right.

First of all, may I say that the Office of Education was glad to be of assistance to the Atomic Energy Commission in providing consultative service in connection with this problem, as it had done previously, January a year ago, on a related problem.

According to the request that came from Mr. Wilson of the Atomic Energy Commission, our interpretation was that I serve as a consultant or in a consultative capacity to the Atomic Energy Commission, and one of my responsibilities was to see whether or not the committee of three, to which the chairman has referred, could be brought together to where it could issue a report.

I found upon my arrival at Richland that apparently efforts during the past year or more to try to get together had resulted in a partial solution in that a decision had been made by the Atomic Energy Commission that it would provide not to exceed \$300 per pupil of project-connected children for temporary school construction.

There were three meetings held. The first one was attended by the chairmen of the boards of education and by the superintendents of schools of these six districts and by representatives of the Atomic Energy Commission, the other members of the committee and myself.

The group asked that I serve as chairman of the meetings that would be held.

The first meeting, held on Tuesday, made analyses of the conditions that had developed district by district since the date of the impact of the Federal Government activities.

Certain decisions were made that day with reference to the use of certain basic data. For example, you will find that the picture is portrayed, as far as developments educationally in the district are concerned, in terms of a school load measured by a. d. a. Let me not—

Mr. COLE. What is a. d. a.?

Mr. ALVES. A. d. a. is "average daily attendance."

That may not sound significant, but it is very significant in that it is highly conservative as a measure for building needs.

To illustrate, a school system may have 3,000 different boys and girls enrolled in a session. Of that number, it might develop at the end of the year that 400 had come and gone, which left 2,600 who stayed after they enrolled. For that 2,600 the a. d. a. might be 2,400, so I would like to be very emphatic about the fact that the measure of school load in terms of average daily attendance is a highly conservative figure. There cannot be any padding in it.

The reason for doing that—

Mr. COLE. Excuse me, but do you not feel that it is a very fair figure to use?

Mr. ALVES. It is a fair figure, certainly, so far as the Government help is concerned. If there is anything unfair about it, it might be in the line of the direction of the districts, there have to be more seats than the total school load, as measured by average daily attendance.

Since there were no uniformly derived figures on enrollment that the group wished to accept, and since everybody agreed that in the State of Washington attendance in the schools was very high, approximating 90 percent, we took these a. d. a. figures and multiplied them by 1.1.

Mr. COLE. Approximating 90 percent—90 percent of what?

Mr. ALVES. Ninety percent full attendance of those who were enrolled. In other words, if you had a thousand pupils starting in September—

Mr. COLE. You mean that the average daily attendance was 90 percent of the enrolled student load?

Mr. ALVES. On a State-wide basis. That is the figure proposed in Washington State. I did not derive those figures. Those were the State Department figures.

So, we took these load figures, as measured by average daily attendance and multiplied them by 1.1 to get an estimated enrollment.

Now, what that actually does is this: Here is a school district which had a thousand different boys and girls on the rolls. They were enrolled; they were members of that school. Some of them remained just for a few weeks, some for 2 or 3 months, and some throughout the year. There were 200 of those who left before the close of the year. They had to have seats for them while they were in school. That left 800, which is a more steady figure. But of the 800, only 600 were an average daily attendance, or in this case, to be exact, 720 (on the basis of 90 percent). So, you see we use figures as measures of load which are highly conservative and certainly fair to the Federal Government. If they are unfair they will be unfair in the direction of the districts, in that if they provide for facilities only in terms of those restricted load figures. These districts will have some pupils without seats which, of course, you find now in a number of their situations.

That first day was spent discussing this type of a problem.

The second meeting was attended by the superintendents of schools of all the districts involved, but not by the chairmen of the boards of education who had, the day before, decided that the superintendents should represent them.

At this meeting, there was a general agreement on certain findings revealed by the analyses of the day before and the second day.

The group decided that the committee should have the privilege to incorporate those findings in its report, and they are so incorporated as committee findings.

There was also general agreement on this one point, and this was one of the points of variation for the past 12 to 18 months; namely—that the major concern of the districts was to provide—as they spent their own money as well as State money and the hoped-for Federal money—permanent facilities; and that they should spend wisely. The decision of the group was that the major concern at this time was to determine, if humanly possible, some way to show what permanent school housing facilities should be built.

Mr. JACKSON. Might I interrupt at this point, Mr. Alves?

Mr. ALVES. Yes.

Mr. JACKSON. As I understand, there are two basic problems in connection with the impact of the Federal Government on the school system: One is operation and maintenance and two is the question of capital outlay for new buildings or for permanent or temporary buildings.

As I understand, point No. 1, operation and maintenance, that problem has been more or less a settled question.

Mr. ALVES. Yes.

Mr. JACKSON. That part of the problem has been worked out, so that your primary mission is to deal with this subject of capital outlay.

Mr. ALVES. That is right.

Mr. JACKSON. The question of new facilities, whether they should be permanent or temporary.

Mr. ALVES. Right.

Mr. JACKSON. All right. I did not mean to interrupt you. I just wanted, for the purpose of the record, to make it clear that this inquiry is directed to the question of the responsibility of the Federal Government in providing new school—

Mr. ALVES. Plant facilities.

Mr. JACKSON. Plant facilities.

Mr. ALVES. Yes.

Mr. JACKSON. For permanent attachments to the projects.

Mr. ALVES. Yes.

The reason I mention the points that I have was that you have to have some measuring stick for determining what plant facilities you need.

Mr. JACKSON. That is right.

Mr. ALVES. Our second meeting also reached two other points of agreement. One was that the local school district and the State should assume full responsibility for providing school plant facilities for that increase in school load which was not federally connected.

The second point was that the Federal Government should assume responsibility for assisting the State and the local school districts in providing facilities for children of workers directly connected, and these, in the report, are referred to as the federally incurred school load.

It was also agreed at this second meeting—and I think that this is a rather significant agreement—that the committee of three should prepare its report of findings and recommendations as they relate to this Federal responsibility without reference to any possible limitations in existing authority of the Atomic Energy Commission.

The third meeting was held for the distinct purpose of the committee's, and my working out an outline for the committee's statement

which the committee, as well as the personnel at the second day's meeting, had requested me to prepare in terms of all of the decisions that they had made.

Mr. COLE. Let me interrupt, Mr. Alves, to inquire——

Mr. ALVES. Yes.

Mr. COLE. If you are aware of any limitations of the Atomic Energy Commission with respect to this problem.

Mr. ALVES. If I may, I should like to postpone that question for the time being?

Mr. COLE. Yes.

Mr. ALVES. And take it up a little later? Is that satisfactory?

Mr. COLE. Surely.

Mr. ALVES. Late Thursday afternoon and Friday, I prepared the report of the committee, in cooperation with Mr. Shaw and Mr. Fuller at Richland, as requested by the committee.

Mr. JACKSON. Mr. Fuller, representing——

Mr. ALVES. Mr. Fuller is—I have forgotten his title, but he is an Atomic Energy Commission representative.

Mr. JACKSON. Representative of the Hanford project.

Mr. ALVES. Mr. Fuller's office has the files of the data of all the school districts, so any and all data that were supplied came from the official records in Mr. Fuller's office.

The committee report was drafted by Friday afternoon and checked later in the afternoon with Mr. Shaw and Mr. Fuller. We made some revisions that we thought would be advisable from the standpoint of wording, and in accordance with the request of the two other members of the committee, Mr. Shaw submitted copies of that report to Mr. Lindman and Mr. Black for their concurrence or rejection.

Both of those members, as well as Mr. Shaw, according to a communication, a telephone communication, that I had from Richland about the time I wrote my report, accepted the committee's report.

I have these comments that I would like to make with reference to the committee report. Not being a member of the committee of three but serving in a consultative capacity, I would like to say that I feel that the committee's approach to the solution of the problem is a very logical approach, and that the findings of the committee, based on the analyses of the existing facts and conditions are sound and that I believe its recommendations are fair and equitable.

With reference to the committee report, which I helped prepare, it sets forth, as you will recall, about a page of introductory statements, and then the need for facilities.

I would like to call three statements relating to "need" to your specific attention: The need for plant facilities in these districts at the present time can be attributed to three things: (1) A large number of Hanford employees, with families, residing in the area surrounding, but excluding Richland, and commuting to the Hanford Works; (2) population increase in this area resulting indirectly from the activities of the Hanford Works; and (3) lack of essential school construction during the depression, war years, and postwar years.

So, in considering the problem, these factors have to be recognized.

Certainly, there would be nothing logical in proposing that the Federal Government should provide school-building facilities that were needed 10 or 15 years ago.

On the basis of these three factors, the analyses of all the facts and conditions were made. I shall not take time to place in the record the increase district by district. You have access to that. If you want to ask questions later, I will be glad to try to answer them.

The committee findings were seven in number, and remember these were not the findings of the three committee members. These were findings the committee accepted because everybody in the first 2 days' meetings agreed that they were perfectly sound and obvious:

First. That these six school districts had a sudden and excessive increase of school load because of Federal Government activities.

Second. That the incurred school load by reason of these Federal Government incurred activities constitutes in each district a substantial percentage of the total school load.

Third. That these districts, under existing conditions, cannot provide a satisfactory program of education to the children coming to them, primarily because of lack of essential facilities, which means half-day sessions, crowded rooms, and so forth.

Fourth. That these districts cannot secure from their local tax bases sufficient funds to provide the school buildings needed by them.

Fifth. That the local and the State education authorities cannot be expected to secure sufficient funds from available sources, both State and local, to meet the costs of providing school-plant facilities necessary to house the total school impact in these districts.

Mr. COLE. What is the reason for that conclusion?

Mr. ALVES. The reason for that conclusion is that if you bonded every local district to the limit——

Mr. COLE. But you include the State.

Mr. ALVES. And the State from available sources——

Mr. COLE. You mean that is because of State constitutional limitations?

Mr. ALVES. No. It is the cost of the amount of money the legislature has appropriated for State school plant assistance.

Mr. JACKSON. May I interrupt there?

Mr. ALVES. You see, in the State of Washington, Mr. Cole, there are State funds which are made available to local districts in terms of their ability to finance school buildings, in addition to the money they derive from their local taxes. In other words, in that respect we consider that the State of Washington is pretty well out in front in the matter of financing school buildings.

Those State moneys are made available in such a manner that the district with the least ability gets more State money to supplement its own local capital outlay funds, in contrast to a district with more wealth.

In other words, a given district might get twice as much money from the State as it can raise locally, while another district might only receive an equal amount from the State. In contrast, a still wealthier district might have to raise from local sources twice as much as it would receive from the State. In other words, State funds are provided to help the districts that can least help themselves.

Now, that is why we say in the committee findings that funds from available sources, State and local——

Mr. JACKSON. Mr. Alves, might it not be well to explain, too, that the source of revenue to take care of school-construction costs is the primary responsibility of the local district?

Operation and maintenance, however—at least, a very substantial part of that—comes from the State legislature. The local school district can be bonded to the limit, provided by the constitution through special levies, but the State does provide, as you have indicated, on an equalization basis. It is an equalization law, and the State can provide funds to school districts in a very small ratio to cover building-construction cost.

The primary function of the State legislature, so far as schools are concerned, is to raise funds for the operation and maintenance, I believe, in the State of Washington.

Mr. ALVES. Yes. During the last biennium, I think, the State of Washington spent around \$20,000,000 to assist local school districts in building school buildings.

Mr. JACKSON. How does the State of Washington rank among the 48 States in providing education—I mean teachers' salaries, school buildings, and so on? Is it not about third or fourth?

Mr. ALVES. I would not prefer to give an earmarked rank. I would say that so far as making provision for an adequate program of school finance, both in this instance, for current expense and school buildings, the State of Washington is toward the top. I do not want to say it is third or fourth. I do not know exactly.

For current-expense purposes, as we found a year and a half ago in these same districts, we figured an average teacher unit cost of \$2,200, plus 20 percent for instructional supplies, and materials, and so forth, bringing it up to \$2,400 average.

Mr. JACKSON. Mr. Alves, I think it might be well if you could supply for the record information showing the efforts that are being made by the State of Washington in relation to other States to provide: No. 1, funds for operation and maintenance; and, No. 2, funds for school building facilities.

I make the inquiry because I believe that in any determination that the committee might make, it is certainly a very important consideration in determining the responsibility, if any, of the Federal Government to those States where there is an impact on—

Mr. COLE. Well, the problem of operation and maintenance is not involved.

Mr. ALVES. Not in this consideration.

Mr. JACKSON. No; but I just thought that for the purposes of the record it would be pertinent.

Mr. COLE. I do think it would be very important to indicate the relative position of the State of Washington with respect to the other States of the Union on the question of the amount of public funds it appropriates for public-school construction.

Mr. JACKSON. Yes.

Mr. ALVES. From State sources?

Mr. COLE. Yes.

Mr. JACKSON. Because I think the committee may want to scrutinize very carefully, in determining whether there is responsibility in other States, exactly what each State that is affected is doing to solve this problem.

Mr. ALVES. If I understand the request correctly—

Mr. JACKSON. We will limit it to capital outlay.

Mr. ALVES. What you are really asking me to do is to provide information for the State of Washington as well as any other State that

provides State funds for constructing school buildings. In other words, you have not any relative position.

Mr. COLE. That is right.

Mr. JACKSON. Well, the relative position.

Mr. ALVES. I am not sure that I can supply that for all the States currently.

Mr. JACKSON. What is the relative position of the State of Washington as it compares with other States; whether they are making a real effort to solve the school problem, which is very relevant to this whole problem. It goes to the heart of it.

Mr. COLE. Yes.

Mr. ALVES. Yes.

(The information referred to will be found on p. 50.)

Mr. ALVES. Now, we continue with these findings.

Mr. COLE. Let me get this clear, first.

Mr. ALVES. Yes.

Mr. COLE. As a result of your study, it is your conclusion that the amount of State funds from Washington which are available to meet this problem in Hanford, in the Hanford area, together with the taxable resources available locally are still insufficient to meet the needs—

Mr. ALVES. To meet the total need.

Mr. COLE. Of this area?

Mr. ALVES. That is right, of these districts.

Now, remember that says "available sources."

Mr. JACKSON. We understand. It is the source provided by law.

Mr. ALVES. Legally provided now.

Mr. JACKSON. That is right, provided by law, either constitutionally or by statute.

Mr. ALVES. Yes.

Another finding of the committee was that to alleviate the school housing shortage, other than the federally incurred school load, would require the maximum effort of both the local district and the State.

In other words, as an explanation, experience shows that recent school-building construction in Washington in terms of the State-wide average approximates \$1,600 per pupil.

Mr. COLE. A. d. a. pupil?

Mr. ALVES. Per pupil.

Mr. COLE. What kind of pupil?

Mr. ALVES. Yes, A. d. a. Consequently, if you have a thousand pupils to provide for, the amount required in terms of this average unit cost, approximates \$1,600,000.

One can determine quickly how much within the legal bonding capacity these districts can provide, and then proportionately how much each can expect from the State. This is the basis for this last finding.

Lastly, experience during the 6-year period since the date of impact indicates that the school impact, represented by the federally incurred school load, as set forth in the committee report, may be expected to be of a permanent nature.

I think I should like, if it is not too time-consuming, before we consider the recommendations, to call your attention to a few problems.

It is perfectly obvious, as experience has shown for the last 10 years in this country, that when you get a highly active Federal Government

activity into an area that you have waves of up and down as to the impact of population.

When we first start an activity, we have a quick rise in population, followed by a leveling off.

If there are then expansion or reactivation of activities there is another increase up, and then possibly another leveling off.

I think it must be obvious to all of us that nobody can predict with 100 percent accuracy as to any of the situations in there.

There have been times when, during the war, we thought that every time a camp was set up for 10,000 adults we could expect three-tenths child per adult. In some cases this proved correct; in others we missed it by a hundred percent.

Mr. COLE. High or low?

Mr. ALVES. Both ways.

I remember one installation in which after we thought we had established the factor of nine-tenths pupil per family unit, we found it to be about three-tenths.

At the same time in an installation this factor was nearly two children of school age per family unit. You can strike averages, but when you get to specific locations, you have some variation.

Mr. COLE. Your national average then is six-tenths child per family unit?

Mr. ALVES. I do not know what it is now. I was talking about several years ago. That is when we had in the Federal Government activity areas—

Mr. JACKSON. Lanham Act funds.

Mr. ALVES. Military reservations, housing projects, and so forth. The kinds of workers involved had a bearing on the ratio of the school population to the total population.

One of the basic questions in the Richland area is how much of the population will be permanent, how much of it will be there today and gone tomorrow? How much of it will be federally connected today and not so tomorrow?

As we made analyses, district by district, in terms of detailed records from which these basic data were taken, we found variations, but through it all we found a trend which seemed to point to the fact rather conclusively that in terms of the 6-year period of time—unless, for example, the Congress should decide to close the installation out there—we could expect a permanent school impact, approximately in agreement with what is reported as the federally incurred school load.

It may be that there may be as much as 10 percent variation, above or below, in the federally incurred school load for a given district in terms of a permanent impact.

In connection with this finding relating to permanency of school impact, I found that there had been a decision in about April that the federally incurred school load, as measured by average daily attendance, not by enrollment or gross enrollment, represented to the most stable figure available.

The committee itself was positive that if essential school plant facilities were to become available in these districts, the Federal Government would have to provide immediate financial assistance to the State and local educational authorities concerned in meeting the school plant needs required for this federally incurred school load.

Now, so far as the committee's recommendations are concerned, experience in the State of Washington, with its State school plant assistance program had already established what was accepted on a State-wide basis as a per-pupil cost of school construction at approximately \$1,600.

The general opinion of the committee members was that a given district might get hurt if it relied wholly on this \$1,600—a State-wide average—if it had to build practically all high-school facilities rather than both elementary and high-school facilities in the proportions generally found.

The committee report recommends that the Federal Government should assume the responsibility for its share in terms of the cost per pupil as certified by the State department of education. Whether this cost be \$1,400, \$1,600, or \$1,800 per pupil, it would represent the State average, the figure recognized by the State school-plant assistance program.

The committee's recommendations in short, are: That for the federally incurred school load the Federal Government should assume as its share, this \$1,600 per pupil, minus, first, any other Federal contribution since the date of the impact for the purpose of school buildings, minus, second, a local contribution per pupil in relation to the federally incurred school load, such local contribution to be determined in terms of the district's assessed valuation.

Mr. COLE. I do not understand that.

Mr. ALVES. May I just finish that and then try to explain that in terms of a district?

Minus, third, any State contribution to which that district is entitled under the State school-plant assistance program.

Now then, if I may take a district and call it district X, with a thousand pupils, average daily attendance, the school load today. Multiply that by 1.1, for its estimated enrollment. Of that number, let us say, 300 represent the federally incurred load.

Mr. COLE. Direct?

Mr. ALVES. Direct. That is, according to the definition here—let me read it so I will not get us confused. [Reading:]

Federally incurred school load as used in this report is defined as those pupils whose parents or guardians were employees during 1948-49 school term of the Atomic Energy Commission, and the General Electric Co., and their subcontractors or concessionaires at the Hanford Works.

Now, the fact that those pupils were there during 1948-49 may mean that a good proportion of them have been there for 5 years, and some for only 1 year.

Mr. COLE. Why do you include the concessionaires as being a part of the school load?

Mr. ALVES. Concessionaires—this definition was originally determined 2 years ago in connection with a related program. The determination was made that employees, either of the Atomic Energy Commission directly, of its contractor, subcontractors or concessionaires—that is, every activity in Richland—were equally considered as Federal employees.

As I understand that, it means that if I am an employee of the administrative staff of the Atomic Energy Commission at Richland, my child is what they originally called eligible—what we here say is federally incurred school load.

If I were an employee of the General Electric Co. my child would also be eligible; if I were an employee of a subcontractor of either the Atomic Energy Commission or General Electric, if I worked in any of the business establishments in Richland, on Government property, whether it was the drug store, the barber shop, the motion-picture show, the restaurant or not, I was considered a Federal employee. If I am incorrect I will be glad to stand corrected.

Mr. COLE. Well, as to those people who live in Richland, they are eligible for school facilities——

Mr. ALVES. In Richland.

Mr. COLE (continuing). In Richland, all of which is supported by the Federal Government.

Mr. ALVES. Correct.

Mr. COLE. What is the situation with respect to somebody who lives outside of Richland but who works in Richland, is he eligible to go to school at Richland?

Mr. ALVES. No; he goes to school in the district in which he resides unless there is an arrangement for transfer; but the Richland schools are not in a position to take anybody from the outside.

Any employees of the Atomic Energy Commission, General Electric Co., their subcontractors or concessionaires, who live outside of Richland and whose children are eligible to go to school are the children who constitute the federally incurred school load in these districts.

Mr. COLE. Suppose the Atomic Energy Commission leases a store site to an individual who has children, and that individual lives outside of Richland. He then would not be computed—that child of his would not be computed as a part of the Federal load.

Mr. ALVES. It would in that district where he lives; yes, sir.

Mr. COLE. Not according to your definition.

Mr. ALVES. Yes, sir.

Mr. COLE. He is not a concessionaire. He is a tenant, unless you consider that a tenant is on the same basis as a concessionaire.

Mr. ALVES. That is my understanding of this definition as used for 3 years now. Is that right, Mr. Shugg? If I am a druggist and work in the drug store in Richland, I am a Federal employee under this definition.

Mr. SHUGG. I do not think it was as scientific as that, Mr. Alves. I think that in the attempt to find some meeting ground here that we did accede to the fact that the children of concessionaires would be considered as federally induced, but there was no more logic or reason behind it than there is, for instance, behind the fact that some of the General Electric employees, permanent operators, living outside the city may own their home, and by paying real-estate taxes and just as much being a citizen of this outside town as any original settler, but we have to overlook that, too.

There was no attempt to try and separate out Federal employees who might own their own homes in these outlying districts, because then we would have to get into the point of how much did the rent payer contribute to his rent to the landlord to pay taxes.

Mr. ALVES. Mr. Cole's question, as I understood it, was: Suppose I leased a business establishment in Richland and lived outside. Would my children be counted in this federally incurred school load of the district in which I lived? My answer was "Yes."

Mr. SHUGG. That is right. There is no scientific justification.

Mr. JACKSON. It is an arbitrary determination in order to work out a settlement previously—

Mr. SHUGG. Yes, sir. Instead of trying to analyze those who own homes and those who did not own homes. There were several problems like that, and we took, for the sake of arriving at some meeting of the minds, and lumped the children of concessionaires who resided outside the district, and who went to the school district in which they resided. We allowed them to be included in the federally incurred school load.

Mr. ALVES. Yes.

Mr. COLE. My point is a leaseholder from the Atomic Energy Commission is in the same category as a concessionaire from the Atomic Energy Commission.

Mr. SHUGG. Yes.

Mr. JACKSON. How many are in this category?

Mr. ALVES. I do not have a break-down of the distribution of children according to classifications of occupation.

Mr. JACKSON. Do you remember, Mr. Shugg, approximately what percentage of the children would come under the category of the concessionaire definition?

Mr. SHUGG. No, sir. I do not, Mr. Chairman.

Mr. JACKSON. It is a very small portion.

Mr. ALVES. It would be relatively small.

Mr. SHUGG. We could take such a poll as to how many children were children of concessionaires, how many were the children of construction workers, and how many were the children of operating personnel.

Mr. JACKSON. I assume it would be a very small percentage of the total.

Mr. SHUGG. I assume so.

Mr. JACKSON. You may proceed, Mr. Alves.

Mr. ALVES. Coming back to the case that I wanted to use, Mr. Cole, to illustrate these, these recommendations, I had the district with a thousand average daily attendance, whose estimated enrollment was 1,100. I said suppose the district had 300 in the federally incurred and 200 in the nonfederally incurred loads. This means that it had, previous to the impact, a school load of 600.

Now, it has 1,100. Let us assume further that at the date of impact its assessed valuation, was \$3,000,000, and that now it is five and a half million dollars. The recommendation is that the Federal Government shall assume the cost per pupil for the federally incurred load, that cost to be \$1,600, minus, first, other Federal contributions for school building purposes since the date of impact.

The reason that this deduction is in there is that the Atomic Energy Commission had made arrangements with the districts to provide not to exceed \$300 per pupil for the federally incurred school load, which the district could use for temporary facilities. AEC gave the district the privilege, if it wanted to, to put its own money with that \$300, as I understand it, to use it for permanent facilities. So, we would subtract the \$300 because it is a Federal contribution.

The next deduction is the local contribution per pupil. The district with 1,100 pupils, and a valuation of 5½ million would have \$5,000 assessed value per pupil.

We do not assign the total tax base. We use only that part which is represented by the federally incurred school load. We would

assign only three-elevenths of the district's valuation because it is responsible, with the State, to provide school facilities for any others over and above the federally incurred school load. The \$5,000 assessed valuation per pupil, when multiplied by 5 percent, the legal bonding limit, for capital outlay purposes, would produce \$250 as the local contribution.

You subtract that \$250.

A district with this assessed value per pupil would receive from the State an amount approximately about one-third of its local contribution, or about \$75.

Mr. JACKSON. Under the equalization act.

Mr. ALVES. Under the equalization plan, it averages about 1-to-1. So we would subtract \$250 as the local and about \$75 as the State contribution.

Excluding for the minute the fact that the Atomic Energy Commission already advanced \$300, we would deduct the \$250 local and about \$75 State contribution, thus leaving about \$1,275 as the Federal contribution per pupil.

Now, when we apply that to these districts, we do not get as large a local contribution because their tax bases per pupil are less.

There is one table attached to my statement—that is table B—which shows that in 1942-43 these six districts had \$13,500,000 assessed valuation, which increased to \$27,900,000 in 1948-49, roughly a hundred percent increase.

As you study that table you find two sets of figures in columns 9 and 10.

Column 9 shows the increase per additional pupil, obtained by dividing the increase in assessed valuation by the increase in school load. Column 10 shows the valuation per-pupil enrolled. There is practically no difference between these two per pupil figures. If you assume that \$2,500 as the average for the six districts combined, it would mean that their average local contribution would be about \$125. If on this average basis, a district provides 40 cents out of each dollar, and the State 60 cents, the State would provide 1½ times \$125, or about \$190, which would bring the local and State contribution combined to about \$315.

Roughly, we figure across the board for the six districts, even with corrections, that would come in assessed valuations, that the local and State contribution would be expected to be somewhere from \$300 to \$325 per pupil for the federally incurred school load.

This means that, in addition, these districts have to use their remaining bonding capacity, and special millage levies plus state funds to provide for the nonfederally incurred school load.

Does that clarify the question you had, Mr. Cole?

Mr. JACKSON. Spelled out, what is the average net cost per pupil for this proposal?

Mr. ALVES. For these six districts?

Mr. JACKSON. Yes, on the average, the average amount.

Mr. ALVES. Allowing me a 5-percent error in my guess, I will say it approximates \$1,275 to \$1,300 Federal contribution per pupil.

Mr. JACKSON. Per pupil.

Mr. ALVES. That is approximate. Does anybody have a better figure than that?

Mr. JACKSON. And how many pupils average daily attendance?

Mr. ALVES. Federally incurred school load that that would be applied to? That is 3,266—say about thirty-two hundred roughly.

Mr. JACKSON. Thirty-two hundred times approximately \$1,275.

Mr. ALVES. Or \$1,300. It comes out around  $3\frac{1}{2}$  to 4 million dollars.

Mr. JACKSON. That is the final obligation owed by the Federal Government in the area?

Mr. ALVES. In terms—well, let us be specific on that.

Mr. JACKSON. Insofar as the school construction costs are concerned.

Mr. ALVES. At this time?

Mr. JACKSON. How much?

Mr. ALVES. If 2 years from now you have another reactivation of some kind and you bring in another load, why, you have another problem.

Mr. JACKSON. You would not have any idea where the dividing line is? In other words, I mean, suppose there is normal load growth in the area, that is in the operation of the plant at Hanford, how final—in other words, how final is this report so far as the Federal Government's responsibility to provide permanent school facilities is concerned?

Mr. ALVES. Well, as far as I know, it is up to date, and when you say "final," I am a little confused. I am not sure that I know what you mean. Are you raising a question—

Mr. JACKSON. Well, you have determined that the number of attachables by the formula you have worked out approximates 3,266.

Mr. ALVES. Yes.

Mr. JACKSON. Which is the average daily attendance for the school year 1948-49. Suppose that two situations exist: No. 1, is that we have a doubling of the permanent personnel at the project. Then you have—

Mr. ALVES. Obviously, this is not final.

Mr. JACKSON. The problem all over again.

Mr. ALVES. I said final in terms of the existing situation.

Mr. JACKSON. I understand.

Now, suppose that there is the normal fluctuation that takes place in a business enterprise where the number next year may be 3,400, 3,500, but just a normal increase in the population growth.

Mr. ALVES. I think you can expect to look forward to that in this area. Let us assume, by some magic or other, that on September 1 all these building facilities were provided and all youngsters were housed, the federally incurred load. We still have a nonfederally incurred load of 2,600 who have to be provided for, which will probably take those districts and the State several years. But if you had a relatively stable federally incurred load, I think this would be final. But if next year a district that has now a 300-federally incurred load, and bonds itself to the limit, got another 300 pupils, I think you would hear some more noise out there.

Mr. JACKSON. Mr. Cole, do you have any questions?

Mr. COLE. Well, assuming there is no change in the Federal load out there, this is the end of the Federal obligation to meet the need for the—

Mr. ALVES. School-plant facilities.

Mr. COLE. School-plant facilities, school operations, in the Hanford area, is it?

Mr. ALVES. Yes.

Mr. COLE. It is not contemplated that there will be any future claim by the Hanford area, school districts, for Federal assistance to the maintenance and operation of these schools?

Mr. ALVES. No. Of these schools? No.

Mr. COLE. Of the schools in this area.

Mr. ALVES. Well, the maintenance and operation is so distinct from this that maybe it would be worth while to get that arrangement in here.

In the State of Washington State money is distributed on the basis of a. d. a., as of the last year. In other words, a budget is made up now by a school district for next year in terms of its load last year, a. d. a., plus 5 percent. There is a general recognition in the State that so far as current budgets are concerned there ought to be a 5 percent recognition of normal growth.

Whenever a district in the Richland area received during that school year what we called "eligible" children, that is children of workers, as we defined them awhile ago, there is no State money coming to that district for the first year's attendance obviously, so the arrangement that has been in effect for this—this is the third year—has been that the Atomic Energy Commission has provided the first year's current expense, and then the State and local districts take over this responsibility.

Mr. JACKSON. That is to take care of the gap in there.

Mr. ALVES. To take care of the lag.

Mr. JACKSON. One year.

Mr. ALVES. Therefore, I would say, in answer to your question, that after the Federal Government assisted in building these school buildings, I see no reason why these districts would ask AEC for a continuing current expense because their own program of State aid takes care of that.

Mr. JACKSON. There has never been any dispute on that point, has there?

Mr. ALVES. No.

Mr. JACKSON. Now, they have only asked for payment for the period in which the State program failed to cover.

Mr. COLE. Well, did they indicate to you—the State or the local authorities—that this recommendation which the committee made to the Atomic Energy Commission, after consultation with you, represents the total of the State or local claims against the Federal Government for assistance in public education because of the Hanford operation?

Mr. ALVES. For facilities only.

Mr. COLE. I want to make certain that 2 years from now, 5 years from now, the school districts out there, the same school districts, do not come back to Uncle Sam and say, "Now, you admitted that you were responsible for this because of the fact that you came in and spent \$4,000,000 putting school buildings here. We have got to have some help to hire the teachers, to pay the janitors, to maintain the schools, and we want you to come in and contribute."

What I want to find out now is whether this proposal of your committee represents the total of the claims that the people out there in the section have against this Federal Government for their school operations.

Mr. ALVES. It represents the position of the six school districts named with reference to school plant facilities. There was no refer-

ence at all to the current expenses, and since that is taken care of by agreements otherwise which have no relation to this, I cannot see why any district or the State under the State program of school finance, would claim anything like this.

Mr. COLE. To me it is entirely logical for them to come back and claim this.

Mr. ALVES. But the committee, in this document and in these considerations, raises no question about current expense because that is separately—

Mr. COLE. I can imagine that they are happy to ask for this much, and they would not ask for more. But I think it would be entirely logical for them to come back and claim assistance from the Federal Government for the maintenance of these schools.

Mr. JACKSON. I think in that connection, Mr. Cole, the question of operation and maintenance expense has been settled on the basis of the increase in load growth for the 1-year period in which the State funds do not apply, and that is an over-all consideration—as I understand it in the past up until now—to the entire problem without relation to specific school buildings, so that if there is any question about it, I think it ought to be included in any agreement reached. I quite agree with you, but I do not think the school people in the area that I have talked with have any desire or any intention to ask for operation and maintenance expense in connection with the specific funds that might be allocated for these schools.

The only requests that they would come in for operation and maintenance money would be the over-all increase in the number of attachables in any given period. Is that a policy up to now?

Mr. ALVES. I will go so far in my answer to this question to put this statement in the record, Mr. Chairman—and I will verify it within 48 hours—I think if Mr. E. L. Lindman, the Deputy Superintendent of Public Construction, were here now—

Mr. JACKSON. Of the State of Washington, State Superintendent.

Mr. ALVES. Who was a member of this committee and you raised the question with him as to whether the State or the districts would in a year or two come to the Federal Government to ask for Federal funds for teachers' salaries and other current expenses for the children who would go into these building facilities that are in question, his answer would be, "No, our State program of school finance would not permit us to do so."

Mr. JACKSON. That is something that ought to be included in any event, under any understanding.

Mr. VOLPE. Mr. Chairman, that has been the problem at the present time.

Mr. JACKSON. Yes, Mr. Volpe.

Mr. VOLPE. As a matter of fact, the Federal Government faces two problems from the standpoint of assistance to local communities. One is the question which has not been faced by the Federal Government as yet, namely, permanent construction; and the other is assistance for operation and maintenance of schools.

Now, we have been making contributions to these local communities for operation and maintenance of schools, and—

Mr. ALVES. May I supplement that? By paying the total first year's current costs per pupil.

Mr. COLE. Do you agree with that, Mr. Volpe?

Mr. ALVES. That is the way your agreements have been.

Mr. VOLPE. We have been making contributions per pupil. We have made other contributions by way of materials, the loan of busses, for example, temporary buildings, and the assistance has been in various ways.

Mr. COLE. Has your per pupil contribution measured in dollars been for more than this lag which Mr. Alves has indicated, to pay for the pupil who comes into the district after the budget has been set for that school year, to carry that pupil along until the next budget comes, and then the Federal obligation with respect to that individual ceases?

Mr. VOLPE. That is not my understanding of it, but I would like to check it.

Mr. JACKSON. I understand—my understanding is—that at Hanford, in response to Mr. Cole's inquiry, that the answer is in the affirmative, that it has only been in the 1 year, at least in that area. Maybe Mr. Shugg can confirm that.

Mr. SHUGG. We have made for that first-year lag a payment of \$254,288 in 1947-48, and \$237,300 in 1948-49.

Now, that is just to balance the \$240 per pupil payment expected from the State in the next year.

In addition to that we have paid out approximately \$983,000 for temporary facilities.

Mr. JACKSON. Which is under the proposal here not considered at all.

Mr. ALVES. Not considered at all.

Mr. JACKSON. It is not considered, but deducted.

Mr. SHUGG. That makes a total payment of \$1,474,526 in those 2 years in addition to which there have been a number of facilities loaned to the school districts, portable buildings, and 27 school busses, and any other equipment or temporary help that we could give them. So there are three types of assistance: It has been the \$240 first year operating and maintenance—

Mr. JACKSON. Only for 1 year.

Mr. ALVES. One year only.

Mr. SHUGG. That is right, sir. Second, the approximately \$900,000 for temporary facilities; and then, third, the loan of various pieces of equipment.

Mr. ALVES. Mr. Chairman, I would like to read some recommendations into the record here from my report of January 14, 1948. I think it might clarify this.

Mr. JACKSON. In connection with this same district?

Mr. ALVES. And I think this is identical with what the Commission adopted [reading]:

First, the Atomic Energy Commission in terms of the provisions of its contract—

at that time with the Kennewick School district—

should contribute an amount to pay the full cost of educating additional new pupils during their first 180 days of attendance in these districts. These districts have no source of income which they can use to provide for the education of these new pupils during the first year they are in attendance.

That was the first recommendation.

The second one was [reading]:

That the Atomic Energy Commission assist these districts in providing pupil transportation services for those eligible pupils entitled to such services. The provisions for this purpose and the Commission's contract with the Kennewick school district are applicable in the remaining districts.

The third one was [reading]:

That the Atomic Energy Commission provide temporary classroom facilities to accommodate the impact. These districts should not be expected to provide through special levies or otherwise funds for permanent capital outlay until there is a leveling off following the expansion program. In the meantime they will not be in position to provide a standard of education prevailing last year for their onrush of eligible pupils which apparently has just begun.

Now, the specific question awhile ago, by Mr. Cole, related to current expense, and I think that is the answer. I was going to mention the fact that an arrangement is also in effect and has been, for this is the third year, I think, where the Atomic Energy Commission loans school busses to the districts that need them—I do not know how many of them get them.

Mr. SHUGG. Twenty-eight, I believe.

Mr. ALVES. But in this committee report, since there had already been agreements and arrangements made with reference to current expense, transportation, and temporary facilities, the considerations by the committee and others present were limited to provision of permanent school facilities. That is the reason it was a little difficult to answer your broad question awhile ago.

Mr. COLE. But to put it differently, the Commission has not in the past and does not contemplate in the future contributing toward the public education of any of the direct children for their second, third, or fourth year of public construction of—

Mr. JACKSON. And operation.

Mr. COLE. Except for, perhaps, the bus and temporary building use.

Mr. SHUGG. That is my understanding, sir.

Mr. COLE. But in the dollar contribution the Commission's assistance to the school district has and will be limited to the first year of the pupil's instruction, as to that pupil not included in the budget for the particular district.

Mr. SHUGG. That is as regards operation and maintenance.

Mr. ALVES. Yes.

Mr. COLE. I have only one other question: What school year, what period will be used as the basis upon which to determine the school load which you must know in order to arrive at a Federal contribution?

Mr. ALVES. For this construction?

Mr. COLE. Yes.

Mr. ALVES. The committee, as well as all the superintendents and Board members who were there, agreed that they were perfectly willing to accept as the basis the data as set forth in the table attached to the committee's report, which lists the federally incurred loads as actually defined therein and as determined and used by the Richland office of the AEC.

Mr. JACKSON. For the school year 1948-49?

Mr. ALVES. Yes.

Mr. COLE. 1948-49?

Mr. ALVES. That is the school year closed June 30 last.

Mr. COLE. And that is to be used as the basis for determining Federal contribution?

Mr. ALVES. Yes.

Mr. COLE. How does the Federal responsibility compare with 1946 and 1947, the per pupil load? Is it going up or going down?

Mr. ALVES. That, you will find, in table A attached to my statement. The 1942-43 load in the districts was the one we started with. Compared to 1948-49 they have all had a decided increase. When we compare 1948-49 with 1946-47, in the case of Grandview, the load increases.

Mr. COLE. Can you take the total or do they vary?

Mr. ALVES. I do not have that total. In the case of Grandview the 1946-47 load was 948 average daily attendance. It is now 1,126. Kennewick's load was 1,537 in 1942-43, and 2,841 in 1948-49.

Mr. JACKSON. Comparing with what year is this?

Mr. ALVES. 1946-47 and 1948-49. That is due to the fact that the AEC expansion program, I believe, started in the fall of 1948 or the spring of 1947. Is that correct, Mr. Shugg?

Mr. SHUGG. Yes.

Mr. JACKSON. May I propound this inquiry at this point? As a general proposition is it not true that the number of children arriving at school age each year from now until at least the next 5 years will result in a very substantial increase in the school population, not only in the State of Washington but throughout the country?

Mr. ALVES. Yes.

Mr. JACKSON. We start with that sort of an assumption, to begin with. There is a definite trend upward.

Mr. ALVES. Yes.

Mr. JACKSON. In the school population per family?

Mr. ALVES. Yes.

Mr. JACKSON. In the United States. Excuse me, I did not mean to interrupt.

Mr. COLE. That is all right.

Mr. JACKSON. I think it is an important factor to take into consideration because the families of the people who are working at the plant, the school families, children of school age, are bound to increase in the next few years if the national average can be stated to be a reasonable index.

Mr. ALVES. Which means, in other words, that these six districts, on the assumption that they got these facilities for the federally incurred load, and then provided for the nonfederally incurred load, still face a continuing problem of at least 5 percent a year increase in school population because of increased birth rate.

Mr. JACKSON. Putting it another way, getting right down to the specific attachables, where Federal responsibility attaches it can be said that assuming the same number of families staying at Richland at the present time or at the Hanford project, that there will be an increase—

Mr. ALVES. Yes.

Mr. JACKSON (continuing). In the total school population, over and above the average for 1948-49.

Mr. ALVES. Yes.

Mr. JACKSON. Based on the assumption that the national average is upward.

Mr. ALVES. Now, in the considerations by the groups and the committee, that very point came into play, and although where there are now 3,600 of these federally connected pupils—I mean 3,200—there might be in a few years three or four hundred more children of those same workers.

It was felt that if there was a possibility that the leveling down process would reduce the number of workers, that then the 3,200 might remain fairly stable, but that in this respect the districts were taking a good chance.

Mr. JACKSON. That was a factor that was taken into consideration in working out this formula?

Mr. ALVES. That is right.

Mr. COLE. I would like to ask Mr. Shugg if it is anticipated that the Commission's operations at Hanford will be expanded in any substantial proportion in the near future.

Mr. SHUGG. No, sir; I do not think it is. I think that when certain facilities, still to be built, are completed that the extra operators for those still to be completed facilities, will be offset by the reduction in construction personnel.

Mr. JACKSON. Mr. Shugg, it is contemplated that there will be additional construction workers in the area in the next 2 or 3 years, but you feel that that will be offset by the construction workers now employed in the area. It will be pretty well equalized.

Mr. SHUGG. First, to make it clear, I can first take the immediate situation, which is a drop-off in constructions. It is at a low level now and will be low for another few months.

Construction will increase above the level at which it is now. One helpful factor is that when it does increase there already exists very adequate camp facilities and trailer facilities and temporary school facilities in our own site to take care of the increase in construction load.

But, Mr. Cole I understood asked about a longer range picture, and the answer to that longer range picture is that the total Federal induced load should not be above what it is now. If anything, it should be less.

Mr. COLE. You feel that the base period of 1948-49 is a period which reasonably reflects the permanent——

Mr. SHUGG. Peak, sir.

Mr. COLE (continuing). Peak of the operation of the Federal Government out there?

Mr. SHUGG. Yes, sir. I believe it is a peak.

Mr. JACKSON. Does that conclude your statement? Thank you very much, Mr. Alves.

Mr. ALVES. Mr. Shugg's last statement bothers me a little. Did you say right now was a peak so far as school load goes? I thought the peak had already kind of passed by in the school load during the year.

Mr. SHUGG. There is a dropping off now, is there not?

Mr. ALVES. Yes.

Mr. SHUGG. Because of the big drop in production. I am speaking of these 1948-49 figures used here.

Mr. ALVES. Which were taken late in the year, about April, when they already started down, I understood.

Mr. SHUGG. Well, our actual slackening itself did not really begin until the 1st of March. I doubt if there is much effect there yet in the movement of families. I would expect these enrollment figures here to represent about as high as it will go.

Mr. JACKSON. Mr. Volpe?

Mr. VOLPE. Mr. Chairman, I would like to ask Mr. Alves a few questions.

Mr. JACKSON. I wonder if perhaps you and Mr. Shugg would come up to the table here.

All right, Mr. Volpe. You would like to ask Mr. Alves some questions?

#### STATEMENT OF JOSEPH VOLPE, JR., GENERAL COUNSEL, UNITED STATES ATOMIC ENERGY COMMISSION

Mr. VOLPE. Before doing that, I would like to make two comments, one on the question asked by Mr. Cole about the policy of the Commission on the action taken by the Commission to provide local assistance, that is, to simply say, as I understand it, the Commission's practice up to the present time, as was the practice of the Manhattan District, is substantially the practice of the Federal Government, and that is to provide local assistance under emergency conditions, and it was in view of this policy and in view of this practice that the Commission has over the few years made contributions, both by way of money contributions to the first-year pupils, and also by way of materials and facilities and busses and so on.

I point that out because I think the distinction needs to be made between what has been a problem or practice and policy of the Federal Government up to the present time and that with which we are confronted here this morning; namely, the problem of permanent construction of school facilities.

Mr. JACKSON. Up until now the consideration of the Atomic Energy Commission has been directed to the making of provision for temporary—

Mr. VOLPE. Meeting an emergency situation.

Mr. JACKSON (continuing). Facilities on an emergency basis.

Mr. VOLPE. That is right.

Mr. JACKSON. The question of operation and maintenance has been handled in the way that Mr. Shugg has outlined the problem generally at Hanford. Is that correct?

Mr. VOLPE. Yes.

The other point I wish to make—and I would like to make a remark off the record.

Mr. JACKSON. All right; off the record.

(Discussion off the record.)

Mr. JACKSON. All right, Mr. Volpe.

Mr. ALVES. That should not be that I represent the Commission; I represent the Commissioner of Education.

Mr. JACKSON. In the course of the hearings at the outset this morning, a possible inference was made that Mr. Alves, appearing here today, was representing the Commission.

Mr. Alves is here representing the United States Office of Education in connection with the assignment given to him to look into the school problem at Hanford.

The report which has been included in the record previously today represents the views of the people signing the report, as a recommendation to the Commission, and does not necessarily represent any view, either temporary or final, of the Commission.

Mr. VOLPE. Thank you, sir.

Mr. JACKSON. Our next witness will be Commissioner Dean of the Atomic Energy Commission.

### **STATEMENT OF GORDON E. DEAN, COMMISSIONER, UNITED STATES ATOMIC ENERGY COMMISSION**

Mr. DEAN. Mr. Chairman, so far as the attitude of the Commission is concerned with reference to this problem, I think the letter which is already in the record tells the complete story.

The Commission feels, I think, that in giving the answer to this problem there are very many broad problems which should be explored in connection with it. One is the question of comparable grants by the Federal Government at one time or another for military or similar establishments.

There may be other analogies; I do not know. It was a new problem to me when I first faced it, so I immediately explored the question of whether this was a precedent or whether it was not.

We had two or three legal problems that faced us at the outset, I think, in considering this. I think we are over those hurdles.

The first one was and had to do with the meaning of section 12 (a) (5) of the Atomic Energy Act.

There we had three specific problems that occurred to us. I think the general counsel has satisfied the Commission that those do not represent at this point any real hurdles insofar as the law is concerned. One of them was the question of whether the words "at project sites" in section 12 (a) (5) made it possible for the Commission if it wished to do so to give this aid off the site proper.

The general counsel to the Commission has satisfied himself that the legislative history of the act is such that off-project assistance was contemplated.

The second point that came up in connection with 12 (a) (5) was whether the word "welfare" included education, and whether or not the omission of the term "education" as such, in that listing in the statute of "housing, health, safety, welfare, and recreation," was significant.

Likewise, on that point, I think the general counsel has satisfied himself that the word "welfare" does include education.

Similar activities were going on under the Manhattan Engineering District at the time, and the committee which considered S. 1717 was aware of that situation.

Mr. JACKSON. Health, safety, and welfare are three words that go together pretty much and are interpreted in the light of general police power that is exercised by the States. I assume that is the construction.

Mr. DEAN. I think apparently that hurdle was overcome.

The third one was the question of whether the words "personnel employed by the Commission" included personnel that were employed by the contractors, and I think again on that the legislative history is probably clear so that should the Commission want to go forward with any arrangement it could legally do so under 12 (a) (5).

No; those are the simple legal hurdles to get over, and I think we are over those pretty well.

The Commission is not concerned with those primarily, but with the broader question of what is involved in this precedent; also, a little bit, we are concerned with such things as what other forms of assistance might be requested, such as sewers in a community, or other facilities which might be for the welfare, health, and safety of the people identified with atomic-energy projects.

There is also the other broader question which goes beyond the Hanford one, and that involves similar assistance in other atomic-energy projects, so we feel quite happy to have the whole thing explored by your committee since you have in mind these broader problems. There are now, I understand, a good many bills in the hopper—

Mr. JACKSON. I would like to say at that point that this hearing is not being held in criticism of anything the Commission has done. It is in recognition of a very difficult problem that must be solved, and the urgency of it I think at Hanford is quite apparent, because one of these school districts is now in the process of awarding a contract or calling for bids for a very substantial school construction program in the Kennewick school district. Is that not correct?

Mr. ALVES. Two or three others also.

Mr. JACKSON. And two or three others are in the same situation, and the facilities will not be available if the bids are called now or the awards are made.

Mr. DEAN. The Commission is quite aware of the need, Mr. Jackson. I am sure of that.

Mr. JACKSON. On the other hand, I would like to say, as chairman of this subcommittee, that I am aware of the problem the Commission faces; namely, working out of a formula that will be representative not of the responsibilities of the Atomic Energy Commission but of the responsibility of the Federal Government, if any, to the school districts in these impacted areas.

Mr. DEAN. That is the broader problem.

Mr. JACKSON. I would not want, for any one moment, to say or indicate that in my opinion the responsibility in a given area is greater because the Atomic Energy Commission is operating in that section than if the Army or the Navy or the Bureau of Reclamation or some other agency is operating in the area.

Mr. ALVES. Of course, this whole problem arises because of the absence of Federal Government policy.

Mr. JACKSON. That is right.

Mr. DEAN. That is very true.

Mr. JACKSON. It is also in recognition of the fact, Mr. Alves, that it is quite obvious, I think, that Congress will not get around to acting on this particular problem prior to adjournment, and we are confronted with a situation here in which, in this particular area, we will have to take some immediate steps, and I think that in considering from now on out in this hearing that factor should be borne in mind.

I realize we are confronted with a precedent problem, but we are also confronted with an emergency; so it is not as though we were sitting down to lay out a policy here that would be applicable to all Federal Government agencies in general. We are confronted—and

I would like to make that fact clear, as indicated by the report that is already in the record—with an emergency, so we have two problems: (1) The responsibility of the Federal Government in general and (2) the responsibility of the Federal Government in this emergency that exists, and that does cast a little different light on suggestions that the Commission may care to make in connection with this specific problem at the present time.

Mr. ALVES. Mr. Chairman, if the other gentleman has finished and it is the pleasure of the Chair, I would be glad to get some statement in here in connection with Commissioner Dean's request indicating that he thought I might supply information as to what the Federal Government had done in similar situations. I will be glad to do that.

Mr. DEAN. I only suggested that, Mr. Chairman, because I thought that might be your wish, and there were probably no other witnesses in the room who could do that better than Mr. Alves.

(The information referred to will be found on p. 44.)

Mr. JACKSON. The chairman might volunteer this information based on personal experience:

The Subcommittee on Interior Department Appropriations of the House, of which I am a member, made money available in the 1950 appropriations bill, which is still pending in the Senate, for the construction of school facilities at Grand Coulee Dam, growing out of a responsibility to the school children in that area, determined by the committee of the Federal Government.

The agency involved was the Bureau of Reclamation. The reason for making the money available for the school building and, as I recall, in its entirety, no deductions but building the entire school plant, was based on the premise that the taxable source of income for school construction in the State of Washington is limited to the real property available within the school district, except as to minor funds made available under the equalization law of the State of Washington.

In that particular school district, 90 percent of the land is owned by the Federal Government. The Bureau of Reclamation, through its operations in the area, has taken over virtually all of the land.

I cite that as the first case, I believe, where permanent construction has been made available in a given area, and this area, of course, is north of the Richland project at Grand Coulee Dam proper.

Mr. ALVES. May I make a comment off the record here?

Mr. JACKSON. Yes.

(Discussion off the record.)

Mr. JACKSON. All right, Mr. Dean.

Mr. DEAN. I have no further observations, Mr. Chairman, unless Dr. Smyth might add a word.

#### STATEMENT OF HENRY D. SMYTH, COMMISSIONER, UNITED STATES ATOMIC ENERGY COMMISSION

Mr. SMYTH. I would like to add just one or two words.

Mr. JACKSON. All right, Commissioner Smyth.

Mr. SMYTH. Of course, in repetition and in emphasis of what Mr. Dean said, I am unfamiliar with this type of problem, but it does strike me as possibly setting up a very difficult and dangerous precedent.

I have also been sitting here thinking about the other Atomic Energy Commission installations. There are a number of them, at

least two that I can think of: Brookhaven and Argonne. At those places the Commission has definitely avoided setting up any housing facilities or any village of any sort, and yet in at least one of them, the school problem is quite serious in there, I know, in getting people to go there, so that there is likely to be pressure from the professional employees at those installations to get assistance to the schools along these lines; and that raises a different kind of problem, and it is something to think about.

Mr. JACKSON. I think that comment or the comment that you have just made is a very timely one, and I think it spells out the importance of a proper formula being worked out by this committee in the form of possible recommendations to the Commission in dealing with this extreme difficulty.

I would like to make this observation, Dr. Smyth, and see how it strikes you: Would you say that in Kennewick, where the school population has increased by reason of the project, I think about fivefold in a very small community to start with—how many thousands of people at Kennewick?

Mr. ALVES. The school load increased about 300 percent.

Mr. JACKSON. Yes.

One of the factors I would think that would have to be considered is the relationship of the project to the population of the nearby area. Pasco and Kennewick are two very small communities, very small, and away from any large center of population. When the atomic energy program was set up it caused a terrific impact on that area, as compared with Oak Ridge to Knoxville.

Do you not think, first of all, that that is a consideration that is very necessary in working out any formula or even in considering the formula?

Mr. SMYTH. Yes; I think there is a great difference in degree.

Mr. JACKSON. Yes. The larger the nearby community, the greater the power of absorption. Shall we put it that way?

Mr. SMYTH. Yes.

Mr. JACKSON. To meet the impact in a given area.

New York City, or Los Angeles, or Chicago can absorb an increase in the Federal pay roll of 4,000 or 5,000 without noticing it; whereas, a community that only has perhaps 3,000 or 4,000 to start with as its entire population would be confronted with a problem that would be entirely different.

Mr. SMYTH. Yes; I think that is true.

Mr. JACKSON. I am just suggesting that as a point of consideration. It seems to me a very vital one in determining what the effect is going to be on any recommendation in connection with the specific emergency that we have at Hanford.

Mr. SMYTH. I believe that the Commission, with the help of the joint committee and others, can work out reasonable formulas to apply in various places. The general principle is something which the Congress will have to decide.

Mr. JACKSON. Yes. I appreciate very much your suggestion.

Mr. SMYTH. I think that is all I have to say.

Mr. JACKSON. Thank you, Dr. Smyth.

Now, would you like to proceed on the report and the letter that has been submitted by the Commission, Mr. Shugg, or proceed in whatever way you would like to proceed?

**STATEMENT OF CARLETON SHUGG, DEPUTY GENERAL MANAGER,  
UNITED STATES ATOMIC ENERGY COMMISSION**

Mr. SHUGG. I had in mind, Mr. Chairman, in making a statement originally that I should try to channel my remarks to three main points.

The first point would be to gather up the past history and bring it to where we are now, and then include the present survey and the needs which that survey presents.

The second point would be to just touch on the responsibility as it is quoted in the report of the Federal Government.

And the third point, in order to be responsive to the desire for action, to get right down to the Atomic Energy Commission's own position in the matter.

A good deal of that has already been covered, so I will only attempt to bring out what I think has possible been missed.

As regards the first point, summing up the situation to see where we are today, I believe we have to be clear as to whether there is an emergency as regards the coming school year.

The Commission has taken the attitude that under section 12 (a) (5) it was not only enabled but had a responsibility to take care of the welfare of the people connected with the project.

The manager at Richland, I believe, will already have—I think we should possibly make sure of it—under the past practice made sure that the emergency as regards the opening of the school year has been met on a temporary basis.

Mr. JACKSON. I should clarify my use of the word "emergency."

Previously, I indicated that there were two considerations: First, the over-all responsibility of the Federal Government to these impacted areas; and, second, the emergency situation that exists. I am using the word "emergency" in the sense that arrangements have to be made now for the school construction program that would be made available—I mean school facilities that will be available for the school year beginning 1950-51, and, as I understand it, the school districts are now in the process of trying to award some contracts or will this early fall, next month, so that they will be ready a year from now. It is an emergency in that sense.

I am well aware of, and I think there is no dispute of the fact, that the Commission has taken care of and made arrangements to take care of all of the students that they are responsible for, for the school year beginning next month and terminating next June.

Mr. SHUGG. Yes, sir; because we, without any prompting, have felt that was our responsibility and have, each year, endeavored to make sure that we were meeting the minimum temporary requirements for the following year.

The only statement that I can make is to lift the probably well-known fact as regards the Federal thinking on this point. Apparently a subcommittee release, dated July 21, 1949, of a Senate subcommittee states that during this session of Congress alone 40 bills have been introduced for the purpose of authorizing Federal financial assistance for school construction.

The third point, so far as the Atomic Energy Commission's ability in this situation is concerned, I believe it has already been brought out that the Commission considers that the enabling language which

has allowed it to proceed, as it has in the past years, is based on 12 (a) (5) which authorizes the Commission to provide, arrange for the housing, health, safety, and welfare of the personnel employed by the Commission.

Now, it has appeared, I believe, to the Commission that that requires a finding by the Commission and a factual finding as to what is necessary for the welfare of the persons employed by the Commission.

Now, a factual finding should probably recognize the difference between the districts. The need is not exactly the same in each district nor is the cost of fulfilling what need is determined the same for each district, and also a factual finding on which the Commission could really base its authority to contribute funds would also recognize the timing.

In the relations out there in Richland, prior to this committee, there was an attempt by the local Atomic Energy Commission personnel to avoid a uniform formula and to lump the situation, the actual needs of each of the six districts as being equal.

Now, we think that it is still worth noting that the only enabling language that we have is that in 12 (a) (5) and that, strictly speaking, the Commission is called upon to make a factual finding as regards any contributions it makes and to be able to find that they are necessary for the welfare of those employees.

Up to the present time, the Commission has not been able to make such a finding in regard to permanent style construction. To discuss all the phases of the matter, even if it were finally recognized that the particular Federal agency which should take care of the situation would be the Atomic Energy Commission, and assuming that we were enabled to do so by some legislative language or action, the matter of funds comes up, and there are no funds in the 1950 budget request which the Commission made for this assistance.

The Commission's 1950 budget request has not been acted upon by the Senate as yet, but there is every indication that it will suffer a very severe cut, so that at the end of all of these determinations which have yet to be made, in the end there would be a matter of money, and I think it should be pointed out that we have no excess funds. We expect to be very hard pressed to apply the funds which will be authorized by Congress to cover our original program, and the so-called vital parts of that program.

In the last thing to be borne in mind, perhaps, it is that there will be, and we can expect some form of restrictive language in regard to our use of funds for nontechnical facilities, at least. But I believe that the most difficult thing is to try to make a distinction between what facilities are needed for the welfare of those children and present presentation, which is that the facilities should be of a permanent type of construction, which may mean 20, 30, or 40 years of life, and that is, I believe, the thing which the Commission would have the most difficulty in making a factual finding about, as being included in those things necessary for the welfare of the employees.

That is all I have, sir.

Mr. JACKSON. We will now adjourn, subject to the call of the Chair.

(Whereupon, at 12:10 p. m., an adjournment was taken, subject to the call of the Chair.)



## HANFORD SCHOOL FACILITIES

THURSDAY, AUGUST 4, 1949

CONGRESS OF THE UNITED STATES,  
SUBCOMMITTEE OF THE  
JOINT COMMITTEE ON ATOMIC ENERGY,  
*Washington, D. C.*

The subcommittee met, pursuant to call, at 10:05 a. m., in room 1015, New House Office Building, Hon. Henry M. Jackson (chairman) presiding.

Present: Representatives Jackson (chairman) and Cole.

Also present: H. F. Alves, Director, Division of School Administration, United States Office of Education; Gordon E. Dean, Commissioner, Henry D. Smyth, Commissioner, Carleton Shugg, Deputy General Manager, and Everett L. Hollis, Deputy General Counsel, all of the United States Atomic Energy Commission.

Mr. JACKSON. The committee will come to order. Commissioner Dean, do you have a statement to make?

Mr. DEAN. It might be well to take up two or three items which are at hand showing that there are similar problems in the country. There is one thing that I noted particularly with respect to some of the examples which appeared in an appendix to a report to the Committee on Appropriations of the United States Senate, prepared in the Legislative Reference Service, Library of Congress.

Mr. JACKSON. Proceed, Commissioner Dean. You go ahead.

Mr. DEAN. This is not lengthy, and I do not think it will clutter up the record. As a matter of fact, it only goes for three pages. It will be appendix A of the report to the Committee on Appropriations of the United States Senate, Eighty-first Congress, first session, dealing with the education of children living on Federal reservations in localities particularly affected by Federal activities.

Mr. JACKSON. What is the document number? In connection with what appropriation is it?

Mr. HOLLIS. It was in connection with a study requested by various Members of the Congress and printed by the Senate Appropriations Committee at the suggestion of Senator Hayden and other interested Senators.

Mr. COLE. Dated July 21?

Mr. DEAN. I would suggest that you might wish to have that in there, particularly for the benefit of the full committee so that they will know that there are comparable situations. One of these is from South Carolina. There are two from Texas, one from Oklahoma, and one from Ohio, and I am sure there are many other examples available.

One deals with the impact on a community growing out of the establishment of an ordnance depot; another, in the case of the Charleston Navy Yard; another in the case of an Air Force base, another in the

case of an Air Force base, and another in the case of a federally owned shipyard operated by a private company which was built in the district.

Mr. JACKSON. Mr. Dean, do they relate to requests for funds for permanent school construction or for temporary construction?

Mr. DEAN. I do not think that the request is specifically directed one way or the other. It is simply a description of the problem.

Mr. JACKSON. It points out the problem?

Mr. DEAN. That is right. As a matter of fact, I do not think there is a distinction between construction, on the one hand, and operating contributions on the other.

(The examples referred to are as follows:)

[From "Education of Children Living on Federal Reservations and in Localities Particularly Affected by Federal Activities," Committee on Appropriations, U. S. Senate, 81st Cong., 1st sess.]

#### (Appendix A)

#### EXAMPLES OF THE EFFECT OF FEDERAL ACTIVITIES ON THE ABILITY OF COMMUNITIES TO MAINTAIN AND OPERATE SCHOOLS

##### *Pantex, Tex.*

At the beginning of the war land was acquired in Carson County, Tex., for construction of the Pantex ordnance depot. The only land available at the time to provide housing for the employees to operate the depot was located within the depot boundaries. The Department of the Army gave the FPHA a use permit for sufficient land to construct 300 housing units. It was later found that additional housing units were needed and the FPHA obtained additional land immediately across the road from the ordnance depot to construct another hundred federally owned housing units.

The State of Texas designated the boundaries of the depot and the housing across from it as an independent school district. No school facilities or other community facilities were provided for this area. It was necessary to transport all school children to Amarillo, Tex., and to pay the cost of transportation and tuition. The situation during the present school year is typical of what has existed in this school district for the past several years. There are approximately 250 children living in the housing projects. The 300 housing units located on Army property make no payments in lieu of taxes for any purpose because they are constructed on Government-owned property. The 100 housing units located off the depot pay about \$2 per child for school purposes. State aid for this district equals \$55 per child, making a total of State and local income available to the school district of \$57 per child. Tuition in Amarillo, based on the per pupil cost in that city, is \$160.64 per child, leaving \$103.64 deficit per child after all State and local revenue is considered. This situation is the result of Federal activity. The school district has no authority to levy taxes or to alter the situation. It depends entirely on Federal action for the amount of money it receives for education of its children.

##### *Cooper River school district No. 4, North Charleston, S. C.*

Immediately prior to World War II, enrollment in the Cooper River school district was 3,540. During the war employment in the Charleston Navy Yard, a federally owned ship-building installation, was greatly expanded and in addition the Charleston Army air base and the Charleston Army depot were constructed in the district. In order to house the large influx of persons who came to work at the federally owned tax-free installation, the FPHA built approximately 3,000 housing units in the district. School enrollment reached a peak figure during the war of 10,356; an increase of approximately 7,000 due solely to activities of the Federal Government. Since the war enrollment has dropped to approximately 8,700, which is twice the number enrolled prior to the war.

The assessed valuation for each enrolled child in 1939, the last normal year, was \$2,000. In 1948 the assessed valuation had dropped to \$1,200 per pupil. Payments in lieu of taxes on the usable housing units in the district amounts to \$26 per year, which is approximately one-fifth of the local share of the cost of educating the children that live in the housing project. In addition, there are 335 housing units in the district under jurisdiction of the Navy on which no payments in lieu of taxes are made.

The school district has raised its assessed valuation and increased its tax levies to the point where home owners are paying almost twice the tax rate that was

necessary to pay before the war and still the school district has a deficit each year of approximately \$100,000 for maintenance and operation of its schools.

*Midwest City, Okla.*

Midwest City was a small school district located in a sparsely settled area adjacent to Oklahoma City. Tinker Field, a technical Air Forces base, was constructed within the school district during the war at a reported cost running into hundreds of millions of dollars.

Before this field was constructed there were just over a hundred children enrolled in the public schools. The large number of employees at the base increased the enrollment until it reached 1,200 for the 1946-47 school year and was approximately 2,200 for the 1947-48 school year. Activities at the base are being increased with the expanded defense program and the enrollment the first week of school for the 1948-49 school year was 2,600.

This phenomenal increase in school enrollment was the direct result of Federal activities. The installation at which the majority of the people are employed, which is equivalent to an industrial establishment, pays no taxes because it is owned by the Federal Government. The school district has received assistance from the Lanham Act each year since the impact of new population. It could amply finance its schools if the federally owned property was under private ownership and paid the normal amount of taxes.

*Mad River Township, Ohio*

This school district is located adjacent to the Wright-Patterson Air Forces base. The school census increased from 836 children in 1939 to 2,591 children at the beginning of the 1946-47 school year. This increase was more than 200 percent. During this period over a million dollars worth of taxable property was removed from the tax rolls by the expansion of the federally owned airfield. Just prior to World War II the school district had bonded almost to its legal limit to build additional school buildings. The reduction of taxable property resulting from acquisition of land by the Federal Government left the remaining taxpayers to pay the standing bonded indebtedness. During the 1946-47 school year 300 elementary children were on half-day sessions and it was necessary to transport 373 high-school students to an adjoining school district at a tuition of \$170 per child per year. Twenty-six of the forty-six classrooms in the district were in leased buildings and many of them very unsatisfactory for school purposes. Just prior to the beginning of the 1948-49 school year a trailer camp accommodating several hundred trailers was placed in the school district, again increasing the school enrollment but adding very little to the assessed valuation.

Prior to the war this district had \$3,327 of assessed valuation for each school child. In 1947 the assessed valuation had dropped to \$1,637 for each child because of acquisition of land by the Federal Government and increased enrollment. The assessed valuation per child to be educated is a good measure of a school district's ability to finance school services.

*Orange, Tex.*

Prior to the war Orange independent school district, Orange, Tex., had a total population of approximately 10,000 people and a public-school enrollment of roughly 2,000. A federally owned shipyard operated by a private company was built in the district. The population increased to a peak of 40,000 and school enrollment reached 8,300, a 400 percent increase. A substantial number of the immigrant war workers were housed in federally owned war housing projects.

When shipbuilding was discontinued after the cessation of hostilities the school population dropped to 6,200 and in the 1947-48 school year was 5,500 students. This is still 150 percent increase over the normal prewar period. Although shipbuilding was discontinued the Department of the Navy maintained a large area of valuable river-front property as a berthing station which employs a substantial number of people and no taxes are received on this property.

Approximately 40 percent of the current school enrollment comes from the 3,000 federally owned housing units. The payments in lieu of taxes on these amounts to less than one-fifth of the actual cost of educating the children living in the housing projects. In addition, the Navy operates a federally owned housing project of 500 family units upon which no payments in lieu of taxes are made.

The school district has increased its assessed valuation to the point where it is twice as great in 1948 as it was in 1946. The tax rate for maintenance and operation is at the legal limit and the residents of the city have apparently done everything in their power to meet the full cost of elementary and secondary education. Even after this effort has been made the school district was dependent upon the FWA for \$200,000 to meet the deficit in the maintenance and operation of their schools for the 1947-48 school year.

Mr. JACKSON. Is there anything else?

Mr. DEAN. There is one other thing that I thought you might want to have reference to—certainly not included verbatim—and that would be the debates in the House so that the full committee would have it pointed up to them.

Mr. JACKSON. I think that possibly at this point in the record we might have included a synopsis of proposals that have been submitted in the form of bills in connection with this and similar educational grants. Is that agreeable?

(The information referred to is as follows:)

**DIGEST OF BILLS INTRODUCED IN THE EIGHTY-FIRST CONGRESS AUTHORIZING FEDERAL CONTRIBUTIONS FOR THE CONSTRUCTION OF SCHOOL BUILDINGS IN CERTAIN AREAS**

H. R. 1972. Mr. Tollefson; January 27, 1949 (Education and Labor).

Authorizes \$20,000,000 for fiscal year 1950 for grants by the Federal Works Administrator to local agencies overburdened with war-incurred or postwar national defense incurred school enrollments. Grants may be used to construct, remodel, lease, etc., school facilities, provide approaches, etc., thereto and procure materials, equipment, supplies, etc., for such facilities.

H. R. 2423. Mr. Tollefson; February 7, 1949 (Education and Labor).

Authorizes \$150,000,000 for grants by the Federal Works Administrator to local school districts overburdened with war-incurred or postwar national defense incurred enrollments.

Prescribes terms and conditions of grants for construction of school facilities by the school districts.

Prescribes conditions under which the Administrator may construct needed school facilities and make them available to school districts.

The grant for any project shall be equal to 50 percent of the cost of the project.

H. R. 2617. Mr. Lanham; February 10, 1949 (Education and Labor).

Authorizes \$150,000,000 for grants by the Federal Works Administrator to local school districts overburdened with war-incurred, or postwar national defense incurred enrollments.

Prescribes terms and conditions of grants for construction of school facilities by the school districts.

Prescribes conditions under which the Administrator may construct needed school facilities and make them available to school districts.

The grant for any project shall be equal to 50 percent of the cost of the project.

H. R. 3230. Mr. Miller of California; March 3, 1949 (Education and Labor).

Authorizes \$150,000,000 for grants by the Federal Works Administrator to local school districts overburdened with war-incurred, or postwar national defense incurred enrollments, "or by Federal activity in such district."

Prescribes terms and conditions of grants, for construction of school facilities by the school districts.

Prescribes conditions under which the Administrator may construct needed school facilities and make them available to school districts.

The grant for any project shall be equal to 50 percent of the cost of the project.

H. R. 3487. Mr. Curtis; March 11, 1949 (Education and Labor).

Authorizes \$150,000,000 for grants by the Federal Works Administrator to local school districts overburdened with war-incurred, postwar national-defense-incurred, or certain Government construction-incurred enrollments.

Provides that grants for construction of school facilities by the school districts shall be conditioned upon the specifications being approved by State and local law.

Prescribes conditions under which the Administrator may construct needed school facilities and make them available to school districts.

The grant for any project shall be equal to 50 percent of the cost of the project.

S. 137. Mr. Robertson of Virginia; January 5, 1949 (Labor and Public Welfare).

Educational Facilities Finance Act—Authorizes the Reconstruction Finance Corporation to make grants totaling \$300,000,000 and loans totaling

\$300,000,000 to the States for elementary and secondary school buildings, and appurtenances and permanent equipment necessary to the proper functioning of such buildings.

Loans and grants are restricted to 50 percent of total cost of educational facilities.

- S. 287. Mr. Neely; January 10, 1949 (Labor and Public Welfare).

School Construction Act—Authorizes \$98,000,000 for fiscal year beginning July 1, 1949, and \$490,000,000 for each of the next five succeeding years for allotment to States to assist them in the construction of public elementary- and secondary-school facilities.

- S. 1263. Mr. Butler; March 16, 1949 (Labor and Public Welfare).

Authorizes \$150,000,000 for grants by the Federal Works Administrator to local school districts overburdened with war-incurred, postwar national defense-incurred, or certain Government construction-incurred enrollments.

Provides that grants for construction of school facilities by the school districts shall be conditioned upon the specification being approved by State and local law.

Prescribes conditions under which the Administrator may construct needed school facilities and make them available to school districts.

The grant for any project shall be equal to 50 percent of the cost of the project.

- S. 1670. Mr. Humphrey; April 22, 1949 (Labor and Public Welfare).

Appropriates \$500,000,000 per year for the fiscal year ending June 30, 1950, and each of the five succeeding years for the construction of elementary and secondary public schools under the administration of the United States Commissioner of Education. To be eligible for aid, in an allotment based on per capita income and school population between the ages 5 and 17, each State must submit an acceptable detailed plan of action to the Commissioner, which plan must be adhered to if the State is to remain eligible. Provision is made for emergency construction out of the first year's allotment.

- S. 1699. Mr. Bricker; April 26, 1949 (Labor and Public Welfare).

School Construction Act of 1949: Authorizes \$3,000,000 to be paid to the States for an inventory of existing school facilities and for a survey of the need to construct additional facilities.

Authorizes \$250,000,000 for the year 1950, and each of the next 4 years for allotment to the States to assist them in the construction of public pre-elementary, elementary, and secondary school facilities. Funds shall be apportioned to each of the States, with the Commissioner determining the amount of the Federal contribution on the basis of need, but in no case less than 40 percent nor more than 90 percent of the cost.

In administering the act, the Commissioner shall consult with a Federal School Council, consisting of persons outstanding in fields pertaining to education.

- S. 1914. Mr. Hoey; May 23, 1949 (Labor and Public Welfare).

Authorizes \$231,000 for cooperation with the public-school authorities of Person County, N. C., in the construction of a school building, to be available to all Indian children of that county and Halifax County, Va., without discrimination.

- S. 200. Mr. McCarran; June 7, 1949 (Labor and Public Welfare).

School Construction Act: Authorizes the Federal Works Administrator to make loans and grants to local school agencies for the construction, remodeling, etc., of school facilities which have been approved by State educational authorities. Grants shall be in amount equal to 50 percent of the cost, subject to increase up to a maximum of 75 percent in the case of public-lands States. Supervision or control by the Federal Government is prohibited. Necessary annual appropriations are authorized.

- S. 39. Mr. McCarran; January 5, 1949 (Public Works).

School Construction Act: Authorizes the Federal Works Administrator to make loans and grants to local school agencies for the construction, remodeling, etc., of school facilities which have been approved by State educational authorities. Grants shall be in amount equal to 50 percent of the cost, subject to increase up to a maximum of 75 percent in the case of public-lands States. Supervision or control by the Federal Government is prohibited. Necessary annual appropriations are authorized.

- S. 834. Mr. Magnuson and others; February 7, 1949 (Public Works).

Authorizes \$150,000,000 for grants by the Federal Works Administrator to local school districts overburdened with war-incurred, or postwar national defense-incurred enrollments.

Prescribes conditions under which the Administrator may construct needed school facilities and make them available to school districts.

The grant for any project shall be equal to 50 percent of the cost of the project.

S. 1085. Mr. Stennis; February 25, 1949 (Public Works).

Authorizes \$150,000,000 for grants by the Federal Works Administrator to local school districts overburdened with war-incurred, or postwar national defense-incurred enrollments, "or by Federal activity in such district." Prescribes terms and conditions of grants, for construction of school facilities by the school districts.

Prescribes conditions under which the Administrator may construct needed school facilities and make them available to school districts.

The grant for any project shall be equal to 50 percent of the cost of the project.

S. 2317. Mr. Humphrey and others; July 22, 1949 (Labor and Public Welfare).

School Construction Act: Authorizes \$5,000,000 to assist States to inventory existing school facilities, to survey the need for construction of additional facilities in relation to distribution of school population, to develop State plans for school-construction programs and to study the adequacy of State and local resources available to meet school facilities requirements.

Title II authorizes "such sums and for such fiscal years as Congress may determine" to assist the States in the construction of public elementary and secondary school facilities. Sums are also set aside for emergency school construction by reason of war activities, transition from war to peacetime conditions, reactivation or expansion of defense establishments, construction or operation of new defense establishments, or by reason of Federal activities.

Mr. DEAN. If you simply want a reference to this particular day's debate, it occurred in the House of Representatives on July 27, 1949, of the Congressional Record for that day, at page 10506 and following.

Mr. JACKSON. Commencing on which page?

Mr. DEAN. 10506.

Mr. JACKSON. All right, fine.

Mr. DEAN. That was the only suggestion I had that might fill out the record.

(Discussion off the record.)

Mr. ALVES. I would like at some point to provide a statement to show that the Federal Government has set plenty of precedents to accept this kind of obligation, if that fits here—I am not sure that it does.

Mr. JACKSON. Yes. That is all very relevant, and I think that information ought to be included.

Mr. ALVES. Probably this is not the point where it should be included.

Mr. JACKSON. This is the point, and you can supply it in the next day or two, so that it will be in the record.

Mr. ALVES. Yes.

(The document referred to is as follows:)

#### FEDERAL FUNDS MADE AVAILABLE FOR AND USED IN CONSTRUCTING SCHOOL BUILDINGS LOCATED OFF FEDERALLY OWNED PROPERTY

#### FEDERAL FUNDS (LANHAM ACT) FOR SCHOOL BUILDINGS DURING THE DEFENSE AND WAR PERIODS

During the defense and war periods (World War II) provision was made through Lanham Act funds to assist school districts in providing needed buildings for increases in school load occasioned by defense and war impacts. This program was administered by the Federal Works Agency. No attempt is made herein to provide exact figures. Some of these school buildings were constructed on federally owned property. An example would be the school buildings erected in the Plainview School district, Kansas, where the district consisted entirely of a Federal public housing project. Most of these buildings were built off Federal property.

In a large number of these cases local district contributions were made to cover a part of the total cost of the school building project. In numerous instances, however, the school building was a 100 percent federally constructed building. The title was placed then in the Federal Government, pending possible negotiation for settlement. The title still remains in the Government for a number of these buildings which are still used for school purposes by the districts in which the buildings are located.

FEDERAL FUNDS FOR SCHOOL CONSTRUCTION AS SET FORTH IN THE INTERIOR  
DEPARTMENT APPROPRIATION BILL, 1950

Considerations below are reported in Senate Report No. 661 (to accompany H. R. 3838) filed July 13, 1949:

*Education of Indians*

"\* \* \* The total recommended by the committee is \$282,000 in excess of the revised budget estimate, \$12,700,000, and this increase is due largely to the fact that the House earmarked items totaling \$282,000 not in the 1950 estimates, for which the committee is recommending that funds in the amount of \$270,000 be included in the bill. \* \* \*

"The break-down of the increase recommended by the committee follows:

(1) Operation after conversion for school purposes of the Bushnell General Hospital plant, Utah (Chee Dodge School), proposed in a supplemental estimate, S. Doc. 47-----	\$500, 000
(2) Eufaula School, Oklahoma, for which the House earmarked funds but did not include an appropriation-----	70, 000
(3) Pipestone School, Minnesota, for which the House earmarked funds but did not include appropriation-----	200, 000
(4) Repairs and improvements, Kinishba Museum, Arizona-----	6, 000
(5) Crafts program, Anadarko, Okla.-----	6, 000
Total increase recommended-----	782, 000"

(The House committee in its Report No. 324 (to accompany H. R. 3838) filed March 28, 1949, made the following statement with reference to the approval by the committee of the 1950 estimate of \$12,200,000 for the education of Indians: "In approving \$12,200,000 for education, the committee intends that \$200,000 should be devoted exclusively to the operation of the Pipestone School, Minnesota, and that \$70,000 be utilized for the operation of the Eufaula School, Oklahoma. These nonreservation boarding schools are expected to be continued in operation.")

*Truxton Canon, Camp Verde, Ariz.*

"The committee recommends that the following language be added to the bill: "Truxton Canon, the prior year appropriation of \$8,000 for the replacement of the Camp Verde, Arizona, Indian School is hereby made available for cooperation with the public school district of Camp Verde, Arizona, for public school facilities;".

"In 1946 the Camp Verde Indian School burned. The \$8,000 later appropriated for rebuilding this school has not been used because arrangements were made with the Camp Verde School district of the Arizona public schools to take the children into the public schools. At the Senate hearing the committee was advised that the Indian Bureau has a request from the Arizona State Department of Education to transfer to the Camp Verde public school the \$8,000 to assist the State in a program of enlargement of its public schools, and the committee recommends that this request be approved."

Advances to Colorado River Dam fund, Boulder Canyon project----- \$500, 000

"The \$500,000 increase proposed by the committee which will provide a total appropriation of \$6,761,650 for this project, is earmarked for the second unit of the Boulder City Schools.

"As the bill passed the House, \$25,000 was included in the bill for this school. "Enrollment in the Boulder City schools has steadily increased each year since the establishment of the schools in 1932. Progress is being made in providing facilities for classrooms, study hall library, and administrative personnel in the first unit, and the second unit of the high-school plant is needed to provide a gymnasium, shop classroom building, and an auditorium. A large percentage of the community is occupied by Government residences and public buildings, and there is insufficient tax base for financing the construction of school facilities."

*Columbia Basin project, Washington*

"The committee concurs in the statement on page 13 of House Report No. 324 (81st Cong., 1st sess.) that of the funds appropriated for this project \$225,000 be used for new school construction and \$100,000 be devoted to repair and improvement of existing school facilities at Coulee Dam, Wash., and recommends that proportionate amounts, based on the relative enrollment of the dependents of reclamation and contractor employees, be expended on school facilities at Grand Coulee, Wash., in accordance with Public Law 835, Eightieth Congress."

This committee action proposes Federal funds for the construction of school facilities at Coulee Dam as well as in the Grand Coulee School district.

## FEDERAL FUNDS FOR SCHOOL CONSTRUCTION BY ARMY ENGINEERS

Authorization Public Law 526, Seventy-ninth Congress, second session, for expenditure of funds for school construction in connection with the following projects:

Harlan County, Nebr.	Detroit Reservoir, Oreg. <sup>2</sup>
Garrison Reservoir, N. Dak.	Dorena Reservoir, Oreg. <sup>2</sup>
Clearwater Reservoir, Mo.	Lookout Point Reservoir, Oreg. <sup>2</sup>
Fort Randle, S. Dak., Lake Andes. <sup>1</sup>	Bull Shoals Reservoir, Ark.

The United States Office of Education has been advised by a representative of the Arkansas State Department of Education to the following effect:

A grant of \$60,000 was made by the Army engineers for use by the local school district in constructing a new school building. The district supplemented the \$60,000 grant with \$30,000 district funds and constructed a permanent one-story building, known as the Mountain Home School, which was occupied early in the calendar year 1949 for high-school purposes.

In addition to making the grant of \$60,000 for school construction, Army engineers have also made a grant of approximately \$10,000 this past year to supplement the current budget of the school district.

Public Law 782, Eightieth Congress, second session, extended the above list to include the following:

Fulson Reservoir, Calif.	Pine Plant Reservoir, Calif.
Isabella Reservoir, Calif.	Oahe Reservoir, S. Dak., Pierre. <sup>1</sup>

Mr. JACKSON. I cited the case at the last hearing of the appropriation approved by the House and concurred in by the Senate Appropriations Committee in connection with the Interior Department appropriations bill, which made funds available for permanent school construction at Grand Coulee Dam, growing out of the activities of the Bureau of Reclamation in that area. That is the only specific situation—which again is not identical with Richland—and as one will find in practically all of these cases, the facts are somewhat different, but you still have the same basic question of policy to be decided.

Mr. ALVES. I am having a check made over the last 5 years or longer, if necessary, of any and all activities where the Federal Government has assisted in providing school facilities.

Mr. JACKSON. And with particular reference to funds made available for permanent school construction.

Mr. ALVES. Yes. I do not have that statement prepared now but I will have it in the next day or two.

Mr. JACKSON. Supply it for the record.

Have you anything else?

Mr. COLE. I think, Mr. Chairman, it is important to have in the record other situations where the Federal Government has aided local education.

<sup>1</sup> Although specific information has not been supplied, the United States Office of Education has been advised by a representative of the Army engineers that school buildings have been built off reservations with Federal funds supplied by Army engineers.

<sup>2</sup> The Office of Education has been advised by a representative of the Army engineers that some school plant facilities have been built off these reservations with Federal funds.

Mr. ALVES. Yes.

Mr. COLE. In order to determine the precedents for this action by the Commission, but I also think it would be important to have in the record other problems of a similar nature which the Commission itself has, and which this act, in itself, establishes a precedent for the Commission's action.

Mr. DEAN. We are concerned with that, Mr. Cole. I think I mentioned the last time, for example, we may have demands made upon us for the construction of sewers in the community where the demand is heavy. There may be demands for the construction of additional water facilities where there has been an attack on the water supply in that community.

We have a request at the present time for—I do not know how formalized this is, Mr. Shugg—but I believe it is in the works for the construction of a bridge along the Columbia River because of the additional traffic that is involved as a result of the installation out there, and I am sure——

Mr. COLE. Well, can you not go further than to say that you may have a demand for assistance in sewage and water, because have you not already had demands out there for water?

Mr. DEAN. Yes; we have.

Mr. COLE. But how about other localities with respect to school assistance?

Mr. DEAN. We have the same problem there.

Mr. COLE. Does that exist? Where are they and how substantial are they?

Mr. DEAN. That matter was gone into slightly at the last hearing, and I think it was agreed that there is a difference in degree between the Hanford project, on the one hand, and the dislocation which would be comparatively slight in the case of Chicago, for example, where the school system could literally devour the burden without any trouble. But you will come to communities such as Oak Ridge and others where you are on the line again, and it will be hard to make the determination as to whether it is a proper expenditure of Federal funds.

Mr. COLE. I am wondering whether it is not possible to work out a formula by which it is determined that this expenditure for Hanford is justified by correlating the increased direct school load in a given school district to the existing school load which in this, in the Hanford situation, is striking. What the percentage is, I have no idea, but in the Chicago area it would be insignificant.

Mr. JACKSON. Could we not agree upon the few general principles, I mean, along that same line?

Mr. COLE. I was going to ask Mr. Alves if there is a yardstick by which the increased school load occasioned by Federal students is measured in terms of percentages.

Mr. ALVES. There is no universally accepted yardstick. However, I would like to call attention to, I think it is the first finding of the committee report, which, in effect, sets two or three principles concerned with this very problem.

Mr. COLE. Let me ask it a little bit differently—that finding is already in the record, Mr. Alves, and there is no need to repeat it—but what is the lowest percentage increase of any of the school districts, the six school districts, in the Hanford area caused by direct Federal students? Is that figure available?

Mr. ALVES. That is available, sir, 68 percent. The highest is 268 on the basis of data reflecting average daily attendance, and it also shows in another table that increase year by year since 1942-43.

Now, what I had reference to a minute ago in the committee report, the committee felt that if the increase was insignificant there was no case at all, so that its first finding was that the increase was excessive.

Mr. COLE. Certainly it seemed to me that where the increase exceeds 50 percent that local communities are justified in asking for assistance. It is not right for the Federal Government to expect the local communities to absorb that 50 percent increased load.

Mr. ALVES. I think attempting to measure it only by percentage of increase would not be too fair. A district might have a 50-percent increase in the last 2 years, but previous to that have used up its total fiscal ability to build buildings that it had on hand, so it would not make any difference whether it was 50 percent or 40 or 30. It would still be unable to help itself.

However, there is a low point—I do not think it ought to be the basis of one or two or three or four or five; that percentage would vary in accordance with the size of the district.

Specifically if you had a district that had only, say, 60 pupils, and you added 25, it might create as much of a problem as if you added 200 in a district that had 10,000 or more.

Mr. JACKSON. Mr. Alves, could we not lay down, say, three or four principles here that might possibly make a little sense? From what has been testified to so far, No. 1 is that the fact that the Federal Government may have certain students of the families that are employed by it in a given area does not in and of itself place any responsibility upon the Federal Government to provide school assistance in that area. I think everybody can agree in that.

That the liability, if any, in each given area must be based on certain considerations, (a) the impact that this particular activity may have on the school economy in the area affected; (b) in determining that impact, consideration must be given to the efforts made within the legal framework of the school district to provide in every way possible for education of the students in the school district out of its own local funds; (c) the difference between what the local area is able to do—and by “local area,” I include the State itself—is a problem and a consideration for the Federal Government.

Now, that observation—and it is just an observation, one out of the hat—but I toss it into the hopper for what it is worth, so that boiled down, all you can do is to try to work out some general principles that may not be universal in application, but they can be considered in coping with a given situation in a given area.

Mr. HOLLIS. Mr. Jackson, I wonder if it would be helpful in the record also to refer to this report that Mr. Dean referred to earlier, a report prepared by the Legislative Reference Service for the Senate Appropriations Committee.

It points out that the Lanham and Landis Act extensions, the act and the extensions, as the report says, “have been based on the assumption”—I am quoting now—

that in a few years the school district will be able to make the necessary adjustment to finance school services without Federal assistance.

Then, in connection with that, the comment of the debate in the House of July 27, that the Committee on Labor and Education, I believe it is, in appointing a subcommittee to go into the broader and

more difficult problem of permanent assistance, that is related to the difficult problem that we have here.

Mr. ALVES. Mr. Chairman, if I may comment, that is related to current expense only.

Mr. JACKSON. The Lanham funds.

Mr. ALVES. Yes; and Landis funds. There are no facilities——

Mr. HOLLIS. I commented on the possible relevance of the congressional understanding, the congressional assumption, that over a period of time that would occur—whether it is a valid assumption or not.

Mr. JACKSON. Incidentally, I believe it is taken into consideration in the record made by the committee, as I recall, and the committee tried to work out a formula which would be indicative of the gain to the area in the form of revenue of a period of time by reason of the Federal activity.

In other words, it is a balance of the liabilities and the assets of the project, recognizing that in time the taxable revenue in the area will increase by reason of the project, and deductions have been made for that consideration in the report.

Mr. ALVES. Mr. Chairman, I think I am supposed to supply one other bit of information at the request of the Chair, and that is with reference to, as the Chair requested, the relative position of the State of Washington with reference to funds provided by the State and the local district for the support of public schools.

The most recent information available on that question will be found in the report entitled "The 48-State School Systems" issued a few months ago by the Council of State Governments.

Effort can be measured by the percent of the total income payments to individuals for a given year represented by revenues from State and local sources allocated for public school purposes.

It is generally agreed that so far as a single measure is concerned that income payments to individuals constitute the best single measure——

Mr. COLE. What is income payment to an individual?

Mr. ALVES. It is income earned by individuals in the State, earned therein or out of the State.

Mr. COLE. You mean the average per capita income?

Mr. ALVES. No. In this case I am talking about the total income. You could convert it to an average.

Mr. COLE. You said the income payments to the individual——

Mr. ALVES. Yes, sir.

Mr. COLE (continuing). Which does not mean much to me, unless by that you mean the average per capita income for a given locality.

Mr. ALVES. You could add——

Mr. JACKSON. You could give gross incomes.

Mr. ALVES. You could add all incomes of all of the individuals in the State together and get a total income, and that is the figure supplied by the United States Department of Commerce.

Mr. JACKSON. The total State income as distinguished from national income.

Mr. ALVES. It is not the total State income. It is the total of income payments to individuals, such income earned in or out of the State.

Mr. JACKSON. Yes. Well, the total income of the United States last year was \$225,000,000,000, which is income earned by individuals from all sources.

You are putting it on the State level, the same thing on the State level.

Mr. ALVES. Table 3 in this report that I referred to sets forth the ratios of State and local revenues for public schools, and for public education, including colleges, to the total income in each State, and also sets forth the percentages of State and local revenues allocated to public schools for the year 1947-48.

During that year the median percentage for public-school purposes of the total income represented by revenues from State and local sources in the 48 States was 2.3. That is for the 48 States, as a group, 2.3 of the total income in the 48 States was allocated for public schools.

Mr. COLE. What is the highest?

Mr. ALVES. At that same time the State of Washington allocated 2.6 of its income which, when arranged in accordance with rank for the 48 States, places Washington fourteenth, with three other States having the same ranking, South Carolina, Oregon, and North Dakota, each of which allocated 2.6 of its total income payments for public schools.

Mr. COLE. What is the highest percentage?

Mr. ALVES. The highest percentage is New Mexico with 3.6. The median is 2.3, and the low is 1.5.

Mr. JACKSON. What State is that?

Mr. ALVES. The low is 1.4, Illinois, which, by that percentage rating, becomes forty-eighth.

Mr. COLE. That is not a very extensive table, and why do we not put that whole thing into the record as a matter of interest.

Mr. ALVES. All right, I will be glad to place the whole table in the record.

(The table referred to is as follows:)

TABLE 1.—Percentages of total income <sup>1</sup> represented by revenues from State and local sources for public schools (K-12)

[Data below from table 3, p. 177, The Forty-eight State School Systems, Council of State Governments, Chicago, Ill., 1949]

State	1947-48	Rank	State	1947-48	Rank
Alabama.....	2.5	17.5	Nevada.....	2.3	23.5
Arizona.....	3.2	2	New Hampshire.....	<sup>2</sup> 1.9	36.5
Arkansas.....	2.3	23.5	New Jersey.....	2.2	27.5
California.....	2.1	31	New Mexico.....	3.6	1
Colorado.....	2.3	23.5	New York.....	<sup>3</sup> 1.8	39.5
Connecticut.....	1.5	46.5	North Carolina.....	<sup>2</sup> 2.6	14
Delaware.....	1.7	43.5	North Dakota.....	1.9	36.5
Florida.....	2.9	6.5	Ohio.....	1.8	39.5
Georgia.....	2.1	31	Oklahoma.....	2.7	10.5
Idaho.....	2.7	10.5	Oregon.....	2.6	14
Illinois.....	1.4	48	Pennsylvania.....	<sup>2</sup> 1.7	43.5
Indiana.....	2.4	19.5	Rhode Island.....	1.7	43.5
Iowa.....	<sup>2</sup> 3.0	5	South Carolina.....	2.6	14
Kansas.....	2.3	23.5	South Dakota.....	2.9	6.5
Kentucky.....	2.2	27.5	Tennessee.....	<sup>2</sup> 2.4	19.5
Louisiana.....	2.6	14	Texas.....	2.8	8.5
Maine.....	1.8	39.5	Utah.....	3.1	3.5
Maryland.....	2.1	31	Vermont.....	2.1	31
Massachusetts.....	1.5	46.5	Virginia.....	2.0	34.5
Michigan.....	<sup>2</sup> 2.3	23.5	Washington.....	2.6	14
Minnesota.....	2.5	17.5	West Virginia.....	2.8	8.5
Mississippi.....	2.3	23.5	Wisconsin.....	<sup>2</sup> 1.7	43.5
Missouri.....	2.1	31	Wyoming.....	2.0	34.5
Montana.....	3.1	3.5			
Nebraska.....	1.8	39.5	Median.....	2.3	-----

<sup>1</sup> Total income payments to individuals for 1947. Source: U. S. Department of Commerce, Survey of Current Business (August 1948), p. 18.

<sup>2</sup> 1946-47 data.

<sup>3</sup> Estimated by State authorities.

Mr. JACKSON. Do you have a break-down for special activity, such as funds for school buildings, operation, and maintenance?

Mr. ALVES. I do not have that with me, but I can supply that. The most recent data that are tabulated for all the 48 States are nearly 2 years old, and I was trying to get more recent data. I am trying to get, if not for all the States, a representative number of States which would show these expenditures.

Mr. JACKSON. You feel that the table that you have just submitted is a pretty good index on the effort being made by the respective States?

Mr. ALVES. It certainly is in terms of the measure indicated, which is generally accepted, not only in educational circles, but in business circles, illustrated by the fact that the Department of Commerce uses that consistently.

Mr. JACKSON. Is there anything else we need to put into the record now?

Mr. SHUGG. There is one point I think that would be more complete as an answer to Mr. Cole's question as regards the percentage increase.

The percentage increases which Mr. Alves read, I believe, are the percents which represent the total increase in the school enrollment. It includes both the federally incurred and the nonfederally incurred.

Mr. COLE. Well, that was not what I intended.

Mr. SHUGG. No. I have very briefly here some figures. If I take table 1 of the committee report, and if I take their 1942-43 average daily attendance, and multiply that by 1.1, which is the same factor that the committee used to translate average daily attendance to estimated enrollment, I can compare and give you very shortly the federally incurred percentage, which is in column 8, and if that is of interest, Mr. Cole, I can read that.

The first column will be the name of the school district, the second column will be its estimated total enrollment in the year 1942-43, and the third column will be the federally incurred increased estimated enrollment for 1948-49, and then the last column will be the percentage.

Grandview, 1942-43, 691; federally incurred increase in the most recent year 202. That is the percentage of possibility 30 percent.

Kennewick, 1942-43, 849; federally incurred 1,573. That is an increase of 200 percent.

Kiona-Benton City, 1942-43, 165; federally incurred 242; an increase of 150 percent.

Pasco, 1942-43, 866; federally incurred 572; an increase of 66 percent.

Prosser, 724; Federal increase 237, or 32 percent.

Sunnyside, 1,540; federally incurred increase of 440, or 28 percent.

That makes the average increase represented by the federally incurred load 67 percent. The high is Kennewick, with 200 percent, and the low is Sunnyside with 28 percent.

That is simply indicative of how much the situation varies in each one of the six districts, from 28 to 200 percent.

Mr. JACKSON. Do you think it is an area, Mr. Shugg, that should be treated in its entirety or should these districts be treated severally?

Mr. SHUGG. Well, I can only reply to that, Mr. Chairman, that as we have proceeded up to date under the authority which we consider that we have in section 12 (a) of (5), that up to this date we have

considered that we had to make a factual finding of the actual need in each district; that we were not able to apply a uniform formula that would fairly express the need in each individual district. That is simply under our present enabling language, which apparently makes it obligatory for us to make a finding of the need for the welfare.

The second point, Mr. Chairman, that I might make clear, in case I did not bring it out clearly enough at the first hearing, as regards a present emergency, I had stated in that hearing that we believe that all of the school children who needed schooling this year would be taken care of, as they were in preceding years, and I did call the Hanford manager after that hearing in order to ascertain first-hand if that was his present intention; and he confirmed the fact that they do understand that they should take, under section 12 (a) (5), under that clause, any steps necessary to be sure that the welfare of those children is taken care of for the coming school year, as we have the previous school years, so that that is simply to clarify that the emergency in our minds does not exist—does not pertain to the teaching of those children this coming school year.

The third point, entirely aside from our taking care of the situation actually confronting us each year and thinking of the permanent construction, I realize that it is very difficult for anybody to predict what is going to happen to the present federally incurred total enrollment in those six districts. It totals for the year just past 3,266; that is the total of the 6 districts' federally incurred enrollment.

Now, without attempting to make any prediction as to whether that will drop off a certain percentage or what will happen to it because we cannot be sure what the habits of these people will be—if times are not good, I suppose a great many of them will stay in that vicinity whether their employment ceases or not; if times are good elsewhere that is the sort of thing that makes them move out—but I did ask the Hanford office to give me the most up-to-date figure they had on what are the facts as regards the present 3,266 enrollment, and their reply is that 955 are pupils of permanent employees, and that 2,311 are pupils of other than permanent employees. They do not have the separation available as to the break-down between General Electric employees, Atomic Energy employees, construction employees, and concessionnaires; but I simply put that one present break-down—simply supply that figure—without pretending to be able to estimate what will happen in the future.

My feeling is that the number of permanent employees will increase over the present 955.

Mr. JACKSON. That is permanent employees of all kinds, General Electric, AEC—well, those would be the only two?

Mr. SHUGG. Yes, sir. That should be expected—in all fairness, I think, we should say that we would expect that to go up, because when new construction is finished it will require some added operation.

Mr. COLE. But that increase of permanent employees will nowhere near approach the number of temporary employees, will it?

Mr. SHUGG. I have one estimate from them, Mr. Cole. I told them that they simply would have to make an estimate to be responsive—we should make the best figure we could, and after some consideration of it they said that the Hanford office felt—the Hanford office stated—that on an estimated basis they thought the 955 children of permanent employees might increase to 2,100 by September 1952.

Mr. COLE. What would be the temporary number?

Mr. SHUGG. That is the part that we have not been able to make an accurate figure on.

Mr. JACKSON. In that same connection, it should be well to point out the observation, I think I made at the last hearing, and that is that the school population per family is on an upward trend.

Mr. SHUGG. Yes, sir.

Mr. JACKSON. So that you do not get an accurate index necessarily from the number of permanent attachables in the school year 1948-49. I believe that is in line with what was testified to by Mr. Alves. Is that correct, Mr. Alves?

Mr. ALVES. I would think so.

Mr. JACKSON. I mean that Nation-wide the school population is increasing.

Mr. ALVES. Yes, sir; it is.

Mr. JACKSON. Even though the number of families in the area remain static with an over-all increase in population in the State.

Mr. ALVES. Mr. Chairman, if Mr. Shugg is finished, I would like to make a few comments.

The percentage of increase that I gave in response to Mr. Cole's question, I thought was the one he wanted, that he wanted the total percent increase.

Mr. COLE. Of federally incurred students.

Mr. ALVES. I misunderstood that.

Now, the percentage figures which Mr. Shugg provided are those that represent the federally incurred load. I would like to raise a question in that connection just from the standpoint of practical business of how you expect school districts to segregate federally versus nonfederally incurred increases so far as school plant needs are concerned, without any question as to whose responsibility it is.

Obviously, each district will have to, of necessity, build its own case when you get to the point of distributing funds; even State funds.

In that connection, I want to raise two or three questions for consideration. As I understand it, and I think reported the other day, provisions have been made, and the districts have accepted \$300 per pupil for temporary construction.

The figures Mr. Shugg just gave with reference to the number of children who are children of permanent employees, and those of temporary employees, were not available when I was there. I am glad they have been obtained.

Those districts feel, and the State feels—and I concur—that it would not be good business nor would it be good expenditure or a wise expenditure of public funds to build temporary facilities for children who are expected to be there for any period of time, which immediately raises the question, What do we mean by "permanent"?

If a child is there for 5 years and then leaves, if that child is a dependent of a so-called temporary worker, he is replaced by some other child, permanent or temporary.

So far as available facilities are concerned in most of the districts, I think it is well established as a fact that the rooms are terrifically overcrowded; the teacher load is terrifically high. I do not have those figures, but I can supply those, so that if there are now definitely established figures that approximate 1,000 children who are designated

as children of permanent workers, it occurs to me that since it is felt that by 1952 that category of children would go to 2,100, it would not be good business or wise expenditure of public funds to build temporary facilities.

Now the question arises then as to why the districts should not take the \$300, plus their own money, plus State money, to build those buildings, and use the \$300 for permanent construction.

I think there are two factors involved there. One is that in order to do that some of these districts would have to exceed the bonding capacity by four or five or six hundred percent. That is one factor.

I would like to introduce this factor, not with reference to those six districts, but with reference to any school districts in which there is a federally incurred school impact. At what point should the Federal Government assume its obligation in providing services and facilities for that school load which is there by virtue of its own activities? That is the fundamental question. I think that is where your precedents in the past will indicate that although there is no established policy as such, it has been recognized over and over that there is a point at which the Federal Government has accepted its obligation by precedent not only for temporary but for permanent facilities.

I find it fairly difficult, if not practically impossible, to make a distinction between a youngster who is the dependent of a worker who is there because of an expansion program, or a reactivation program for 5 years, and the youngster who happens to be the dependent of a worker classified as permanent, either of one entity or another.

So far as the children are concerned, those 5 years are gone. Now, whether or not it is a wise expenditure of public funds for those districts to take their own money and couple it with Federal funds allocated for temporary facilities to provide for that load, which we now have some reason to believe is permanent and expect to be permanent in 2 years, is a question that, I think, is answered by the fact that the fiscal ability just is not there.

The factor that I want to introduce again is the fact that I think the Federal Government has an obligation, whether it is in the six districts or anywhere else where Federal Government activities exist.

Mr. JACKSON. Is it fair to say in connection with the 3,266 attachable students at the present time that there is with that group a certain group of children who are there indirectly as a result of that activity and who are not included in the list? Is there some kind of a rule of thumb or formula that is applicable in that situation? Is that a fair question? I just wonder whether it is.

Mr. ALVES. Well, for the 3,266 who represent the purported federally incurred load, there are 2,647 nonfederally incurred.

Mr. JACKSON. Yes. What percentage of that balance is being absorbed in the entirety by the school district?

Mr. ALVES. All of it, either absorbed or new facilities provided.

Mr. JACKSON. Maybe I do not make myself clear, but suppose—well, we do not need to suppose—in this situation you have 3,266 students who are directly traceable to parents who are employed by the project.

Then, in addition, there certainly must be students of parents who have come to the area, working in other types of collateral, if I can use that word, activity, such as new stores, services of all kinds, that

naturally go with an increase in population. Now, that group, whatever percentage is involved, is being absorbed in the entirety by the school district, is that correct?

Mr. ALVES. The word "absorbed" bothers me. You mean the district does not have to make available school facilities?

Mr. JACKSON. No, I am just trying to point out that there must be a certain percentage of students whose parents have come to the region by reason of the activity, even though they are not included in this list of 3,266. I mean that factor ought to be in the record or explained so that it is understood that this particular formula that is included in the report relates only to the traceable increase to the project.

Mr. ALVES. To me the committee report is very clear and positive on that.

Mr. SHUGG. May I speak to that?

Mr. JACKSON. I did not see it in the report. I would think it would be very difficult to determine unless you make a census.

Mr. SHUGG. May I speak to that, Mr. Chairman?

Mr. JACKSON. Yes.

Mr. SHUGG. I would expect that that nonfederally incurred student load of 2,674 included several segments. One would be those incident to the normal growth and population; another would be whether it is large or small, some due to the increased irrigation activities, and prospects, of the Columbia Basin. Another segment, whether large or small, might be due to the McNary Dam activities, which are to the south of the school districts, and then another segment would be due to, you might say, the camp followers who come in wherever there is a marked increase of activity, and I would not have any idea of the break-down between those several factors.

Mr. COLE. This 2,674 then included the increase of everybody except your direct federally incurred students?

Mr. SHUGG. At Hanford. I think it must also include any number which are there by reason of the McNary Dam activities, even though they are federally incurred.

Mr. COLE. I see.

Mr. ALVES. I understood that Kennewick had about the only impact from the McNary Dam at the time I was there, and that constituted about two classrooms of pupils then. It expected by fall, I think, to include four classrooms for the McNary Dam pupils.

Mr. SHUGG. Well, the McNary Dam students would literally be federally incurred also, so that this column, 3,266, is not only federally incurred, but federally incurred in connection with the Hanford project.

Mr. ALVES. Yes.

Mr. JACKSON. I do not know whether there is any merit in it, but my point, and I presume there is not any rule of thumb, because it balance of two-thousand-six-hundred-and-some-odd students made up of the people who have lived there for a long time, plus, shall we say, a few floaters, and the important group that we do not have any tabulation on, that percentage, that is present in every increase in activity in a given region by reason of the Federal activity. I do not know if there is a rule of thumb or whether it requires study to make a census.

Mr. ALVES. I am willing to make a statement now that I understand what you want. In Washington State, as I indicated the other day, each school district sets up its next annual school budget on the basis of an anticipated 5 percent normal increase. So that since 1943 a district would have roughly on the basis of that accepted percentage a 30 percent normal increase, which is included in this 2,674.

Therefore, if we take the total load of the six districts in 1942-43, which is 4,395 pupils in Ada, multiply that by 1.1, we come pretty close to 4,850 estimated enrollment in those six districts in that year.

If we take 30 percent of that, as representing the normal increase of 5 percent a year, we come out with about 1,450 pupils out of the 2,674, which are there by virtue of an increase in school load because of increased birth rates, and because of the normal accession of people—let us say 1,500 roughly.

When we subtract that from the 2,674 there would be an estimated 1,174 pupils who are there by virtue of being dependents of people who have come in as service workers, accompanying the federally incurred impact.

Mr. JACKSON. That is what I was getting at. A little less than half of the balance then would be indirectly traceable to the new activity providing for services and other normal activities that take place in any community.

Mr. ALVES. Translated into another ratio, we have roughly this: On the basis of those figures—

Mr. JACKSON. If I may complete that statement.

Mr. ALVES. I am sorry.

Mr. JACKSON. And that group of one-thousand-one-hundred-odd are being absorbed by the school district and are not included in the consideration given in the report, I mean as to the liability for the 3,266.

Mr. ALVES. Well, the 1,174, plus the 1,455, representing the normal increase, combined to make 2,674, have to rely on the district and the State for their school housing facilities.

Mr. JACKSON. Yes. What I am getting at is that the participants in the report have recommended only the payment of grants for the increase directly incurred by the project.

Mr. ALVES. That is right.

Mr. JACKSON. And in addition you have over 1,100 more, an increase of 1,100 by reason of the indirect effect it has had on the balance of the population.

Mr. ALVES. I started to say, translated into another ratio that would mean that for about every three federally incurred pupils, there is one nonfederally incurred pupil who would be the dependent of a service worker to those—

Mr. JACKSON. Which the district is absorbing under the recommendations contained in the report.

Mr. ALVES. Yes.

Mr. COLE. How many of this number of 3,266 is not related to the atomic work?

Mr. SHUGG. As far as we know, Mr. Cole, all of that 3,266 are related to the Hanford activities.

Mr. COLE. But all of the 1,174 indirect are not related to the atomic energy project.

Mr. SHUGG. I think it would be fair to say that all are not because there has been some activity at the McNary Dam and the irrigation.

Mr. JACKSON. It is by reason of Federal activity of various kinds, reclamation, Corps of Engineers. .

Mr. SHUGG. Yes.

Mr. COLE. But the 3,266 are just atomic students?

Mr. SHUGG. Yes, sir.

Mr. JACKSON. The eleven-hundred-odd are not included in the 3,266.

Mr. ALVES. No.

Mr. COLE. What is the answer to the possible charge that if the Commission's representative out there now has reason to believe and does believe that all of this load of 3,266 directly related Federal children will be taken care of, properly schooled, housed and facilitated in their education this year, and if out of that 3,266 are included 2,200 temporary pupils, pupils of temporary employees, and it is expected that the permanent employee load will not exceed 2,100 which is substantially less than the present 3,200, why is it necessary for any Federal assistance to be given?

I mean if these children are going to be taken care of for this coming school year and you have got the plant facilities to give them the normal school training, why is not the problem already solved? Of course, I think I know what the answer is, but I would like to have somebody put it in the record, other than myself.

Mr. SHUGG. I think, Mr. Cole, to continue to care for students who may be permanent, on a temporary basis, does bring up the obvious point that it may be excessively costly and there will be a high maintenance of the temporary facilities to continue year after year on a temporary basis instead of once and for all building permanent facilities which would and should have a lower maintenance cost and should pay off in the long run.

Mr. JACKSON. What is the nature of the temporary facilities now?

Mr. SHUGG. They vary, Mr. Chairman. For Kennewick we brought up, I think the equipment for 22 classrooms by towing up barracks from Portland, Oreg., which were—

Mr. JACKSON. They are very temporary units. I mean, they are just converted barracks.

Mr. SHUGG. They are frame barracks, and they have been converted, and I believe it is our responsibility, minimum responsibility, to see that conditions are tenable as regards heating and space, but that can be a high maintenance cost over an extended period of years.

Others are hutments. In one city we have turned over, I believe, the American Legion barracks. They have been converted, and then at Pasco they are using the naval air station barracks which have been converted to classrooms.

Mr. JACKSON. In other words, a very substantial percentage of the school population in the area is now housed in temporary facilities.

Mr. SHUGG. Yes. I do not know what percentage that is.

Mr. JACKSON. I wonder, Mr. Alves, maybe you could get in touch with Mr. Black or someone, and we could get the information for the record as to the number of temporary facilities, and in particular, the percentage relationship to the entire permanent structures in the area. I think that is what you want.

(The information above referred to will be found in the statement of Mr. E. S. Black, starting on p. 63).

Mr. JACKSON. I think it also might be noted in that connection that at the last hearing—it was not included in the record—there was a

newspaper item which came to my attention from the Tri-City Herald, which announced that one of the grade schools in Kennewick had been destroyed by fire which, I assume, may cause a further impact as far as the schooling is concerned.

Mr. DEAN. I think it was Pasco, Mr. Chairman.

Mr. JACKSON. Pasco—but all of that information, I think, should be included in the record.

Mr. ALVES. I will be glad to get that, Mr. Chairman.

Mr. JACKSON. It should be included at this point. That is fine.

(The information referred to will be found in the statement of Mr. E. L. Lindman, starting on p. 117.)

Mr. ALVES. I would like to raise the question at this point: When the statement was made that provision had been made for the coming school year, does that include the \$300 per pupil which the Atomic Energy Commission proposed to make available, and the districts accepted on a temporary construction basis?

Mr. SHUGG. I think it does, Mr. Alves. We have the responsibility of seeing that these children are properly housed. In the case of several districts we have provided physically the barracks to house them.

If the school district, however, chose to accept the sum which we would otherwise spend to directly provide the facilities, if they chose to accept an equivalent sum, we have agreed with them to let them have the funds, and administer those funds to their best needs.

Mr. ALVES. The \$300 for the 3,200 pupils, running a little more than a million dollars, as I understood when I was there, was being held in abeyance by the districts pending any possible outcome of these discussions, these considerations, so that although the \$300 has officially been made available they do not, those \$300 do not, represent classrooms that are to be used at the opening of the school, with the result that, with the exception of one or two districts which are completing buildings from their own bond issues or special levies, it is my understanding that when the school opens in the fall there would be little relief from the overcrowding in the form of actual school-plant facilities that were not available at the close of school.

Mr. JACKSON. That is my understanding. It is proposed that the contracts be let either this month or next month for new facilities which would be available for the school year beginning in the fall of 1950. Maybe I am in error in that, but that also can be included in the record when you obtain the other information.

Mr. SMYTH. Those would be replacement facilities for the temporary facilities.

Mr. JACKSON. They would be replacement, plus an expansion that would allow for normal classrooms rather than overcrowded classrooms. I think that is the proposal. At least, it is my understanding that the classrooms are overcrowded now, based on normal practices in most schools, school systems.

Mr. SHUGG. May I make one brief statement, Mr. Chairman, responsive to the remarks that Mr. Alves made after I read those statistics?

I had no intention of drawing any conclusions from those statistics or to imply any segregation of federally incurred or nonfederally incurred. I mean those are supplied simply as facts as they stand.

Mr. JACKSON. We understand. I think there was just a misunderstanding as to what was intended in connection with Mr. Cole's inquiry, and Mr. Alves understood it to be the over-all inquiry.

What Mr. Cole had in mind was the specific increase traceable directly to the students—

Mr. ALVES. I did not mean to imply that Mr. Shugg indicated that he was attempting to segregate. I wanted to get the question in that it was difficult, if not impossible, to segregate one impact from another because you cannot build buildings by going out here and picking twenty pupils out of the total and saying, "You can go to that building but the rest of you cannot."

You just do not build buildings that way, so in the total consideration you cannot segregate.

Mr. COLE. The final question I have, Mr. Chairman, is now that the committee has heard Mr. Alves set forth the committee's report, and has some understanding of the nature of the problem out there, the final question is, What does the Commission propose to do about it, if anything?

Mr. DEAN. Well, the Commission has read the report. It has taken the only action in the form of the letter addressed to the joint committee. No action, as such, has as yet been taken by the five Commissioners.

Mr. COLE. Well, I have not read that letter. What does it say in substance; that the Commission will consider the committee's report?

Mr. DEAN. It says in substance—I hope I quote it correctly—that the Commission is bothered by some of the broad problems that are involved in making any transfer of funds for the construction of permanent school buildings. Specifically, we are interested in precedents. We want to know how far this is taking us, and we would appreciate having the matter gone into by a subcommittee of the joint committee, so that our decision can be made wisely, if and when it is made. That, in substance, is, I think the letter.

There is one other question, I think. I do not know whether it is in the record sufficiently, Mr. Chairman, and that is the question of our financial situation.

As you know, if the language which is now in the Senate Appropriations Committee report remains in there, the cut on the Commission is going to have to be absorbed in four nonweapons programs. One of those is community development.

I do not know whether that language will remain in there, but there is certainly something that bears on one phase of our problem.

Mr. COLE. On the question on whether this Hanford problem creates a precedent or not, has the Commission made any studies from which it can be determined whether there are other atomic energy areas where the school problem is as acute as the one at Hanford? If there are no such areas, then I do not know any reason why the Commission should be too hesitant about this being a precedent. If there are other comparable areas where localities are hit just as hard as the people at the Hanford area, then, of course, they should consider it.

Mr. DEAN. Personally, I do not know offhand any community that would be as hard hit as the Hanford area, where you have very small towns, and where you have this heavy impact, but nevertheless we were concerned with the taking of this step as to where is a line to be

drawn. I mean it should be drawn with some kind of criteria in mind, we felt, and not simply because this was the first place.

Mr. JACKSON. Mr. Dean, your main concern, I take it, is this: That heretofore the Commission has reached decisions in the allocation of funds for temporary school construction. That has already been done at Hanford.

Mr. DEAN. That is true.

Mr. JACKSON. The big question in your mind is——

Mr. DEAN. Permanency.

Mr. JACKSON (continuing). What should be done in connection with requests for permanent construction.

Mr. DEAN. That is it.

Mr. HOLLIS. In accordance with that policy, there has been no provision made in the Commission's 1950 budget for permanent school assistance.

Mr. JACKSON. Permanent construction.

Mr. HOLLIS. Yes, sir.

Mr. JACKSON. So that when you analyze the whole thing the Commission has reached a decision on temporary construction, and offers were made to the local school districts, and funds have been turned over to them on the basis of \$300 per student; so that the question that remains is a question relating to permanent construction.

Mr. DEAN. We have set the precedent for aid on a temporary basis, although, when I first faced this as a new Commissioner, to me I wanted that explored by myself to see whether this next step took us into dangerous territory.

Mr. COLE. If the Commission is justified in spending public funds for school aid on a temporary basis, I do not see how it can say it is not justified——

Mr. DEAN. For permanent.

Mr. COLE (continuing). On a permanent basis, when it is found that the temporary condition has become a permanent condition.

Mr. DEAN. I agree with you, Mr. Cole, if we could make that finding. There is this little difficulty which pops up when you look at the language of the act. It says in substance that we must find that it is necessary for the housing, health, safety, welfare, and recreation of the personnel employed by the Commission.

Before we can construct these buildings and facilities at projects, project sites, where such facilities and services are not available, we must make that finding. Query: Are they available? They are today in temporary form.

Mr. COLE. Would the Commission prefer to have specific statutory authority to make this kind of appropriation?

Mr. DEAN. No; I think we have the authority to do it, without any question, but I think any finding we make ought to be made after considering everything.

Mr. COLE. Sure of your ground, of course, but it would seem to me that this Hanford situation is acute.

Mr. DEAN. There is no question about it.

Mr. COLE. And if the delay is to be occasioned by reason of an uncertainty in the minds of the Commission with respect to its legal authority, then I think that should be resolved quickly.

Mr. DEAN. That is not my concern. It is not a question of what the act says. Any decision we make must meet the test that is laid down here.

Mr. JACKSON. Unless there is some additional information to go into the record, and I would like to state that we understood, if it is satisfactory with Mr. Cole, that any charts or other figures or data that ought to go in, I think, can be satisfactorily included in the record after our meeting——

Mr. HOLLIS. Mr. Chairman, did I understand that Mr. Alves was going to put into the record precedents on construction? That would be very helpful to us.

Mr. JACKSON. Yes; he is going to include that, and I say if there is any additional information, just so I am advised that it is going in, and I will make it available, of course, to Mr. Cole, that will be in the record, and that can be included, too.

All right, we will now go into executive session.

(Whereupon, at 11:15 a. m., the committee adjourned, to go into executive session.)



# HANFORD SCHOOL FACILITIES

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MONDAY, AUGUST 8, 1949

CONGRESS OF THE UNITED STATES,  
SUBCOMMITTEE OF THE  
JOINT COMMITTEE ON ATOMIC ENERGY,  
*Washington, D. C.*

The subcommittee met, pursuant to call, at 10:10 a. m., in room 1015, New House Office Building, Hon. Henry M. Jackson (chairman) presiding.

Present: Representatives Jackson and Cole.

Also present: Henry D. Smyth, Commissioner; Joseph Volpe, Jr., General Counsel; Carleton Shugg, Deputy General Manager; Everett L. Hollis, Deputy General Counsel; and David F. Shaw, Deputy Manager, Hanford Operations Office, all of the United States Atomic Energy Commission.

E. S. Black, superintendent of schools, Kennewick school district.  
MR. JACKSON. The committee will come to order.

I thought that we might call Mr. Black first. He is the superintendent of schools at Kennewick, Wash., and he represents all of the school districts in the area affected by the Hanford operations.

You may recall that he was a member of the committee which worked out the report.

During the last hour, as I recall, there were two main points that we desired to obtain some information about: No. 1 was the nature of the temporary school housing in the area; and, No. 2 related to proposed plans for permanent school construction in this same area, and in that connection, I believe it was the desire of the committee to have some information as to the urgency of permanent school constructions facilities.

Mr. Shaw, will it be all right if Mr. Black goes on first?

MR. SHAW. Certainly.

MR. JACKSON. It does not make any difference, how we call him?

Mr. Black, with the understanding that we are interested in those two principal points, I wonder if you would be willing now to make a statement to the committee.

I believe you have a prepared statement that you want to read first.

## STATEMENT OF E. S. BLACK, SUPERINTENDENT OF SCHOOLS, KENNEWICK SCHOOL DISTRICT

MR. BLACK. Yes; I do.

MR. JACKSON. All right, if you will proceed.

MR. BLACK. Gentlemen, I called the committee representing all of the districts together, and I have several complete files of the need in the particular districts, and also the recommendations of the committee.

My first statement, which will be just a little general, is one in which I would like to make in this manner.

Gentlemen, I appreciate this opportunity, as a representative of the school districts surrounding the Hanford Works, to be able to present our problem to you men who are in a position to weigh its real merit. I am superintendent of the Kennewick school district, so many of my references are pertaining to Kennewick; however, all six districts have similar problems in a varied degree.

In 1943 at the outset of the Hanford Works the Kennewick school district had an average daily attendance of 772 students. At the close of this fiscal year, June 30, we had a net enrollment of better than 3,200. May I say that previously a satisfactory contract has been completed with AEC for maintenance and operation support and that additional school-bus transportation has been provided. Therefore this testimony will confine itself to school building needs.

At the beginning of 1943 the Kennewick school district had adequate building facilities for 500 students. In 1944 a 32-room elementary building was constructed through State, local, and Federal Works—FWA—funds. This solved the problem for a short time only. The enrollment in the schools in Kennewick soon grew to a place where every available space in town was used. Enrollment in many rooms reached 60 students. At this time the Atomic Energy Commission constructed 22 temporary classrooms. These 22 temporary classrooms, outside of having adequate room space are minus all the facilities that go with a standard school. Students and teachers alike traveled outside several hundred feet to lavatories and due to the severe weather this past winter, several casualties were incurred and even the insurance companies have warned us that this part of our system was a poor risk. Without liability the district could not operate a day.

The buildings are of a tropical nature and are heated with only about 60 percent of the necessary capacity. The results were that during the last year a heavy absenteeism was caused due to lack of heat, which would not permit proper ventilation. This resulted in a terrific drop in efficiency and a financial loss to the district in operations. During the coldest part of the winter the temporaries forced the district into closing for a period of 8 days.

This past year we have operated five classrooms upstairs over a school-bus garage. This had to be done in definite violation of requests from the State health department and the State fire insurance commission. If a catastrophe had taken place I am sure someone would have had a moral load placed on their shoulders.

One of the buildings now in use is a building built in 1900 for a small high school. Twelve of the rooms were built to adequately house 16 students. In order to get the children under a roof the enrollment is maintained at about 35. These conditions place a most inefficient and unbearable condition on what would be a standard school system. The above conditions have made it almost impossible to maintain a teaching force and added to this difficulty is the fact that we operate within a short distance of the city of Richland, which seemingly has available about 30 percent more operational funds on a per capita basis. This makes it difficult to employ teachers at a lesser rate under the most improvised conditions.

Our requests of the AEC for building funds are based on the average cost within the State for their pay roll attachable students. This

does not include about 50 percent more students who do service work for these people within the community. The formula submitted for settlement does not include these service people, therefore, the Atomic Energy Commission would be able to settle by the formula for about 65 percent of the total federally incurred load.

Another situation which presents a great problem to all schools is the fact that the rules within the reservation were such that upon termination of an employee he has only a few days to leave the reservation. Due to the fact that he could enjoy liberal social security in our State they would move into our area and remain while collecting this social security. The surrounding schools have been required to absorb this situation.

At the present time the Kennewick schools are approximately \$4,000,000 behind in obtaining a standard school system. If the Atomic Energy Commission settles on the formula that is submitted by a previous committee the Kennewick school district would receive approximately \$2,000,000. Together with what local and State funds are available, that would still leave the district more than a million dollars below a standard adequate system. If this entire load were left to the district, it is more than could be raised under present laws, with triple taxation within 30 years. Added taxation would immediately become a burden upon the several thousand houses built in our area backed by the FHA. The profit of the Hanford endeavor at present seems to be national security and the people of our community feel that they are willing to stand their share of expenses on a national basis, to meet the overcrowded conditions. The problem has gone far beyond any diligence of the community to meet the situation.

If it is necessary for the United States Government to move people into an area and create such tremendous overcrowding, the Government then has a moral obligation to meet its just share of inconvenience, and any agency of the Government that creates such a legitimate obligation should not feel it is within its sphere to avoid such obligations.

Based on present comparison, surrounding districts can operate on approximately 30 percent less per pupil than the reservation. The building costs in surrounding districts are approximately 25 to 30 percent of the cost of buildings constructed within the reservation. Therefore if the Government is economically minded, a real saving could be made by aiding the outside schools.

Gentlemen, the Kennewick school district now has the plans and specifications ready to advertise for bids for a senior high school that will house 600 students. A commitment for funds immediately by the Atomic Energy Commission would permit us to begin the construction of this building in its entirety and save money to all concerned in the end. If a commitment is made now so that the district can proceed now with the construction of the building, the district will do everything in its power to accept all students for an education; however, if the commitment is not forthcoming the district will have to take some action which will bring the Kennewick School under a more efficient basis August 29, 1949, that being the opening of the school. It is our wish and desire to cooperate in this problem but we are far from being magicians in solving the problem without a realistic approach.

If there are any questions before I go back into the complete statistics on each district, bringing up their individual problems, I would be glad to answer them.

Mr. JACKSON. I think that in your prepared statement you made reference to the fact that some of these people were on social security. I assume you meant they were drawing unemployment compensation?

Mr. BLACK. That is right.

Mr. JACKSON. Mr. Black, I think if you could take each district as listed in the table here, starting with Grandview, and first explain the number of temporary units now being utilized in the district, how long they have been using them, and the nature of the facility, and then proceed to indicate the urgency in that area, if any, for new school construction, and the plans of the school district for new construction, that would be all right. Would you mind doing it that way? I think that is what the committee would like to know at this point in the record, because that information, of course, was not contained in the report, and other than in a general statement of need; but I believe if you would take it up first as to the temporary and then as to the permanent construction, that would meet the wishes of the committee.

Mr. BLACK. I have them arranged here in the order of their size.

Mr. JACKSON. Well, either way, just so that we can cover each district in the record.

Mr. BLACK. Kennewick, first of all; summary of improvised school classrooms, improvised and inadequate classrooms: During the 1949-50 school term, classes of Kennewick schools will occupy approximately 40 inadequate, outmoded and substandard classrooms, a part of which will be over a garage which is in direct opposition to all State health regulations and fire safety rules.

Temporary classrooms, 22; inadequate classrooms, 17; bus garage, 5, for a total of 44.

Overcrowded classrooms—

Mr. JACKSON. How many temporaries?

Mr. BLACK. Twenty-two.

Mr. JACKSON. Twenty-two; and they have been supplied by the Atomic Energy Commission?

Mr. BLACK. That is right.

Mr. JACKSON. With reference to the schoolroom over a garage, or schoolrooms over the garage, is that a temporary arrangement?

Mr. BLACK. Well, it was a school building at one time, and was abandoned on condemnation, and the garage was placed there, and we have very inadequate facilities, and a very inadequate situation. It is over a workable garage which, I think, I know in our State is against all rules from every angle.

Mr. JACKSON. How long have you been using these temporary facilities put up by the Atomic Energy Commission?

Mr. BLACK. We got into them last fall, I believe.

Mr. JACKSON. Were some put up prior to that?

Mr. SHAW. No. The first of them went into use just after the opening of school last fall, between the opening of school and the first of October.

Mr. BLACK. Overcrowded classrooms: All classrooms in Kennewick are designed to accommodate 30 average daily attendance. However, all classrooms vary from 35 to 55 enrollment.

Total classrooms needed now: The total number of classrooms as indicated on the chart needed at present are 78.

Discussion of inadequate rooms—amount of need: In the chart of recapitulation of capacities, first we have one suitable elementary building with 32 classrooms, which lacks seven rooms of efficiently taking care of the first three grades. In the intermediate department we have 22 temporary classrooms constructed by the Atomic Energy Commission, which have ample room space, however, six of them are built in line of three rooms each and two of them with two rooms each. These have no inside hall connections. Teachers and youngsters alike must travel several hundred feet outside to lavatories and this winter with more than a month of zero and sub-zero weather, snow and ice, has caused quite a discontent among students and teachers alike, resulting in teachers and students casualties due to such conditions. These casualties are even causing insurance companies to frown on us as a liability. You are aware that we could not operate a day without liability coverage.

Each one of the buildings has a separate heating plant and the capacity of the heating furnace is approximately 60 percent of that needed during the recent cold spell. This plus a number of other things has resulted in the school being closed eight school days so far and a possibility of a recurrence. Such educational time becomes a complete loss to the student. I feel the community cannot consider continuing such educational facilities. I therefore feel that we cannot count these rooms in considering an educational system.

I might say that outside of the 8 days that we were closed, there were days after days that we operated with a temperature in the classrooms of between 45 and 48 degrees.

Junior-senior high school: In 1936 our junior-senior high school building was built to house 500 students. We had an enrollment in the two organizations at the time of 425. We now have a total enrollment in the two organizations of 1,135. You will note by the enrollment that our grades are well over 325 per grade through the fifth grade now and continue better than 250 per grade through the junior high school. These large classes moving up are creating a complete break-down in our junior-senior high school organization and the school district feels the first step to be taken in solving this building program is to build proper facilities for these organizations. Due to the type of work, temporary facilities will not serve the purpose of these organizations.

The construction of the proposed senior high school at present would accommodate the senior high school and the overflow of the junior high school for the next year. Then an addition to our present junior-senior high school would be necessary to make it large enough to accommodate the enrollment of the junior high school.

You will note by the chart that the school is now using in the junior high school organization 12 inadequate rooms. These rooms are inadequate for many reasons but the greatest reason they are inadequate is because they are in a building that was constructed in the year 1900 for a high school with a small enrollment with rooms adequate for approximately 16 students. Under the present-day apportionment of funds by the State to the school district on a student basis, an enrollment of 25 is necessary to maintain funds for an adequate teaching unit. You will note the present enrollment of these rooms puts them

in a position almost as sardines would be packed. Efficiency at the junior high school stage under such conditions is impossible. There are two or three of the inadequate rooms that are large enough but haven't the necessary natural or artificial lighting or ventilation, as they have been temporarily constructed to meet the emergency need.

Also two elementary buildings are needed, one in the east and one in the west portion of the district, to accommodate the elementary and reduce the transportation problem. Besides the above need of a senior high school to house 800 students and an addition to the present junior-senior high school double its size to accommodate the junior high school in the future, our architect's estimates show that we are behind in construction in the sum of approximately \$4,000,000, based on present costs and the State average cost per pupil. We are, therefore, requesting your earliest possible consideration and help in construction of a senior high school so that it may be available and save the complete break-down of our educational system in the fall of 1949.

I have something else here; need for facilities, population increase within the district: Population in 1940, 2,200; 1949, 19,800; students, 1942, 772 average daily attendance; net enrollment in February 1949, 3,145.

Federal agencies creating need: AEC atomic plant, McNary Dam, Federal public housing.

Public housing includes 200 temporary units, and 2,500 permanent homes. The Kennewick school district is the hub of the above activity.

School-building needs now amount to 65 percent of the total taxable valuation of the school district. This need alone completely breaks down the economy of one community in its ability to solve such a problem.

Building needs: Senior high school to house 800 students, project now requested; junior high, present junior-senior high school expanded from 500 to 1,000 enrollment; two elementary buildings.

Relief will be necessary by September 1949, or the district will be unable to carry on.

Cost of building: Senior high school, \$1,800,000; expanded junior high school, \$1,000,000; two elementaries, 15 rooms each, \$1,170,000; total cost needs, \$3,970,000.

Financial picture: Local bonds—voted, not sold—not expended, bringing the district to capacity of bonding, \$300,000; grant from AEC, not expended, \$353,000; and the State request but not appropriated by the legislature, \$700,000, which would have brought it up to \$1,353,000; granted by AEC, 1948, expended on temporaries, according to the submitted list, \$117,000.

The local district's needs are greatly handicapped due to the district's lack of capacity to raise funds. The district has carried extra millage for 13 years repaying bonds for building purposes, plus a 5-mill special levy in 1944. When present bonds are sold the district will again be bonded to the limit.

Any failure of the Atomic Energy Commission to make a commitment prior to the opening of school August 29, 1949, will force the Kennewick district into taking drastic action and in some way cut back enrollment to where it can be handled efficiently. Kennewick has one of the highest ratings of matching in the State due to sudden growth and overcrowded conditions based on value per pupil. However, the last legislature failed to raise the \$40,000,000 requested within the State because it would have required the raising of new taxes. The legislature passed a resolution granting a bond election to the people of the State in the November general election, 1950, to raise money. The amount of money available in the State now, due to the recent earthquake which did several million dollars' worth of damage to schools within the State, will make any funds available from the State very minor in comparison with the needs.

The Kennewick school district hopes that some arrangement can be reached and that we can carry on and cooperate as we desire. Our cooperation at present has far exceeded our ability to carry on.

Now, to give you some idea of the situation with respect to how it is moving, I have the final report sheet for the year ending that goes to the State from all the districts, and it shows that the average daily attendance in school every day during the year was 2,841 students, while the total enrollment for the school year amounted to 3,891, with 528 transfers, which leaves us better than 3,300 students in school at any one time.

The total enrollment in grades—for instance, first grade last year was 485; 422 in the second; 418, until we get down to the senior class in high school. We had 109, so you can see the difference of the classes moving up.

We will increase from 1,000 to 1,500 students in our system just by the move-up in the classes that are there at the present time over those that are graduating.

Then the elementary, one through six, which prior to the war held about the same number of students as the upper six grades, this past year had a total of 2,635, I believe it was, enrolled, and in the junior and senior high schools; the junior high school had 829 and the senior high school 417. So you can see what the size of the lower grades moving up there does to the situation.

Are there any questions?

Mr. JACKSON. You are still on Kennewick?

Mr. BLACK. I am finished with Kennewick now.

Mr. JACKSON. The record of attendance and enrollment will be placed in the record at this point.

(The documents entitled "Record of Attendance and Enrollment" and "Recapitulation of Capacities" are as follows:)

*Record of attendance and enrollment: Kennewick school district No. 17, Benton County (school opened Aug. 30, 1948, and closed May 27, 1949)*

[Number of days taught: 172]

				Total				
<b>1. Actual attendance:</b>								
Elementary school (1-6) (full days).....				291,045				
Junior high school (7-9) (full days).....				107,189				
Senior high school (10-postgraduate) (full days).....				66,818				
Total for all grades (full days).....				465,052				
Total student hours attendance.....				465,052				
Kindergarten (2-hour days).....				30,779				
<b>2. Vocational attendance (already included above; approved for extra apportionment credit):</b>								
Day-school classes (student hours).....				50,150				
Part-time classes (student hours): Bus-driver school, 31 drivers at 20 hours each.....				620				
Total vocational attendance (student hours).....				50,770				
<b>3. Average daily attendance:</b>								
Kindergarten.....				179				
Elementary school (1-6).....				1,651				
Junior high school (7-9).....				623				
Senior high school (10-postgraduate).....				388				
Total for all grades.....				2,841				
				Boys	Girls	Total		
<b>4. Enrollment, by grades:</b>								
Kindergarten.....				126	141	267		
First grade.....				280	205	485		
Second grade.....				220	202	422		
Third grade.....				196	222	418		
Fourth grade.....				165	192	357		
Fifth grade.....				187	153	340		
Sixth grade.....				193	163	356		
Junior high:								
Seventh grade.....				159	145	304		
Eighth grade.....				133	139	272		
Ninth grade.....				113	140	253		
Tenth grade.....				91	80	171		
Eleventh grade.....				70	67	137		
Twelfth grade.....				62	47	109		
Total number of pupils enrolled all grades.....				1,995	1,896	3,891		
Total number of transfers.....				291	237	528		
				Net enrollment		Boys	Girls	Total
				October	May			
<b>Summary of enrollment:</b>								
Kindergarten.....				225	205	126	141	267
Elementary (1-6).....				1,754	1,964	1,241	1,137	2,378
Junior high school (7-9).....				645	651	405	424	829
Senior high school (10-postgraduate).....				421	408	223	194	417
Total number of pupils enrolled in all grades.....				3,045	3,228	1,995	1,896	3,891
<b>6. Graduation statistics:</b>								
Number of pupils graduated from (or completed) the eighth grade.....						100	116	216
Number of pupils graduated from high school.....						61	43	104

*Kennewick public schools: Recapitulation of capacities*

	Number enrolled	Rooms needed	Special rooms needed	Total rooms available	Additional rooms needed
Kindergarten.....	206	3	1 music.....	2	-----
First.....	350	12	1 remedial.....	10	-----
Second.....	319	10	1 library.....	10	7
Third.....	319	10	1 music.....	10	-----
Total.....	1,194	35	4.....	32	7
Fourth.....	303	10	1 remedial.....	-----	-----
Fifth.....	300	10	1 music.....	22	32
Sixth.....	283	9	1 library.....	-----	-----
Total.....	866	29	3.....	22	32
Junior high.....	719	29	4 music.....	23	-----
Senior high.....	416	17	2 library.....	12	39
			10 vocational.....		
Total.....	1,135	46	16.....	35	39
Grand total.....	3,195	110	23.....	89	78

<sup>1</sup> Temporary.<sup>2</sup> Adequate rooms.<sup>3</sup> Inadequate rooms being used.<sup>4</sup> 55 adequate rooms.

Mr. JACKSON. If I got it straight, the temporary buildings were not put in until the fall of 1948. How did you get along prior to that?

Mr. BLACK. Well, it was the next thing to using hooks—everything that you could find to hang a youngster on is where they were placed.

We had many Monday mornings from one to three classrooms of new students to appear with us with no teachers, no rooms, and no facilities, and we just had to load them onto someone else until we could find a place, a teacher, and some basement room to place them in.

Mr. JACKSON. The rooms were classrooms which were completely overcrowded prior to that. Some of them you had to turn away?

Mr. BLACK. We did not, no; even if we had as high as better than 60 students per grade, we did not turn them away. We have done everything in our power to hold on and carry on so far, but the people of our community feel now that they have carried so far and have broken down the entire efficiency for their own system for which they paid, and that they are entitled to some consideration in obtaining somewhat of an efficient system back in the school district.

Mr. JACKSON. How many students do you average in each classroom now with the temporary facilities?

Mr. BLACK. Last year, I would say it was, the average was close to 45. Standard in the State is 30.

Mr. JACKSON. And prior to that it was over 60?

Mr. BLACK. Yes.

Mr. JACKSON. And the State average is what?

Mr. BLACK. The State standard is 30 per room in elementary school, 25 in junior and senior high school.

Mr. JACKSON. Thirty and what?

Mr. BLACK. Twenty-five in junior and senior high school.

Mr. JACKSON. You do not know what the State average is now?

Mr. BLACK. I could not give that to you, sir.

Mr. JACKSON. Do you want to ask any questions on Kennewick, Mr. Cole?

Mr. COLE. Yes.

What are the terms of this present arrangement which you have, which you say is satisfactory with respect to maintenance?

Mr. BLACK. In the State of Washington, which is one of the best States in the Union, they pay on a previous year's attendance.

Mr. COLE. I am speaking of the agreement you have with the Atomic Energy Commission with respect to—

Mr. BLACK. That is what I was leading up to.

Mr. COLE. Oh.

Mr. BLACK. They pay on the previous year; so after the first year of attendance the State picks it up and on attendance, for operation purposes alone, the AEC pays on the first year only, and after the first year, then it is taken care of by the State. So the operations are completed after the first year's attendance—taken over by the State.

Mr. COLE. Well, what was this source of the \$300,000 item to which you made reference as coming from the AEC?

Mr. BLACK. That was for temporary construction, an agreement, I believe, that differenct schools have with the AEC at present which enters into the sum of probably a million and a quarter dollars, or something like that; I just do not know what it is.

Mr. COLE. That is based on \$300 per pupil?

Mr. BLACK. Yes, sir.

Mr. JACKSON. And that is deducted from the over-all figure proposed in the report, as I understand it; is that right, Mr. Shaw?

Mr. SMYTHE. This \$353,000 has not been expended?

Mr. BLACK. No.

Mr. JACKSON. And that is a deduction?

Mr. SHAW. It was the idea of the method in calculation shown in the report, and—

Mr. JACKSON. Yes.

Mr. SHAW (continuing). Envisage the subtracting of any funds furnished of that nature from what would be computed by using the formula proposed.

Mr. COLE. Is that the only manner in which the AEC participates in maintenance and operation in this initial year's enrollment?

Mr. BLACK. Yes, sir.

Mr. COLE. Last week we were told there were some additional means of help given to the districts by way of operation through transportation.

Mr. BLACK. Transportation; yes. The fact of the matter is that we owned and operated 19 58-passenger school busses at the district's expense when this began, and the loads on those busses developed to a place where we were hauling many times that, with 138 getting off a 58-passenger bus, so the State patrol came in and offered to close all our transportation unless we had it helped in some manner, and if it had not been we would have had to close AEC people off the busses because the other people had spent the money and paid for the busses.

We are now operating 15 of the AEC busses in addition to our own 19, making a total transportation system of 34 busses.

Mr. COLE. What do you mean you were operating? Did the AEC just give you the bus and you provided the driver?

Mr. BLACK. Yes.

Mr. COLE. And maintenance, and you pay the gasoline and upkeep?

Mr. BLACK. Yes, sir.

Mr. COLE. All they do is to lend you the use of the bus; is that the nature of the assistance?

Mr. BLACK. Yes, sir.

Mr. COLE. What is the situation with respect to the Richland schools? Are they filled to capacity?

Mr. BLACK. Well, I believe Mr. Shaw could answer that better than I could.

Mr. SHAW. May I speak to that? They are.

Mr. COLE. But they are nowhere near as congested as the Kennewick schools, I assume. What I am inquiring about is to what extent you have considered taking into the the Richland school system, by bus system, some of your people who are living in Kennewick, and to that extent relieve the Kennewick congestion?

Mr. SHAW. Well, of course, I cannot answer as to the appropriateness of that, but as to the actual number of pupils in the Richland school district, it did amount last year to a degree of crowding which was comparable to that in the surrounding areas.

However, our facilities that we do have are new, of course, in Richland, and we have completed some structures since then, so that when it comes to comparing good modern school buildings in the Richland school district as compared with those in surrounding districts, Richland is much better off.

Mr. COLE. Do you not have room at Richland for more students?

Mr. SHAW. No; we are full. We have some room in North Richland. We will probably have some room in North Richland.

Mr. COLE. What is your average classroom use—not capacity, use?

Mr. SHAW. I do not have a figure very readily available. From some data I have here, I could get a right figure for you.

Mr. COLE. Do you know what it is, Mr. Black?

Mr. BLACK. What is that?

Mr. COLE. Do you know what it is in Richland?

Mr. BLACK. I do not.

Mr. SHAW. It is in the vicinity of 35 or 36 pupils per classroom.

Mr. COLE. As against Kennewick's 45?

Mr. SHAW. As against Kennewick's 42.

Mr. JACKSON. You have taken some overflow from Richland into Kennewick and elsewhere, or have they all been taken care of in Richland?

Mr. SHAW. No, the school districts have all carried their own pupils. It is a geographic set-up with respect to the school districts there, and each one has staunchly taken care of its own pupils.

Mr. JACKSON. I mean, have you been able to take care of all of them in Richland?

Mr. SHAW. Yes.

Mr. COLE. What is the distance between Richland and Kennewick, about 5 or 6 miles?

Mr. SHAW. About 10 that I counted.

Mr. BLACK. Nine.

Mr. SHAW. Nine you counted.

Mr. BLACK. That is close enough.

Mr. COLE. What did you mean, Mr. Black, you could do business on the outside of the reservation at a 30 percent advantage?

Mr. BLACK. On the average cost.

Well, now, I will tell you how I gain my estimation on that.

Mr. COLE. What were you talking about, first? Building construction?

Mr. BLACK. No. The first remark I made was on the operation cost per capita, and I will explain how I got that idea.

The State appropriates on an attendance basis so much money, and our district funds represent 75 percent of our total cost of operation.

Richland printed their budget in the paper, and the total amount they got from the State that they matched dollar for dollar, which could not be matched in Kennewick, that was the printed budget for this next year, which would give them a decided—I figure according to the budget rather conservatively, and also Mr. Shaw can answer this one probably better than I, but I have been informed by State officials that in Richland, in addition to this, they are granted their utilities and buildings free of charge, which is quite an item in an operating budget, so—

Mr. COLE. Do I understand that Richland's school system receives State help?

Mr. BLACK. Yes, sir.

Mr. JACKSON. They get so much per pupil.

Mr. COLE. On the same basis as Kennewick?

Mr. BLACK. They get exactly the same money from the State, with this exception, as I understand it. The valuation in the district times 10 mills, which the district can levy without a vote of the people, represents local funds, and in our State we have what is known as an equalization law; if that 10-mill levy does not raise 20 cents a day the district makes up the difference, and in Kennewick, I think the equalization fund from the State to us is about \$70,000 a year. It is the only fund in Richland that the State does not make up because they have concentrated construction there that is not valued or not taxed.

Mr. COLE. Did I understand you to say that the utilities of Richland school system are not charged against the school system?

Mr. BLACK. That was my understanding.

Mr. COLE. But are furnished by AEC?

Mr. SHAW. They are not shown in the Richland school budget. We show them in our appraisal of our school system.

Mr. COLE. Why do you cite that as a factor which indicates that you can operate cheaper on the outside than you can on the inside? You have to pay for your utilities, and they do not.

Mr. BLACK. They do not, but it is a part of the cost of education, and if added to it would increase the cost to a place where we would be at least that much or lower in cost of operation.

Mr. COLE. You mean, assuming that the Richland district paid for its utilities on a comparable basis—

Mr. BLACK. That is right.

Mr. COLE (continuing). As your district did?

Mr. BLACK. That is right.

Mr. COLE. That you would then—

Mr. BLACK. Be operating—

Mr. COLE (continuing). Be operating at a 30-percent more favorable differential over the operation at Richland?

Mr. BLACK. Yes, sir.

Mr. COLE. I do not understand why you can do it?

Mr. BLACK. Well, we are operating by the State average cost, and the fact of the matter is that we are caught in a bind where we have to operate at much less than the State average cost.

Mr. COLE. Is your teacher salary scale less than Richland's?

Mr. BLACK. I am quite sure it is.

Mr. JACKSON. I wonder if this might be helpful at this point?

Mr. COLE. Go ahead.

Mr. JACKSON. What is the cost per pupil for operation and maintenance in the Kennewick school system as compared with the Richland school system on a comparable basis?

Mr. BLACK. Last year is the only year for which I can actually give you statistics, and the average over-all cost, as I recall, in Kennewick was \$1; and the over-all cost as listed by the State report, I think, in Richland, was \$1.16, which was not inclusive of utilities.

Mr. JACKSON. They have had quite a difficult problem in getting teachers in there, too, have they not? I mean, during part of this period you have had a shortage of school teachers up until just the past year.

Mr. BLACK. There were approximately 100,000 short throughout the Nation as a whole.

Mr. JACKSON. Yes; but I mean has there not been some bidding for teachers?

Mr. BLACK. Yes, sir.

Mr. JACKSON. So that it has been a problem and school districts have been varying quite a bit in operation and maintenance costs.

Mr. BLACK. However, we have tried to maintain and remain at the State average cost.

Mr. JACKSON. But what I meant to say was that I know that in some school districts in the State, the operation and maintenance cost will vary about—I do not know how much, but a percentage due to, especially, the expanding school areas where they have had to bid for teachers, so to speak, and have had to pay more for salaries and other things.

Mr. BLACK. However, I do think that last year the total cost, over-all cost, in Kennewick, Pasco, and Sunnyside, with all comparably sized systems, was exactly the same.

Mr. JACKSON. You mean among those three?

Mr. BLACK. The three largest surrounding school systems.

Mr. COLE. How much does this AEC assistance by way of the initial year's contribution, which I consider to be comparable to tuition—how much does that amount to for the coming year?

Mr. BLACK. Well, this would only be a guess: The first year, the year before last, it seems to me that it was better than \$50,000 or \$60,000, and this year, I believe it was \$80,000 or \$90,000; and based upon that same basis, unless we get another terrific influx, it will practically level off this next year on an appropriation basis.

Mr. COLE. At about \$90,000?

Mr. BLACK. No. It will level off at no cost to the AEC.

Mr. COLE. There will not be any, because there is not anticipated that there will be any.

Mr. BLACK. Increase.

Mr. COLE. Initial students.

Mr. BLACK. If enrollment levels off, then the costs will stop.

Mr. COLE. Using the Alves committee formula against the estimated cost of this new high school of \$1,800,000, what would be the Commission's contribution?

Mr. BLACK. Well, on a per capita basis, for the over-all system, including additions and deductions, I would say that their total, including this contract we have previously signed at \$353,000 at Kennewick alone, which is approximately half of the whole outside area, would amount to between two and two and a half million dollars at Kennewick.

Mr. COLE. I am just directing my attention now to the school building for 300 students.

Mr. BLACK. Eight hundred.

Mr. COLE. Eight hundred?

Mr. BLACK. Yes.

Mr. JACKSON. This is a senior high school?

Mr. BLACK. Yes, sir.

Mr. JACKSON. And what Mr. Cole has in mind is what the contribution would be by the AEC to the cost, the total cost of the construction of the building.

Mr. BLACK. Well, it would be, according to the formula which might be worked out if you want to take it building by building—

Mr. JACKSON. Following the report, I mean on the per capita basis.

Mr. BLACK. The building could not be built if it were followed on the per capita of the one individual set-up.

We have previously taken care of a lot of the load in the rest of it, and they are taking the average cost over-all. The cost per capita on the high school alone in the building—it could not be built.

Mr. JACKSON. You mean you have to treat it as an entirety, the whole school-improvement program?

Mr. BLACK. Yes.

Mr. COLE. I do not see why you cannot use the same formula against the cost of several buildings.

Mr. BLACK. Because, although the funds are available, for funds matched on that one building, they would not match it. For instance, the average cost in the State as submitted to AEC was \$1,600, and I got a certified cost from the State the other day on a senior high school, and their costs in the State at the present time are about \$2,650 per child, with equipment and—

Mr. JACKSON. What was that again?

Mr. BLACK. It is right in the neighborhood of \$2,650.

Mr. JACKSON. For a senior high school?

Mr. BLACK. Yes.

Mr. JACKSON. How much is it for a junior high school?

Mr. BLACK. \$2,100 and some, and the elementary is a little less than \$1,500.

Mr. JACKSON. That would still bring the average above \$1,600, would it not?

Mr. BLACK. No; if you weight them, as we had weighted them. I think it will come up to a little better than \$1,800, minus your other deductions which will bring it back to less than \$1,600.

Mr. JACKSON. I am sorry. Mathematically, I was assuming they would all be in equal proportion, but your point is there would be more of the junior high than grade school.

Mr. BLACK. Elementary.

Mr. JACKSON. Elementary school construction.

Mr. BLACK. That is right.

Mr. JACKSON. And this first building that you propose to build involves the highest element of cost, namely, the senior high school, which would bring your costs per pupil above the average, which applies to all three types of school construction.

Mr. BLACK. That is right.

Mr. JACKSON. Is that the point?

Mr. BLACK. Yes, sir.

Mr. COLE. I do not see how the Commission can be expected at this time to indicate its readiness to participate in construction of the new high school until it knows what that participation is going to amount to.

Mr. BLACK. Well, sir, if it is worked out on the formula basis, as I said, the total contribution would be slightly over \$2,000,000.

Mr. COLE. That is for building what you hope to build within the next 2, 3, or 4 years.

Mr. BLACK. Well, they are all in the formulation of the plans now to carry on. They will have to follow this logical sequence. The fact of the matter is that the elementaries will have to be constructed during the winter. We cannot tie onto a junior high school just because we have to have it for operation during the year, but we would expect it to begin by the close of the next school term.

Mr. COLE. You mean it is impossible then to break the total school load for the Kennewick district down into separate items to arrive at the fair contribution from the Commission?

Mr. BLACK. If you would take it on the average cost, as this is placed, and expect us to build with what funds are available, the senior high at the higher rate, then we could not do it because there would not be enough money available.

Mr. COLE. You mean you could not build it?

Mr. BLACK. That is right.

Mr. COLE. You could arrive at the amount of the Federal contribution.

Mr. BLACK. We could arrive at it, but it would not make possible the building.

Mr. COLE. What is that figure, do you know?

Mr. BLACK. What is that?

Mr. COLE. What is that figure, the Federal contribution?

Mr. BLACK. Totally is the only way I can give it to you.

Mr. COLE. How many Federal students are enrolled in your high school?

Mr. BLACK. Pay-roll attendees, as the chart puts forth in the recommendation of the committee, which was audited by the auditors in Richland, were 1,573.

Mr. COLE. Is that an average daily attendance figure or a total enrollment figure?

Mr. BLACK. It was the pay-roll attendees this last year.

Mr. COLE. That was the total enrollment?

Mr. JACKSON. 1,573 for all schools—grade, junior, and senior high schools?

Mr. BLACK. Yes.

Mr. COLE. What is it for the high school, senior high school?

Mr. BLACK. We do not have that segregated.

Mr. COLE. Can you estimate the number of Federal students enrolled in your senior high school?

Mr. BLACK. I cannot unless I would call back home. I do not have the statistics with me.

Mr. COLE. Does anybody have any figure that he could throw out as being the amount representing the Commission's share for the cost of this new school building? That is the immediate problem, is it not? Before you let a contract to construct a new building, you want to know where you are going to get your money from, as I understand it.

Mr. BLACK. Yes, sir.

Mr. COLE. As I understand it further, you do not feel that you are in a position to let a contract; in fact, you cannot, unless and until you get some assurance from the Federal Government that there will be Federal assistance, and unless that Federal assistance is sufficient to make it possible for you to do it.

Mr. BLACK. That is right.

Mr. COLE. On the other hand, the Commission has some responsibilities in handling its money. Its sources of revenue are not unlimited either. Before it undertakes to give you that assurance it has got to have some indication of what it is going to cost the Commission.

Mr. BLACK. Well, I say, sir, that in every district here, the cost of buildings needed all exceed whatever local and State and Federal, combined, would do, which they must move toward building immediately, and would still leave them far in arrears, so, as worked out on a 3-day conference in Richland, a formula whereby they would pay all by the average, because it is pretty difficult to—

Mr. JACKSON. That is true, Mr. Black, but I think Mr. Cole raised a good point here, that we have an immediate situation, as you stated with reference to the high school. The Commission's funds are a source of difficulty from time to time. At the moment, they are between the House and Senate in conference, and the specific situation at the moment is this, as I see it: How much money would be added from the AEC immediately to take care of this senior high school? I think that is the point.

Mr. BLACK. I can answer that so far in this —

Mr. JACKSON. That is the point Mr. Cole has made.

Mr. BLACK (continuing). That the district would have \$300,000 available if they sold their bonds. Now, how much help Mr. Shaw could give me, with Mrs. Pearl Wanamaker, who was the State superintendent of schools—she had \$6,500,000, and I think that that is allocated in the amount of \$7,500,000 already before she gets to us with ready money, and whether it would not be used, or not, and whether there would be any left available back for us, would be another problem, but the building will possibly run in the neighborhood of \$1,800,000 and \$300,000 of ours, it would take \$1,500,000, and there would have to be funds from someone else in order to carry on with program.

Mr. JACKSON. Wait a minute. You have \$300,000 of bonds, I mean, that have been levied.

Mr. BLACK. Voted, but not sold.

Mr. JACKSON. Not sold, but, anyway, they are authorized.

Mr. BLACK. That is right.

Mr. JACKSON. And you received from the Commission in connection with this temporary school program——

Mr. BLACK. We have a contract. We have not accepted any fund as yet.

Mr. JACKSON. I mean that money has been appropriated. It is in the till.

Mr. HOLLIS. \$353,000.

Mr. JACKSON. Yes.

Mr. HOLLIS. You already have that.

Mr. BLACK. We have the contracts worked out.

Mr. JACKSON. The money is obligated, so that is \$353,000.

Mr. COLE. Let me ask: Can all of that \$353,000 be applied, if you want to, to this new school building?

Mr. BLACK. Under the contract it can be, if the building exceeds that amount of money.

Mr. COLE. Can the Kennewick district apply all of the funds given to it by the Commission for temporary school housing, which amounts to \$353,000—can that be applied by the school district for this senior high school?

Mr. BLACK. Yes, sir.

Mr. COLE. It can.

Mr. JACKSON. Under the agreement—if I am in error in this, I would like the record corrected—as I understand it, the allocation of funds for temporary school housing does not necessarily have to be used by the school district for temporary units; it can be used for housing for permanence if the school district so decides.

Mr. SHAW. That is correct. The intention of that money is to help them to keep their heads above water during the emergency period. If they find, that is, the school district, that it can raise from its own sources, and coupled with State money as it can get it, it can use our money to obtain better classrooms than they could using that money for a separate entity. We have agreed by the terms of our contracts to permit them to so do.

Mr. COLE. That is their business.

Mr. SHAW. Yes.

Mr. COLE. It is up to them to decide.

Mr. SHAW. Yes, they can get over the hump and wind up with something that is more valuable to them in the long run. We made the contacts, so that they could do it.

Mr. JACKSON. We have \$653,000, if my arithmetic is correct, in the till, or can be put in the till, and the school building costs \$1,800,000, which leaves roughly \$1,200,000.

Mr. BLACK. I think offhand we probably could bleed Mrs. Wana-maker. Off the record.

(Discussion off the record.)

Mr. COLE. Put it on the record that you can bleed her for five—do not let——

Mr. BLACK. According to the schedule, they are supposed to give us \$7,000.

Mr. COLE. Well, then, bleed them for eight. I am surprised that you make the statement that you think you can bleed them for two.

Mr. BLACK. Well, it would be bleeding, because I do not think she has the money.

Mr. COLE. She has a million which she has not allocated as yet.

Mr. JACKSON. The legislature appropriated \$7,000,000.

Mr. BLACK. Six and a half, but there was——

Mr. JACKSON. And the earthquake took about how much?

Mr. BLACK. \$7,500,000.

Mr. SHAW. Excuse me, but is it not appropriate to call attention to the fact that by their schedule of State matching money, the school district is entitled to \$700,000 or more from the State for the \$300,000 that it has; is that correct?

Mr. BLACK. But if it is not there, the building cannot be built. We cannot sign the contract until the commitment is in the till—the money is in the till.

Mr. JACKSON. What we are trying to do is to get as much factual information as we can in connection with this emergency situation so that the Commission may have some idea as to how much money they will need immediately, forgetting for the moment the formula, that we have discussed, the committee worked out. I believe that is a fair suggestion, is it not, Mr. Cole, that we want to get the immediate need as far as money is concerned, to meet this proposed senior high school building?

Mr. BLACK. Well, that leads to a question of high importance. If we spend all of our money, and supposing we get all we got from the State and you helped us on this one building and we went into it, then we would be sitting back with no money of our own, no money from the State, and with a junior and two elementary buildings to build.

Mr. COLE. Well, would you not be sure of getting enough assistance, so that you could go ahead and construct the high-school building than not to accept that present solution for the immediate future, with the expectation and the mere hope that you might get Federal assistance for your entire program?

Mr. BLACK. Well, sir, it has been since 1943 trying to solve our problems, that it has taken approximately 14 hours a day of my time on financing to keep the district above water. It would be much easier for us to grant the AEC their busses back and permit them to travel through the district and pick up their students and take them to Richland at a higher cost. It would certainly save us lots of headaches and lots of problems.

Mr. JACKSON. Give us the picture with respect to the rest of the school districts.

Mr. COLE. I still would like to get some figure which would represent the Federal share of this new high school, so that we would know whether to urge the Commission to go to the Budget Bureau and ask the Bureau of the Budget for immediate clearance on its authority to obligate the Commission to the extent of whatever that figure may be, so that you can go ahead and let your contract, but I am not going to be in a position to urge the Commission to do it or not to do it without getting some idea of what the amount is.

Mr. BLACK. Well, I doubt very much if the State could find any place over \$200,000 at the present time to add to this building program until after the bond election in November of 1950, and the figure given on that building is the building itself and not equipped, which again, will probably add another \$150,000 to the cost of it, so, with our \$300,000, and \$353,000, as you consider already obligated, and \$200,000 from the State, would give us approximately

\$853,000 as against \$1,950,000, which would leave on that one building one-million-one-hundred-some-odd-thousand dollars. But I will get a terrific reaction in my own community in proposing one building.

Mr. COLE. You are not proposing it; you are not. The community should not get the idea that you are proposing it. Somebody else is making the proposition, not you. I do not know as anybody is making it yet. I am trying to find out whether the proposition should be made or not, but certainly I can see that you are not in a position to make it as a proposition and go home alive. Did not somebody last week testify that the Federal shares under the Alves' formula would amount to about 60 percent of the cost of construction based on the number of Federal students?

Mr. JACKSON. If so, I think it was for the entire program. I do not believe it was broken down.

Mr. COLE. For the entire program?

Mr. BLACK. I think that could be explained in this way: That after all the Federal pattern throughout the war, in the war effort, at least, was one service person or concessionaire for every two on the pay roll, and every district has that, which is not included.

The only place that they take care of the concessionaires is in Richland, and we have between six and seven hundred students who are causing a squeeze in our place, according to this, and 703 would include our normal growth, too; but in 1943 it was 772, and the average daily attendance this year is 2,841, an increase of 2,069, with a percent of increase of 268, corrected by just a set figure, brings a total enrollment of 3,125 increase over 1943 of 2,276. Those connected on pay roll—that was audited out—1,573, leaving federally incurred otherwise 703 individuals; and you can see that problem alone is approximately double what our original started out to be; that we have to care for outside of the pay-roll attachments that amount.

Now, taking those in total——

Mr. JACKSON. If you do not have it, you can supply it later for the record.

Mr. BLACK. These can be added up. I think it has been added on the original sheet—3,260 is the total pay-roll attachees of all district, and the Kennewick load is 1,573.

Mr. JACKSON. You said that did not include the service personnel?

Mr. BLACK. That is right.

Mr. JACKSON. By that do you mean to exclude the concessionaires? They are included.

Mr. BLACK. The formula is—no, they are not.

Mr. JACKSON. I think according to Mr. Alves' testimony——

Mr. BLACK. No; not in our district. They are included if they are in concessionaire work within the reservation, and live within our district, but those who live within our district and do concessionaire work for people who live there, which has caused the absurd growth of 703 people in addition to that are not cared for.

Mr. JACKSON. I see what you mean. You mean the children whose parents live in your district but who operate a concession in Richland?

Mr. BLACK. They are paid for, but the operation——

Mr. JACKSON. They are paid for?

Mr. BLACK. But if the concession is in Kennewick they are not paid for.

Mr. COLE. The Commission does not have any concessions outside.

Mr. JACKSON. You are referring to indirect service personnel?

Mr. BLACK. That is right.

Mr. COLE. If the Commission were to assure you that it would participate in this new high school to the additional extent of \$500,000 beyond this \$350,000, which is already committed, can you not see your way clear to get the funds to put up the building?

Mr. BLACK. No; because the State does not have it.

Mr. COLE. But under the State formula you are entitled to it.

Mr. BLACK. The State did not appropriate the money. It is not there.

Mr. COLE. It is difficult to understand why a State would adopt a formula for local assistance with one resolution and fail to support it by appropriating sufficient funds to match the formula.

Mr. BLACK. I might say that the amount requested to match all of them on the matching basis within the State which would have been required for the State of Washington was \$40,000,000. The amount given the State superintendent to disburse was \$6,500,000.

Now the legislature did pass a resolution sending this thing to a bond election as of November 1950, for the \$40,000,000, hoping that it would take care of some of the increase there so that the money is still to be raised, so the superintendent has \$6,500,000 as against a \$40,000,000 request. In addition and on top of it along came an earthquake that required \$7,500,000.

Mr. COLE. I am ready to go to another district, but first let me understand, you are authorized to speak for the other districts?

Mr. BLACK. Yes, sir.

Mr. COLE. I assume, therefore, that the other districts are satisfied or will be satisfied with the degree of insistence on which you represent their problem as against your own?

Mr. BLACK. My understanding with them is that they want to settle on the formula basis, which is the basis on which they will be satisfied.

Sunnyside is the next largest district in this community.

Improvised and inadequate classrooms: During the 1949-50 school term, classes of Sunnyside schools will occupy 27 improvised, outmoded, and substandard classes.

Mr. JACKSON. Classrooms you are referring to?

Mr. BLACK. Yes, sir.

In the local Federal housing project they will have two rooms; in the local church basement, three rooms; in a bus garage, two rooms; in outmoded and unsatisfactory school buildings, eight rooms; in storerooms, halls, outbuildings of schools, behind and under auditorium stages, and in other improvised space there will be 12 rooms, for a total of 27. That is in Sunnyside.

Overcrowded classrooms: In the Sunnyside system this fall there will be at least 30 classrooms designed to accommodate no more than 30 children each, which will house 40 or more children.

Number of classes needed to alleviate this condition, 12.

Total classrooms needed now: The total number of classes needed for the coming school year to meet minimum standards would be 39.

Now under construction: At the present time five classrooms and a gymnasium are being added to one of the elementary school buildings at a cost of about \$170,000.

Buildings planned: Senior high school, including industrial arts shops, trades and industries shop, agriculture shop, auditorium and library, approximately \$2,000,000.

Two 15-classroom elementary buildings or additions at a cost of about \$450,000 each, or \$900,000, for a total cost of buildings planned of \$2,900,000.

Financial information: The Sunnyside school district No. 201 has, during the past 8 years, endeavored to raise funds to provide facilities for the children of the district. During this time it has bonded itself to the legal limit three times and voted two special levies, one for 40 mills, and one for 20 mills. These levies, as well as millages for bond redemption, are over and above the 10 mills allowed without an official special vote of the people.

The district now finds the three sources for raising money expended to the limit. No more than 2 mills from the original 10 mills can go into the building fund. But, with a rapidly increasing enrollment, it is necessary to use all this, plus special aid to operate the schools. The 5-percent bond limit has been passed and all the bonds voted cannot be sold until valuations increase and some bonds have been redeemed. Therefore, the district cannot have another bond election for some years to come. Special levies can be voted by the people every calendar year, which has been done.

However, if every source were utilized, it would be impossible to raise enough money to house the natural increase plus the students whose parents work for the Atomic Energy Commission.

The citizens of the school district have accepted the problem and have been willing to extend every effort to provide building facilities. Therefore, they now feel that some assistance should be forthcoming so that all the children in the district do not suffer because of the influx, over which they have no control.

Money that has been raised has been used for the construction of an elementary school completed in 1949 at a cost of \$650,000. Five classrooms are now under construction. There is a small balance left, which will apply on the next project undertaken.

Enrollment information: The enrollment of the Sunnyside school district has approximately doubled since 1943-44, which was the beginning of the reorganized district. The total enrollment in 1948-49 was 3,327. An increase of about 200 is anticipated for 1949-50. However, the marked increase coincided with the beginning of the Hanford project. During the past school year, we had 528 students whose parents worked on the project.

Needed facilities to alleviate problem: Several surveys of the building problem have been conducted and all have come to the same conclusion. A new elementary building has recently been completed and additional rooms are under construction. However, to house all the children it will be necessary in the next 3 years to make additions to two existing elementary schools, and build a new high school, thus converting the present high school into junior high school. This will provide no more than adequate space for natural growth, not including growth caused by Federal projects. All new buildings that can be constructed will be inadequate before they can be finished.

The Sunnyside school district must have maximum effort locally, maximum from the State, and maximum assistance from the Federal Government if the children are to have buildings in which to go to school.

Here is the average daily attendance in 1943-44. They had a total of 1,514. Then it grows each year on up until 1948 and 1949, and their total enrollment was 2,453. The total they estimate, something over 200—an increase—during the next year, which will probably more than likely hold true in Kennewick. Graduating a class of 104 seniors out of high school, and an estimated incoming class into the first grade of 350, will still leave us well over 200 as a growth from that situation alone.

Financial situation in Sunnyside 1940-41 they voted 10 mills, 1941-42, 9 mills, 1942-43, 1.25 mills. I guess they did not have any there for a number of years, but 8 mills on bonds; in 1941-42, 5 mills; 1942-43, 7 mills; 1943-44, 8 mills; 1944-45, 3 mills; 1945-46, 7.5 mills; 1946-47, 9 mills. In 1947-48, 7 mills.

Mr. JACKSON. You can put that all into the record.

(The financial data together with miscellaneous information referred to is as follows:)

*Financial*

	1940-41	1941-42	1942-43	1943-44	1944-45	1945-46	1946-47	1947-48
Building (mills).....	10	9	1.25	-----	-----	-----	-----	-----
Bonds (mills).....	8	5	7	8	3	7.5	9	7
Special levies (mills).....	-----	-----	-----	-----	-----	-----	40	20
Total.....	18	14	8½	8	3	7.5	49	27
Bonds.....	-----	\$40,000	-----	-----	\$100,000	-----	-----	\$175,000

*Sunnyside public schools: Miscellaneous information for school year ending June 30, 1949, school district No. 201, Yakima County*<sup>1</sup>

PLANTS, EQUIPMENT AND SCHOOLS

	Number of school houses built during year	Cost of new buildings	Number of school houses used during year	Value of all sites and buildings	Value of equipment	Number of schools maintained
1. Kindergarten and elementary schools (combined).....	1	\$650,000	6	\$1,370,536	\$184,677	6
2. Regular high schools.....	-----	-----	1	380,697	87,166	1
Total.....	1	650,000	7	1,751,233	271,843	7

<sup>1</sup> Insurance on schoolhouses, furniture, etc.: Amount carried, \$1,399,388; annual premium, \$3,704.17. (Annual premium means cost per year: e. g., ¼ of 3-year premium or ¼ of 5-year, etc.)

Amount of fire damage during year: None. Insurance collected: None.

Number of reference and other books in school library: 12,000. Number of free textbooks: 16,000.

Number of radio receiving sets owned: 3.

Motion-picture projectors: 6.

Number of district-owned teachers' cottages, housing units and apartments: 2.

*Sunnyside public schools: Miscellaneous information for school year ending June 30, 1949, school district No. 201, Yakima County—Continued*

## RECORD OF ATTENDANCE AND ENROLLMENT

[Number of days taught: 180]

	Total
<b>1. Actual attendance:</b>	
Elementary school (1-8) (full days).....	316,303
Regular high school (9 p. g.) (full days).....	107,059
Total for all grades (full days).....	423,362
Evening classes (student-hours): Total student-hours attendance.....	140
Kindergarten (2-hour days).....	18,217
<b>2. Vocational attendance (already included above, approved for extra apportionment credit):</b>	
Day-school classes (student-hours).....	77,764
Evening classes (student-hours).....	140
Total vocational attendance (student-hours).....	77,904
<b>3. Average daily attendance:</b>	
Kindergarten.....	101
Elementary school (1-8).....	1,757
Regular high school (9 p. g.).....	595
Total for all grades.....	2,453

	Boys	Girls	Total
<b>4. Enrollment, by grades:</b>			
Kindergarten.....	71	55	126
First grade.....	184	167	351
Second grade.....	191	191	382
Third grade.....	192	213	405
Fourth grade.....	170	129	299
Fifth grade.....	145	132	277
Sixth grade.....	135	144	279
Regular seventh grade.....	128	129	257
Regular eighth grade.....	123	126	249
Regular ninth grade.....	106	131	237
Tenth grade.....	87	91	178
Eleventh grade.....	78	102	180
Twelfth grade.....	59	58	117
Total number of pupils enrolled in all grades.....	1,669	1,658	3,327
Total number of transfers.....	284	272	556

	Net enrollment		Boys	Girls	Total
	October	May			
<b>5. Summary of enrollment:</b>					
Kindergarten.....	120	113	71	55	126
Elementary (1-8).....	1,852	1,920	1,268	1,221	2,489
Regular high school (9 p. g.).....	655	619	330	382	712
Total number of pupils enrolled, all grades.....	2,627	2,652	1,669	1,658	3,327
Evening classes: Total number of pupils enrolled in evening, part-time, and day adult classes.....			7	0	7
<b>6. Graduation statistics:</b>					
Number of pupils graduated from (or completed) eighth grade.....			105	111	216
Number of pupils graduated from high school.....			59	53	112

*Sunnyside public schools: Miscellaneous information for school year ending June 30, 1949, school district No. 201, Yakima, County—Continued*

## NUMBER OF EDUCATIONAL UNITS\*

Position	Number, full-time basis		Aggregate salary	
	Men	Women	Men	Women
<b>A. Superintendents and supervisors:</b>				
1. Superintendent and assistant superintendents.....	2.00	0	\$11,700.00	-----
2. Directors and supervisors.....	0	1.00	-----	\$2,777.77
Total for A.....	2.00	1.00	11,700.00	2,777.77
<b>B. Principals and vice principals:</b>				
1. Elementary schools.....	3.00	0	13,900.00	-----
3. High schools.....	2.00	0	8,700.00	-----
Total for B.....	5.00	0	22,600.00	-----
<b>C. Classroom teachers:</b>				
1. Kindergarten.....	0.00	2.00	-----	5,200.00
2. Elementary.....	13.50	48.06	41,576.20	133,144.44
4. High schools.....	14.02	13.50	49,337.03	39,427.78
8. Evening and part-time schools.....	.02	-----	50.00	-----
Total for C.....	27.54	63.56	90,963.23	177,772.22
<b>D. Special-service personnel:</b>				
1. Special and remedial teachers.....	0	4.00	-----	12,525.00
2. Counselors.....	0	1.00	-----	3,700.00
3. Librarians and/or audio-visual service.....	1	2.00	3,100.00	6,650.00
Total for D.....	1	7.00	3,100.00	22,875.00
Grand total of A, B, C, and D.....	35.54	71.56	128,363.23	203,424.99

\* Basis for apportioning State funds for educational units.

Mr. JACKSON. As I read that table 1, which was included in the report, in the case of Sunnyside under the formula there are 440 federally incurred students, and you have 1,573 in Kennewick.

Mr. BLACK. That is right.

Mr. JACKSON. How many temporary classrooms were supplied by the Atomic Energy Commission in Sunnyside? Maybe Mr. Shaw can answer that?

Mr. SHAW. Five.

Mr. JACKSON. And the rest of the temporary facilities that you made reference to in your report on Sunnyside, I take it, are improvised buildings that have obtained them in their own areas?

Mr. SHAW. No; they built themselves a permanent new 21-classroom elementary school that they finished early this spring, about February or March.

Mr. JACKSON. Well, he is talking about one classroom over a garage or something.

Mr. SHAW. Those are things that they have been using over a long period of time; very inadequate space, but they have been making use of it, just like all other school districts.

Mr. BLACK. This report submitted to me says that these facilities will have to be used in 1949-50. I can see that because they have had nearly 30 rooms under double shift in Sunnyside. That is the only school in the area that double-shifted.

Mr. JACKSON. They operated on a two-shift basis?

Mr. BLACK. Yes, sir.

Mr. COLE. I was wondering how that worked out.

Mr. BLACK. Achievement has proved that that efficiency is about 50 percent of a normal full day's school system.

Mr. JACKSON. When does their first class commence on the two-shift basis?

Mr. BLACK. I believe they started 7:30 in the morning, and that lasted until noon, and went through from 12:30, and went through to 5.

Mr. JACKSON. It started at 12:30 and lasted until 5?

Mr. BLACK. Yes.

Mr. JACKSON. Do you have any questions?

Mr. COLE. No.

Mr. JACKSON. Proceed then to the next district.

Mr. BLACK. I might just say that the total for Sunnyside, total enrollment for the year, was 3,327 students, with 556 transferred, which would leave them approximately 2,800 net enrollment at one time.

Mr. JACKSON. Do they have an immediate school construction program at Sunnyside?

Mr. BLACK. The suggested high school, additions to two elementaries, and——

Mr. JACKSON. They are under consideration, but they have not called for bids or anything?

Mr. SHAW. Not to my knowledge. Having just finished this 21-room school, and having just added 5 other classrooms to another school, they are not actively pursuing another building, to my knowledge.

Mr. BLACK. All right. This will be Franklin County, Pasco.

Mr. JACKSON. They have 572 federally incurred students under the committee formula.

Mr. BLACK. Five hundred seventy-five, according to the report.

Mr. SHAW. It is the other column.

Mr. BLACK. Oh, yes, 572; I beg your pardon. Those are the unattachables.

Mr. JACKSON. Yes; I am referring now to the federally incurred, under the formula, 572.

Mr. BLACK. May I say in behalf of Pasco that about 2 weeks ago, I think one of their 18- or 19-room buildings was burned out, so they are left with 18 and 19 rooms less, and I think they are constructing a 24-room elementary building that will be ready for fall, which will not much more than replace what they lost in the fire.

Mr. JACKSON. Twenty-four classrooms?

Mr. BLACK. Yes.

Mr. JACKSON. Twenty-four-classroom building? And that will be ready in September, next month?

Mr. BLACK. They hope for it to be.

Mr. JACKSON. Was that to supplement or replace the building that was destroyed by fire?

Mr. BLACK. It was in addition to take care of the growth.

Mr. JACKSON. Do you want to comment on that point?

Mr. SHAW. Well, I can. The new building that Pasco is building is an 18-classroom building, 10 rooms of which are the equivalent in funds theretofore available to them through our temporary classroom aid. It was intended that they would be able to move out of some poor quarters that they are currently using, and since they have had this fire where they lost 17 rooms, they are going to have to continue to use those other substandard buildings.

Mr. JACKSON. First, how many temporary classrooms are supplied by AEC to Pasco; temporary classrooms?

Mr. SHAW. None.

Mr. BLACK. They were fortunate in maintaining temporary space in the Pasco Naval Airport by transporting them out 2 miles to it. They have the entire administration building constructed into temporaries.

Mr. JACKSON. They use the surplus Government facilities at the Pasco Airport?

Mr. BLACK. Yes, sir.

Mr. SHAW. We made a little money available to them which they used for some remodeling work out there, but they were able to work out their own deal, and have used it, and those were the quarters which they had hoped to be able to abandon during the coming year, but which, fortunately, they still have and can still use.

Mr. JACKSON. You provide school busses for them?

Mr. SHAW. Yes; we furnish them some busses.

Mr. HOLLIS. Three.

Mr. JACKSON. Three busses?

Mr. SHAW. Yes.

Mr. BLACK. Here is a little capitulation of their building, and so on. The Longfellow has 13 regular rooms and 4 temporaries, and takes care of 672 students; the Whittier has 8 regular rooms, no temporaries, 295. The airport primary, no regular, 4 temporaries, 159; the airport intermediate, no regulars, 12 temporaries, 409; high school, 9 to 12, 19 regulars and 2 temporary, housing 413, for a total enrollment of 1,948; total temporary rooms, 22; regular, 40 rooms.

On July 26, the Longfellow School was destroyed by fire, and 17 classrooms became unusable. A new elementary school, containing 16 regular classrooms and 2 kindergarten rooms will be completed and ready for use in September, but the growth in enrollment will demand 3 more rooms than are available, and the 6 first grades in the new building will be run on a double-session basis.

The facilities and pupils are expected to be distributed as follows when school convenes next month: 18 regular rooms, 850; the Whittier, 8 regular rooms, no temporary, 270; airport primary, no regular rooms, 4 temporaries, 175; airport intermediate, no regular rooms, 12 temporaries, taking care of 400 students; high school, 19 rooms, 2 temporaries, taking care of 450; expected enrollment of 2,145. Eighteen temporaries will be used, and 45 regular rooms.

The airport schools consist of two frame buildings constructed by the Navy for the Pasco Naval Air Station. They are reasonably satisfactory for temporary use as schools although they are not well lighted; they are insufferably hot in warm weather and hard to heat in winter. The fire risk is quite serious, and all pupils who attend must be transported from town, a distance of 2 miles.

The two temporary rooms at the high school are in a flimsy wooden shack which was built for a contractor's tool house. They are used for band and for the showing of films. The school has no auditorium.

Building plans: Were it not for the recent fire, the Pasco elementary grades, kindergartens through sixth, would have been housed in regular classrooms with two rooms to spare. The eight sections of seventh and eighth grades would have been the only groups housed in temporary structures. In order to get these pupils into permanent buildings and to provide for the steady growth in enrollments, the

directors had planned to employ an architect at once to prepare preliminary plans for a new secondary school which could be commenced in 1950 or 1951. The following table shows the expanding enrollments at the upper levels:

Year	Junior high 7-8-9	Senior high 10-11-12	Year	Junior high 7-8-9	Senior high 10-11-12
1949-50	400	330	1953-54	600	450
1950-51	450	350	1954-55	625	485
1951-52	485	390	1955-56	685	535
1952-53	535	400	1956-57	725	600

It is based on the present population and makes no allowance from any increase from river development which is certain to come within a year or two.

Mr. JACKSON. What kind of development?

Mr. BLACK. Reclamation. They are on the reclamation side of the river.

Mr. JACKSON. Oh, yes.

Mr. BLACK. Even though the Airport Intermediate School should continue to be used, it will not accommodate more than 400 or 450 pupils and this number will be exceeded within a year.

The present high school cannot handle more than 500 and in order to do so it needs an auditorium and the science and home-making laboratories must be completely remodeled as they are but temporary arrangements.

In order to start a fund for the high-school building a 17 mill special levy was passed November 1948 and it will be collected in March of 1950. It should yield about \$110,000. Another bond issue to the legal limit of 5 percent was planned for the fall of 1950 and it might bring as much as \$165,000. With the \$275,000 available and some anticipated State aid a start was to be made on the high school plant which, when completed, would likely reach \$1,250,000.

It now appears that the proceeds of the 17 mill special levy will have to be used with the insurance money from the burned building to replace it and the high-school program will have to be postponed for at least 2 years. The building situation is becoming desperate and it does not seem possible to meet it with local and State resources alone.

Their average daily attendance for this past year was 1,817.5, and their total enrollment for the year was 2,421.

Mr. JACKSON. As I understand it they have no immediate school construction program under way. I mean they have completed the elementary school?

Mr. BLACK. Oh, yes. They have got to reconstruct an elementary building, for the one just burned down.

Mr. JACKSON. Well, are they going ahead with that now?

Mr. BLACK. Yes; they have—Mr. Booth submitted this to an assistant—

Mr. JACKSON. As a replacement?

Mr. BLACK. Yes.

Mr. JACKSON. Do they have enough insurance to cover the cost?

Mr. BLACK. Well, I could not exactly answer that question from an insurance standpoint whether they have revalued and brought their values up-to-date or not.

In Kennewick we carry a blanket form, 90 percent coverage. When one building burns we are covered for the whole appraised value, and every 2 years we have to make a new appraisal to keep it up to formula, and I do not know just what plan they are under in insurance. I know here a while back a school building burned out there and they did not have any insurance.

Mr. JACKSON. Go ahead.

Mr. COLE. Mr. Chairman, looking at the clock, it indicates 11:30, which allows us only a half hour to go, and the Commission is here, and I do not want to get caught in the position of having to conclude the hearing without having had a chance to develop with the Commission what the result of its deliberations were since we met.

(Discussion off the record.)

Mr. JACKSON. At this point in the record we will place the record of attendance and enrollment of the Pasco schools.

(The documents referred to follow:)

*Record of attendance and enrollment: Pasco school district No. 1, Franklin County  
(school opened Aug. 30, 1948, and closed May 27, 1949)*

[Number of days taught: 175]

	Total
<b>1. Actual attendance:</b>	
Elementary school (1 to 8) (full days).....	221, 942
Regular high school (9 to postgraduate) (full days).....	68, 798½
Total for all grades (full days).....	290, 740½
Evening classes (student hours).....	71, 685
Part-time classes (student hours).....	17, 131
Total student hours attendance.....	80, 816
Kindergarten (2-hour days).....	27, 302
<b>2. Vocational attendance (already included above, approved for extra apportionment credit):</b>	
Day school classes (student hours).....	47, 453
Evening classes (student hours).....	68, 476
Part-time classes (student hours).....	17, 131
Total vocational attendance (student hours).....	133, 060
<b>3. Average daily attendance:</b>	
Kindergarten.....	156. 00
Elementary school (1 to 8).....	1, 268. 24
Senior high school (10 to postgraduate).....	393. 14
Total for all grades.....	1, 817. 38

	Boys	Girls	Total
<b>4. Enrollment by grades:</b>			
Kindergarten.....	122	119	241
First grade.....	150	121	271
Second grade.....	139	134	273
Third grade.....	107	114	221
Fourth grade.....	116	104	220
Fifth grade.....	108	97	205
Sixth grade.....	93	67	160
Regular seventh grade.....	95	87	182
Regular eighth grade.....	69	76	145
Regular ninth grade.....	79	70	149
Tenth grade.....	58	67	125
Eleventh grade.....	52	53	105
Twelfth grade.....	60	60	120
Postgraduate classes.....	1	3	4
Total number of pupils all grades.....	1, 249	1, 172	2, 421
Total number of transfers.....	124	83	207

*Record of attendance and enrollment: Pasco school district No. 1, Franklin County  
(school opened Aug. 30, 1948, and closed May 27, 1949)—Continued*

[Number of days taught: 175]

	Net enrollment		Boys	Girls	Total
	October	May			
<b>5. Summary of enrollment:</b>					
Kindergarten.....	199	185	122	119	241
Elementary (1 to 8).....	1,334	1,337	877	800	1,677
Regular high school (9 to postgraduate).....	449	404	250	253	503
Total number of pupils—all grades.....	1,982	1,926	1,249	1,172	2,421
Evening classes.....			1,177	188	1,365
Part-time classes.....			9	10	19
Total number of pupils in evening and part-time adult classes.....			1,186	198	1,384
<b>6. Graduation statistics:</b>					
Number of pupils graduated from eighth grade.....			54	64	118
Number of pupils graduated from high school.....			56	46	102

*Pasco public schools: Actual enrollments as of Oct. 22, 1948 (end of second school month)*

#### LONGFELLOW SCHOOL

Teacher	Grade													Total
	K	1	2	3	4	5	6	7	8	9	10	11	12	
Garrity.....	72													72
Franz <sup>1</sup> .....	60													60
Staats.....		38												38
McAfee, M.....		38												38
Kannegaard <sup>1</sup> .....		36												36
Kimmel.....			40											40
Lewis.....			37											37
Bernadt <sup>1</sup> .....			29											29
Miller, L <sup>1</sup> .....			28											28
Miner.....				33										33
McAfee, K.....				34										34
Thomas.....				34										34
Gillum.....					38									38
Stormont.....					40									40
Betts.....					37									37
Seeling.....						42								42
Arnold.....							35							35
Total.....	132	112	134	101	115	42	35							671

#### WHITTIER SCHOOL

McKay.....		34												34
McAfee, T.....		37												37
Hayes.....			34											34
Tomney.....				39										39
Clark.....					39									39
Nagle.....					38									38
Johnson, N.....						39								39
Miller, R.....							31							31
Total.....		71	34	39	77	39	31							291

#### AIRPORT ELEMENTARY

Harrison.....	67													67
Crooks.....		31												31
Lucid.....			39											39
Parker.....				35										35
Total.....	67	31	39	35										172

<sup>1</sup> Hutmets.

*Pasco public schools: Actual enrollments as of Oct. 22, 1948 (end of second school month)—Continued*

## AIRPORT INTERMEDIATE

Teacher	Grade													Total
	K	1	2	3	4	5	6	7	8	9	10	11	12	
Johnson, M.						41								41
Northrup.						40								40
Whiteside.							35							35
Waite.							30							30
Kelly.								38						38
Pauline.								38						38
Haverly.								39						39
Ingram.								39						39
Markham.									28					28
Baird.									30					30
Essinger.									29					29
Gower.									30					30
Total.						81	65	154	117					417

## HIGH SCHOOL

High school (19½ teachers)										102	102	114	125	443
Grand total.	199	214	207	175	192	162	131	154	117	102	102	114	125	1,994

Mr. JACKSON. At this point in the record we will place the information with respect to Prosser, Kiona-Benton and Grandview public schools.

(The documents referred to are as follows:)

## BUILDING PROBLEMS OF THE PROSSER SCHOOL DISTRICT, 1943-49

*Temporary facilities used as classrooms*

1. Basements.
2. Corridors.
3. Church basement.
4. Transformed lunchroom into classroom.

*Needs and plans for future buildings*

Within the last year two school buildings have been built—a vocational building at the high schools and an elementary building for grades kindergarten, 1, 2, and 3. Both have relieved somewhat the overcrowded classroom conditions that existed. Funds were supplied by the local district, State, and Atomic Energy Commission.

The construction of bare classrooms does not solve the housing problem. There are other necessary rooms needed in all modern school buildings.

The following buildings and alterations are considered necessary to bring the school system up to a standard consistent with good established school practice.

1. Prepare old junior high auditorium—gym and basement entirely into classrooms and construct a new auditorium with facilities for music classes and cafeteria. Estimated cost..... \$250,000
2. A gymnasium for physical education classes large enough to provide for two classes going at once, bleachers, showers and locker rooms, and storage facilities. Estimated cost..... 200,000
3. Replace old plumbing at Riverview elementary. Estimated cost... 20,000
4. Rewire and relight at Riverview elementary. Estimated cost..... 15,000
5. If basement is to be used at Riverview, it should be put into better condition. Estimated cost..... 25,000
6. Grounds improvement at Riverview..... 2,000

Total cost..... 512,000

[Form A-2]

*Annual report of Prosser, Wash., school district No. 16, 1948-49*

	Total		
<b>1. Actual attendance:</b>			
Elementary school (1-8) (full days).....			107,365
Elementary school (1-6) (full days).....			50,962
Junior high school (7-9) (full days).....			33,865
Senior high school (10-P. G.) (full days).....			
Total for all grades (full days).....			192,192
Kindergarten (2-hour days).....			7,832
<b>2. Vocational attendance (already included above, approved for extra apportionment credit):</b>			
Day school classes (student hours), home economics, 15,001; agriculture, 14,823.....			29,824
Evening classes (student hours) B. Drivers, 348; carpenters, 1,487.....			1,835
<b>3. Average daily attendance:</b>			
Kindergarten.....			44
Elementary school (1-6).....			596
Junior high school (7-9).....			278
Senior high school (10-P. G.).....			188
Total for all grades.....			1,106
	Boys	Girls	Total
<b>4. Enrollment by grades:</b>			
Kindergarten.....	30	36	66
First grade.....	74	71	145
Second grade.....	61	65	126
Third grade.....	58	66	124
Fourth grade.....	71	66	137
Fifth grade.....	70	48	118
Sixth grade.....	68	63	131
Junior high seventh grade.....	65	52	117
Junior high eighth grade.....	58	61	119
Junior high ninth grade.....	59	54	113
Tenth grade.....	48	48	96
Eleventh grade.....	38	38	76
Twelfth grade.....	26	33	59
Postgraduate classes.....	1	1	2
Total number of pupils enrolled in all grades.....	727	702	1,429
Total number of transfers.....	88	95	183
<b>5. Summary of enrollment:</b>			
Kindergarten.....	30	36	66
Elementary (1-6).....	402	379	781
Junior high school (7-9).....	182	167	349
Senior high school 10-postgraduate).....	113	120	233
Total number of pupils enrolled in all grades.....	727	702	1,429
Evening classes.....	52		52
Total number of pupils enrolled in evening, part-time and day adult classes.....	52		52
<b>6. Graduation statistics:</b>			
Number of pupils graduated from (or completed) the eighth grade.....	47	55	102
Number of pupils graduated from high school.....	23	27	50

## HANFORD SCHOOL FACILITIES

KIONA-BENTON CITY CONSOLIDATED SCHOOLS,  
*Benton City, Wash., August 4, 1949.*

Mr. E. S. BLACK,  
*Superintendent of Schools, Kennewick, Wash.*

DEAR SIR: In compliance with your request I am summarizing the status of the school-housing emergency which exists in our district due to the sudden increase of enrollment brought about by the proximity of the Hanford Works of the Atomic Energy Commission.

Faced with necessity for (1) immediate increase of school rooms or (2) placing the schools on a two-shift basis, at the beginning of school last fall this district secured six tropical hut-type housing units and moved them upon our school grounds as a temporary measure for meeting overcrowded conditions. While we used these huts last winter they were highly unsatisfactory for the following reasons:

1. Temperature control is impossible. During cold weather temperatures usually varied during the day between 40° and 60° Fahrenheit. Children sat around in overcoats and sweaters. On several days cold was so severe in these huts that school there had to be dismissed. In order that these huts should not be intolerably cold in the morning fires were maintained during the whole 24 hours at a very high fuel cost. Then when warm weather came in May temperatures within the huts soared to 94°.

2. Heating arrangements are such that there is a constant fire hazard.

3. Floors are of loosely fitted one-half inch plywood making them very noisy and difficult to keep clean.

4. The huts have no indoor toilets and small children have to go through outdoor cold to a separate building for lavatory facilities.

5. Lighting and heating and ventilating facilities in the huts are below even moderate health standards.

In short the huts are a temporary makeshift to be endured for as short a time as possible. Even by using these huts and every possible space in our permanent school structure enrollment in elementary rooms under one teacher ran as high as 58.

In order to increase classroom space our high school is operating without home-economics or manual-training departments and hall space and basement storage space have been converted into classrooms.

To alleviate these unsatisfactory conditions the school district has purchased a site and has had an architect submit temporary plans for a new elementary-school building with 11 classrooms estimated to cost about \$400,000. To meet its share of the cost of such a building the local district has voted bonds in the full amount permitted by State statute limitations. We are sincerely hoping that Federal and State aid will make this building possible.

Very truly yours,

H. R. SIMONSON,  
*Superintendent Kiona-Benton City Consolidated Schools.*

[Copied from Form A-2]

*Annual report of Kiona-Benton City School District No. 52, Benton County: Record of attendance and enrollment*

[Number of days taught: For grades 1, 4, 6, 7, 8, 9, 10, 11, 12: 180; for grades 2, 3, 5: 169]

	Total
<b>1. Actual attendance:</b>	
Elementary school (1-8) (full days).....	64,602
Regular high school (9 to postgraduate) (full days).....	14,757
<b>2. Average daily attendance:</b>	
Elementary school (1-8).....	359
Regular high school (9 to postgraduate).....	82
<b>Total for all grades.....</b>	<b>441</b>

	Boys	Girls	Total
<b>3. Enrollment, by grades:</b>			
First grade.....	41	39	80
Second grade.....	32	35	67
Third grade.....	40	31	71
Fourth grade.....	38	27	65
Fifth grade.....	28	34	62
Sixth grade.....	29	29	58
Seventh grade.....	21	27	48
Eighth grade.....	23	22	45
Ninth grade.....	18	20	38
Tenth grade.....	16	22	38
Eleventh grade.....	10	17	27
Twelfth grade.....	3	9	12
<b>Total number of pupils enrolled in all grades.....</b>	<b>299</b>	<b>312</b>	<b>611</b>
<b>Total number of transfers.....</b>	<b>40</b>	<b>45</b>	<b>85</b>

	Net enrollment		Boys	Girls	Total
	October	May			
<b>4. Summary of enrollment:</b>					
Elementary (1 to 8).....	395	375	252	244	496
High school (9 to postgraduate).....	96	88	47	68	115
<b>Total number of pupils enrolled in all grades.....</b>	<b>492</b>	<b>463</b>	<b>299</b>	<b>312</b>	<b>611</b>
<b>5. Graduation statistics:</b>					
Number of pupils graduated from eighth grade.....					31
Number of pupils graduated from high school.....					9

GRANDVIEW PUBLIC SCHOOLS,  
SCHOOL DISTRICT NO. 200,  
Grandview, Wash., August 5, 1949.

The total enrollment of the Grandview schools, by years, is given as follows:

1943.....	860	1947.....	1,229
1944.....	980	1948.....	1,342
1945.....	1,065	1949.....	1,475
1946.....	1,187		

The average daily attendance figures for the same years are:

1943.....	660	1947.....	955
1944.....	709	1948.....	1,021
1945.....	782	1949.....	1,127
1946.....	874		

The building program for district No. 200 to date has included the following projects. These have all been completed or are in the process of being completed since the Hanford impact.

1. A four-room addition and a cafeteria which was added to the Central grade school, at a cost of \$74,925.81.
2. A new general shop at cost, \$36,718.47.
3. Remodeling the senior-high building at three different occasions to enlarge and improve facilities.
4. Adding temporary bus housing for three busses.
5. Construction of a new 10-room elementary building at a cost of \$232,-695.01.
6. Enlarging the high school, at a cost of \$54,816.

The above projects do not include the acquiring of sites, the landscaping of grounds, and the equipping of the new buildings. Most of these expenses have been taken out of the general fund, which at the beginning of 1949-50 is \$8,697.15 overdrawn.

#### SPECIAL LEVIES AND FINANCIAL ASSISTANCE

These building improvements have been financed by special levies, money from the State, money from the general fund, and money from the Atomic Energy Commission.

At the time the Hanford project started, the Grandview schools had building facilities as follows:

1. An 11-room senior high school.
2. A 7-room building used to house the sixth, seventh, and eighth grades (junior high).
3. A 10-room elementary school (Central School).
4. 1 3-stall bus garage.
5. A wooden building used for a manual arts shop.

These facilities were considered more than adequate at the time. In fact the district owned a 4-room school on the east side of town which they sold to the Seventh Day Adventist group for \$1,000, thinking that they would never need it again.

School District No. 200 has voted the following special levies:

	Amount levied	Approximate amount raised
	<i>Mills</i>	
May 12, 1945.....	20	\$20,000
Mar. 2, 1946.....	20	34,500
Mar. 1, 1947.....	30	58,500
Mar. 6, 1948.....	30	75,000
Nov. 2, 1948.....	30	86,000

We have received matching money from the State on two different occasions. A grant of \$31,834.63 was allowed to complete the addition to Central School, and a grant of \$106,235.05 was made to complete the new 10-room grade school building. The Atomic Energy Commission is paying the cost of completing the two wings on the high school, at a cost of \$54,816.

Most of the money used in remodeling the junior high school was taken from the general fund.

#### TEMPORARY HOUSING

Since the Hanford impact we have used the following temporary housing:

1. The music department has been moved to the old wooden building which at one time was used as a manual arts shop. This department is housed there at the present time.
2. When the cafeteria was completed it was partitioned into five classrooms before it was ever used. It is now in use as a cafeteria since the new grade school has been completed.
3. A storage room in the new addition was used as a classroom for a time.
4. The basement of the Presbyterian Church was used for a time.
5. Two grade rooms were crowded into the high school for 1 year.
6. The Government housing project was used to house one class for a year.

## FUTURE BUILDING PLANS

Members of the staff from Washington State Department of Education made a survey of the building facilities of the Grandview schools 2½ years ago at the request of the local school board. One of their recommendations was to use the old junior high school as long as was absolutely necessary, but not to put any more money into it, for it was not an adequate structure. We have had to do some remodeling on a temporary basis.

In view of the needs at the present time the board has projected the following building plans as soon as funds can be made available:

1. A new senior high school to house 400 students. This school to have a gymnasium, auditorium, cafeteria, and music rooms, but not shops, for they are adequate.
2. A new bus garage to house seven busses.
3. A four-room addition to the new grade school building.
4. A new site on which to build the high school building.

This will not take care of the increase in the grade schools due to the high birth rate, which is hitting all schools at the present time. This will necessitate using the old junior high for a grade school for several years. When the new high school is completed, the junior high will move into the old high school building.

The cost of the proposed improvements are estimated as follows:

1. The new high school.....	\$600, 000
2. Bus garage.....	25, 000
3. 4-room addition.....	90, 000
4. New site.....	15, 000
Total.....	730, 000

The members of the local board of education feel that another special levy will be impossible to put across in the community for at least 2 years, on account of having voted five straight. Also it is improbable that the State will not make additional grants until the next session of the legislature. We will have about \$80,000 in our building fund after taxes are paid this year which will be available for this program.

CLARENCE MCCLURE,  
*Superintendent of Schools.*  
 H. L. CROSSLAND,  
*Chairman, Board of Directors.*  
 JOY LEACH,  
*Clerk, Board of Directors.*

[Form A-2]

## STATE OF WASHINGTON

## SUPERINTENDENT OF PUBLIC INSTRUCTION

Olympia

## ANNUAL REPORT OF SCHOOL DISTRICT

School district: Grandview, No. 200, Yakima County.

Class of district: Second. Post-office address: Grandview, Wash.

To Superintendent of Public Instruction:

We hereby certify that this report is correct and complete, and that the total attendance and number of educational units reported herein is the correct legal basis for the apportionment of State funds to this school district.

CLARENCE MCCLURE,  
*Superintendent, principal, or teacher.*  
 JOY LEACH,  
*Clerk or secretary of school district.*

Date: June 22, 1949.

I hereby certify that I have examined the report and compared the attendance and listing of certificated personnel with information on file in my office and find this report to be true and correct to the best of my knowledge.

C. M. TURNER,  
County Superintendent.

Date: June 30, 1949.

Miscellaneous information, for school year ending June 30, 1949, school district No. 200, Yakima County

PLANTS, EQUIPMENT, AND SCHOOLS

	Number of school-houses built during year	Cost of new buildings	Number of school-houses used during year <sup>1</sup>	Value of all sites and buildings	Value of equipment (furniture, apparatus, libraries, etc.)	Number of schools maintained <sup>2</sup>
1. Kindergarten and elementary schools (combined).....	1	\$231,554	3	\$503,437	\$50,582	3
2. Regular high schools.....			3	286,684	42,184	1
3. Junior high schools.....						
4. Senior high schools.....						
5. Advanced secondary schools.....						
Total.....	1	231,554	6	790,121	92,776	4

<sup>1</sup> For this purpose a schoolhouse means a building in which classes are held.

<sup>2</sup> Count as separate schools a high school, elementary, junior high, senior high, or approved advanced secondary school housed in the same building.

Insurance on schoolhouses, furniture, etc.—Amount carried: \$829,996. Annual premium, \$2,756.72. (Annual premium means cost per year: e. g., one-third of 3-year premium or one-fifth of 5-year, etc.)

Amount of fire damage during year: None. Insurance collected: None.

Number of reference and other books in school library: 11,099. Number of free textbooks: 8,700.

Number of radio-receiving sets owned, 1. Motion-picture projectors, 2.

Number of district-owned teachers' cottages, housing units, and apartments: None.

Record of attendance and enrollment: Grandview School District No. 200, Yakima County (school opened Aug. 30, 1948, and closed May 23, 1949)

[Number of days taught: 180]

	Total
1. Actual attendance:	
Elementary school (1 to 8) (full days).....	148,094
Elementary school (1 to 6) (full days) <sup>1</sup> .....	
Regular high school (9 to postgraduate) (full days).....	46,857
Junior high school (7 to 9) (full days) <sup>1</sup> .....	
Senior high school (10 to postgraduate) (full days) <sup>1</sup> .....	
Approved advanced secondary schools.....	
Parental school (1st class) (full days).....	
Unclassified (special and full-day remedial).....	
Total for all grades (full days).....	194,951
Evening classes (student hours).....	
Part-time classes (student hours).....	
Day adult classes (student hours).....	
Total student-hours attendance.....	
Kindergarten (2-hour days).....	7,868
2. Vocational attendance <sup>2</sup> (already included above, approved for extra apportionment credit):	
Day-school classes (student hours).....	33,356
Evening classes (student hours).....	
Part-time classes (student hours).....	
Total vocational attendance (student hours).....	33,356

See footnotes on p. 99.

*Record of attendance and enrollment: Grandview School District No. 200, Yakima County (school opened Aug. 30, 1948, and closed May 23, 1949)—Continued*

[Number of days taught: 180]

	Total
<b>3. Average daily attendance:</b>	
Kindergarten.....	44
Elementary school (1 to 8).....	823
Elementary school (1 to 6) <sup>1</sup> .....	
Regular high school (9 to postgraduate).....	260
Junior high school (7 to 9) <sup>1</sup> .....	
Senior high school (10 to postgraduate) <sup>1</sup> .....	
Approved advanced secondary schools.....	
Parental school (1st class).....	
Unclassified (special and full-day remedial).....	
Total for all grades.....	1, 127

	Boys	Girls	Total
<b>4. Enrollment by grades:</b>			
Kindergarten.....	39	35	74
First grade.....	84	87	171
Second grade.....	81	64	145
Third grade.....	75	71	146
Fourth grade.....	64	81	145
Fifth grade.....	61	67	128
Sixth grade.....	63	65	128
Regular seventh grade.....	59	50	109
Junior high seventh grade <sup>1</sup> .....			
Regular eighth grade.....	57	44	101
Junior high eighth grade <sup>1</sup> .....			
Regular ninth grade.....	64	39	103
Junior high ninth grade <sup>1</sup> .....			
Tenth grade.....	46	39	85
Eleventh grade.....	34	45	79
Twelfth grade.....	25	36	61
Postgraduate classes.....			
Approved thirteenth grade.....			
Approved fourteenth grade.....			
Parental school (1st class).....			
Unclassified (special and full-day remedial).....			
Total number of pupils enrolled in all grades.....	752	723	1, 475
Total number of transfers <sup>2</sup> .....	75	81	156

	Net enrollment <sup>4</sup>		Boys	Girls	Total
	October	May			
<b>5. Summary of enrollment:</b>					
Kindergarten.....	53	54	39	35	74
Elementary (1 to 8).....	889	942	544	529	1, 073
Elementary (1 to 6) <sup>1</sup> .....					
Regular high school (9 to postgraduate).....	299	270	169	159	328
Junior high school (7 to 9) <sup>1</sup> .....					
Senior high school (10 to postgraduate) <sup>1</sup> .....					
Approved advanced secondary schools.....					
Parental school (1st class).....					
Unclassified (special and remedial).....					
Total number of pupils enrolled in all grades.....	1, 241	1, 266	752	723	1, 475
Evening classes.....					
Part-time classes.....					
Day adult classes.....					
Total number of pupils enrolled in evening, part-time and day adult classes.....					
<b>6. Graduation statistics:</b>					
Number of pupils graduated from (or completed) the eighth grade.....			52	37	89
Number of pupils graduated from high school.....			30	20	50

<sup>1</sup> These items are to be filled out only when there is a junior high school recognized by the State board of education.

<sup>2</sup> Vocational attendance in classes set up and approved by the State board for vocational education. Exclude classes reported as approved advanced secondary.

<sup>3</sup> Total number of pupils enrolled who were already enrolled in another Washington school during the year. As marked (E) in register. (Already included in enrollment by grades.)

<sup>4</sup> Number of pupils enrolled as of the first day in October and the first day in May, minus all withdrawals.

NOTE: All attendance and enrollment figures on this report must agree with corresponding figures on special supplementary reports.

*Record of attendance and enrollment: Grandview School District No. 200, Yakima County (school opened Aug. 10, 1948, and closed May 23, 1949)—Continued*

## NUMBER OF EDUCATIONAL UNITS \*

Position	Number full-time basis		Aggregate salary	
	Men	Women	Men	Women
<b>A. Superintendents and supervisors:</b>				
1. Superintendent and assistant superintendents.....	1		\$5,500	
2. Directors and supervisors.....		0.50		\$1,600
Total for A.....	1	.50	5,500	1,600
<b>B. Principals and vice principals:</b>				
1. Elementary schools.....	2.39		8,885	
2. Junior high schools.....				
3. High schools.....	1		4,300	
4. Other schools.....				
Total for B.....	3.39		13,185	
<b>C. Classroom teachers:</b>				
1. Kindergarten.....		1		3,000
2. Elementary.....	3.50	21.87	11,300	61,663
3. Junior high schools.....				
4. High schools.....	8.50	7	31,285	23,100
5. Approved advanced secondary schools.....				
6. Vocational schools.....				
7. Parental schools.....				
8. Evening and part-time schools.....				
Total for C.....	12	29.87	42,585	87,753
<b>D. Special service personnel:</b>				
1. Special and remedial teachers.....				
2. Counselors.....	.50		1,775	
3. Librarians and/or audio-visual service.....		2.63		7,713
4. Health coordinators.....				
Total for D.....	.50	2.63	1,775	7,713
Grand total of A, B, C, and D.....	16.89	33.00	63,045	97,066

\* Basis for apportioning State funds for educational units.

Instructions: List only certificated employees. Excludes occasional substitutes and certificated personnel whose salary is paid or reimbursed 80 percent or more from Federal or other funds. List as superintendents all heads of systems with two or more schools who give half time or more to administration. List as principals all who give half time or more to administration. Part-time personnel should be converted to full-time by dividing the total number of hours employed during the school year by 1,080 (6-hour day for 180 days). Express decimals to the nearest hundredth.

The above tabulation of personnel must agree with supplementary personnel listings (Form A-2 supplement). Special service personnel should include only approved special service units, for which a special claim is being made on Form A-6, special service unit report, for extra apportionment credit. If a teacher divides her time between classroom instruction and an approved special service the proper fraction of her time should be credited to the special service and the balance of her time classified as classroom teaching.

Mr. JACKSON. I wonder if we could not ask two or three questions to summarize: I take it that your district, as you have testified, making plans to build a senior high school, that will cost about \$1,800,000—the Pasco School will be making arrangements to replace the grade school lost by fire, is that correct?

Mr. BLACK. Yes, sir.

Mr. JACKSON. Now, as far as Sunnyside is concerned, there are no current plans for immediate construction. They have just completed a grade school or a school building anyway, in that district, is that correct?

Mr. BLACK. They are building now additions, and so on.

Mr. JACKSON. But I mean no new construction?

Mr. BLACK. I think they have an architect planning for other buildings right now.

Mr. JACKSON. At the present time?

Mr. BLACK. Yes.

Mr. JACKSON. What about the balance of the districts?

Mr. BLACK. Well, I would say Benton City is probably the worst of the group. They are operating in temporaries so far worse than even ours that it is questionable whether they can keep heat up at all. They could not keep heat last year, and the health problem was terrific. They had to use the lavatories in another building which did not meet health specifications, to begin with, and they added all the temporaries onto them for lavatory space, and such, and they are having quite a problem continuing on with health orders issued by the health department, because they are not meeting their problem.

Prosser is probably the least concerned for immediate need. However, they are using their home economics and things like that for classrooms, and have cut out those things that are part of a regular high-school system in order to carry on. But it is my understanding that they were not planning any building right at the present time.

Mr. JACKSON. I am wondering if possibly after the adjournment of the meeting this morning we could work out a statement that we could have for the record to include the absolute emergency situations that exist in the area so far as immediate construction is concerned. By that I mean those that they propose to start this fall. How would that be, Mr. Cole, to get a summary? We understand the over-all need, and as included in the report and as outlined in the report, but in order that we have this for the record, I wonder if you may want to consult some of those people out there, and if you could be thinking about that, and we will meet again, either this afternoon or tomorrow, to complete the record.

Mr. BLACK. The first question I think which will be asked me out there, and by my own people out there in my own district, will be, if we accept a preliminary settlement on this, what are we going to look to, to a final settlement based on this formula? That is the thing, how soon and when?

Mr. JACKSON. What you are asking for is over-all contractual authority, although it may not be necessary to have all of the funds immediately. That is your point?

Mr. BLACK. That is right. If we could have that, I am sure, everyone there would be willing to go along and would go along very nicely, to be met, as it would have to be met, for these buildings, but to ask them to do otherwise, I am sure, that there would be quite a rough reaction to it.

Mr. JACKSON. Well, try to think over the over all situation and see what the immediate monetary needs are to deal with the emergency situation, if any, in these districts. Dispensing for the moment with the over-all contractual authority, let us see if we can get some figures as to how much money would have to be divided up, so to speak, if approval should be given to the committee report.

We are confronted with a very realistic and very difficult situation. The appropriation for the Atomic Energy Commission was rather substantially cut by the Senate, and in addition, language was in-

cluded in the report which prevents them from transferring funds from one category of operation to another. I believe that is the situation.

That particular language, together with the cut, as it differed from that of the House, of course, will be settled by the conferees, so, bearing that in mind, the committee would like to get some information as to how much the immediate outlay will be. If you will be checking on that, I think possibly it would be well for the committee to go into executive session now to meet with the Commission.

MR. SMYTH. Mr. Jackson, could we, for the sake of the record, get 5 or 10 minutes of testimony from Mr. Shaw?

MR. JACKSON. Yes. I was going to do it. Do you want to do it now or do you want to do it later?

MR. COLE. I have just two or three questions, before we go to that. Are you in a position to assure the committee and the Commission that if the Alves committee formula is adopted by the Commission that these six school districts will not make any further claims on the Commission for Federal assistance?

MR. BLACK. I believe the Commission could answer that better than we can.

MR. COLE. The Commission cannot answer what the school districts are going to expect.

MR. BLACK. If there is no further influx of people we will continue on—the natural growth in our community is far above the regular 5 percent that a district can carry.

If the percentage of increase does not hit us, like it has now, we will continue to carry on and do all we can. I do not believe we have ever made a demand on the Commission that was not made without being forced to be made, and being forced to carry through on it.

MR. COLE. I mean we can take it that in the absence of any abnormal growth—

MR. BLACK. That is right.

MR. COLE. There will be no further demands from the districts for assistance?

MR. BLACK. That is right.

MR. COLE. Do you have authority as superintendent to deny admission to the public-school system of any of these children whose parents are employed directly by the Commission?

MR. BLACK. Not exactly under the laws of the State, but here is the thing: If you had a big brother coming along and dropping 10 youngsters on you and he said, "I am tired of raising these; you have to raise them," could you do it without a protest? The question with us is, these youngsters are dropped on us. There are no laws in the State for any money to come from, and we are forced to do something with nothing to do it with, and I think if we turned them out and went to court, with a jury within our area, knowing and being immediately close to the problem, that it could be tied up to such an extent that it would work a terrific handicap for all concerned, but we do not want that type of thing to happen.

We are just as anxious to cooperate with the Atomic Energy Commission as anyone else. Their idea that a lot of money being spent in a community solves the problem is not correct. It does not. There are a few businessmen in the community representing less than 5 per-

cent of the area who make a profit, but the only fellow who gets a come-back at them is Uncle Sam through the income tax. There is no law that states that because a man makes a million dollars the school can extract \$900,000 to help us out with. We have our regular rules and regulations.

These children are dropped on us. They say that we have got to do it. Well, if anyone can show us the way whereby we can do it and what to do it with, we are tickled to death, and we are glad to do it. But we just cannot educate two and three and four hundred percent on the basis of funds that are ordinarily granted to us, and while we would like to cooperate, that influx of people has increased their value; it has increased their taxation, and if they want to remain as individuals their produce that they sell has not increased in value accordingly, so it has added to their hardship.

Mr. COLE. All right.

Mr. JACKSON. Mr. Shaw, would you like to sort of summarize what has been commented on here this morning, and then when we meet again later, to make a more detailed statement, if you would like to. You can do it either way. We want to meet with the Commission in executive session, and I want you to know that we are not cutting you off at all. It is just a matter of time here.

**STATEMENT OF DAVID F. SHAW, DEPUTY MANAGER, HANFORD OPERATIONS OFFICE, ATOMIC ENERGY COMMISSION, RICHLAND, WASH.**

Mr. SHAW. Well, the nature of the information that I have is such that perhaps it should be presented, and it can be presented quite tersely, I think, all at once, and rather than in the nature of specific comments on items which have been submitted by Mr. Black. I have rather a comprehensive picture here on two subjects which I feel are important for the record.

The first one is to explain a little bit about the meaning of the three-party agreement that we did arrive at, and which I believe is in your possession.

The other is to summarize the aid which we have already given to the school districts, and to show just how we are in the coming year as compared with how we were last year to shed some light on the nature of whether this is really an emergency that we are talking about now or whether we are talking about a long-range Federal participation in education.

Do you want me to go on and give my information now or later?

Mr. JACKSON. Go right ahead.

Mr. SHAW. Well, the history of our aid to schools started in the fall of 1947, when we entered into these maintenance and operation contracts.

Since that time, and including the past school year, we have made payments to these six districts which have been named, and also the county school of White Swan, to which we made a payment of \$4,400, for a total of \$471,600.

In addition to that we have furnished 27 busses on a loan basis, which we are extending, and intend to extend on a year-to-year basis as long as that is necessary to the school districts to keep them from collapsing, transportationwise.

We intend that this maintenance and operation money will be very small during the coming year, and there will be probably no payments made under that after the middle of the year. The reason for that is that we are paying for seats in these schools, and despite the fact that there may be different students occupying those seats we only pay for the seats for 1 year. That is the period of time until the State picks up.

We recognize the fact that the school districts would be confronted with an emergency housing proposition for these children somewhat later, and we realized the problem that they would have in their maintenance and operation. Accordingly, it was some time later that we entered into the first of our agreements to supply temporary classrooms.

The first such agreement was made with Kennewick, and amounted to 22 classrooms. It was the furnishing of the structures themselves rather than a payment for that purpose. It was the buildings themselves. Those buildings were completed in the early part of the last school year, and the last of them, I think, was in there some time in October.

After that, recognizing that the same condition applied to other school districts, we attempted to apply the same sort of an approach to them, to get them out of their dire difficulties for the immediate problem of this emergency load.

It soon became apparent, and we were approached very seriously by the State department of education as well as the school district, that the districts themselves could make better use of the money which we would spend anyway for such temporary facilities, if they could put those payments or the amount of money represented by the temporary facilities which we might make available to them, with money that they themselves had, and that they could get from the State in the form of matching funds so that they could build more permanent classrooms.

This we acceded to, as being in the long-range best interests of the districts, and in those cases where the school district could show—rather more than showing, it was a matter of their own responsibility—that they could handle the temporary load and still use this temporary money of ours for building permanent buildings, we have entered into contracts with them making available the dollar equivalent of temporary aid which they can use on permanent construction.

Now, the total which we have so made available is \$985,900. This gives a combined total of assistance that we have given to the surrounding school districts of \$1,547,500, and the 27 busses.

To take a look at what they have actually done with that temporary money that we made available to them, the Grandview school district has received from us a grant of \$56,000 for this purpose, and they are adding 4 classrooms to their high school. The final cost of that is going to be \$54,816, so there will be a slight adjustment of our obligation on the subject.

Kennewick, the amount of money available to them, worked out to be \$470,000, of which the value of the 22 temporary classrooms that we furnished amounts to \$117,000. The balance of \$353,000 is the sum which Mr. Black discussed this morning.

It is not obligated by him at the present time. It is available to him. We have it as an obligation of last year's money.

Mr. JACKSON. If I may interrupt at that point, Mr. Shaw, the temporary units to which you have referred and which have been made available to the districts, are they on a loan basis or does title pass to the school districts?

Mr. SHAW. Title remains with us in the case of the Kennewick buildings.

Mr. JACKSON. How about the other areas?

Mr. SHAW. There is only one other area which has actually built temporary structures with our money, and that is Kiona-Benton City.

Mr. JACKSON. No, but I take it that these temporary units that we are talking about that have been made available by the Commission, were they Government buildings that were moved onto the premises?

Mr. SHAW. Only in the case of Kennewick.

Mr. JACKSON. Only in the case of Kennewick?

Mr. SHAW. In the case of Benton City, we actually disposed of some small structures we had to them by sale, and they used this money to buy it so that the title rests with them. All of the other school districts have elected to use the equivalent dollars of temporary construction to build permanent buildings.

The Kiona-Benton City situation is a situation where we compute \$68,347 as being available to them for building six elementary classrooms. They have fallen into the same trouble that Mr. Black did with the State and have been unable to get State matching funds for the money they have had, so they have not made a contract for it. Instead of this they used \$12,500 of that \$68,000 to recondition and purchase from us at a nominal figure some hutments which they have converted into seven temporary classrooms.

Pasco has used a sum of \$171,000 made available by us on the construction program to add 10 rooms into this 18—that is, 10 rooms of the 18-room new elementary school which they built. The money for it comes from this \$174,000.

At Prosser, a grant of \$72,770 has been used, combined with money of the local district, to build 6 of a total of 12 classrooms in that elementary school. It is now completed, and will be used next fall.

Sunnyside has used \$130,000 of ours to add five classrooms to one of their existing schools.

In addition to what we have furnished these schools, they themselves have built considerable in the way of schools, and have more coming in next fall than they had last year.

Grandview has built a new 9-room elementary school, and Sunnyside has built a 21-classroom elementary school, in addition to those which I have already mentioned, so that the total picture now becomes something as follows: Where last fall in October there were 10,242 children of dependents of the Commission who were housed in these 6 school districts, there were then, exclusive of the temporaries furnished to Kennewick, 263 classrooms. That is an average of 39 pupils per classroom.

With the provision of all the classrooms that we have made available, and with the new classrooms which they themselves have built, in this coming fall we will have 341 classrooms. We have assumed that the school population next fall will certainly be no more than what it was at the end of the school year this past year due to reductions in

employment load at Hanford, which information I could furnish you if you wish, but we have projected forward as the next September school enrollment the enrollment as it was at the end of school this past year, or a total of 10,474 pupils. This, divided by the new number of classrooms totally available is 31 pupils per classroom, which indicates that if the school districts use the same unsatisfactory, granted—but they were used last year. If they use all the classrooms they used last year, plus the new ones that have been built, they actually have a much less crowded condition confronting them in the future, next year.

It is recognized that they will probably not operate that way. They will choose to put more pupils into the better rooms that they have, and do away, where they can, with the use of those classrooms which are so very substandard.

Now, the second part of my remarks has to do with the philosophy involved in the committee report, with which you are all familiar. We set at that time to produce some sort of an agreement whereby we could assess the responsibility of the Atomic Energy Commission for permanent classrooms.

As you probably notice, we wound up with an attempt to assess the responsibility of the Federal Government. The reasoning for that is, perhaps so obvious, that it does not need reiteration, but I would like to mention that the reason for that is that we have felt, since we started this program at Hanford, that our responsibility was to keep the school districts from folding up, to just keep their chins above water, as it were, for the emergency period of the impact, and that we did not feel that it was the responsibility of a particular Government agency to enter into a program which would involve the total issue of long-range Federal participation in education, and I think that this over-all picture that I have given indicates that we have coped with the issue of emergency—the crying need has been coped with.

The problem is the long-range matter of bringing the facilities that these districts have up to a decent par so that they can provide adequate education for the children, and I speak both for myself and for the other members of the committee, when I say that we recognize that something very definitely needs to be done in that connection, because the schools themselves are woefully inadequate as far as their physical plants are concerned.

Mr. JACKSON. Mr. Shaw, it has been rather difficult for you up until now to even get around to the point of discussing the permanent school problem in view of the fluctuations that have taken place at Hanford in employment; is that not right?

Mr. SHAW. That is very true. It would have been hard even if we had felt it was our field of activity.

Mr. JACKSON. I mean, even assuming that you have the authority, you would have to almost pick a figure out of a hat, because it was pretty difficult to predict the number of people who would be employed in the area. I mean the construction program has been up and down, and the over-all production program, too, has been somewhat of a problem.

Mr. SHAW. It has changed a great deal, from time to time.

Mr. BLACK. Could I ask one question that might bear upon this and shed a little light on this?

About the time I left the area out there, there was a terrific rumor going on which may have some effect on the impact, that the Arco situation was being transferred back to Hanford, because of lack of water and a few other things.

Now, that, in turn, would have some effect.

(Discussion off the record.)

Mr. COLE. If you were assured that Arco was not coming back to Hanford, would that solve everything?

Mr. BLACK. Up to date, yes, and with no further tremendous influx, we will leave you alone, because it is too much of a job to get it. [Laughter.]

Mr. COLE. You mean that if Arco does not come to Hanford that you are not going to ask anything of the Federal Government?

Mr. BLACK. The report, the recommendation—

Mr. COLE. I mean outside of what you have already asked for?

Mr. BLACK. Yes; that is right.

Mr. JACKSON. Any questions of Mr. Shaw?

I want to say that Mr. Shaw has been very cooperative with me in connection with this matter, and I think that the workings of the committee indicate that you folks got together out there and tried to spell something out under very difficult circumstances.

I certainly do not envy the position that any of the people have been in out there, that is, both ECA and the school district officials. It has been a very troublesome problem, and I want to say that I think that the matter has come along very well, and I want to compliment all of you for trying to get together and working something out on it.

Mr. VOLPE. Mr. Chairman, I wonder if I could ask Mr. Black just one question.

Mr. JACKSON. Yes, Mr. Volpe.

Mr. VOLPE. Realizing, Mr. Black, that the situation in the Hanford area may be somewhat aggravated because of the project there, is it not true, however, that in terms of permanent construction, that is, a long-range program for schooling, and that it is a situation which is quite prevalent throughout the whole State of Washington and, as a matter of fact, probably throughout the country in many areas, that is, that there are woefully deficient permanent school plants, as a general matter?

Mr. BLACK. I would say, due to war troubles and the transferring of people around the country, the State of Washington is one of the worst hit in the United States with respect to the influx of war workers that came during the war and stayed, but the question we are faced with in local districts in the State is that we can levy a bond issue of 5 percent. That is all the funds we can receive toward building. That 5 percent bond issue, placed on a per capita basis, amounts to about \$100 per child. Locally, that is what we can raise. The cost is about \$1,700.

Now, putting yourself in my position, would not that be quite a problem to solve?

Mr. VOLPE. Well, and without any affront to the State of Washington, I suppose the somewhat restrictive system for providing funds for schools is to some extent responsible for the situation.

Mr. JACKSON. I will answer that. I think the honor of the State of Washington is involved in this.

Mr. VOLPE. I meant no affront, Mr. Chairman.

Mr. JACKSON. We understand. [Laughter.]

But to refer to the record, I believe Mr. Alves testified that on the basis of the formula that has been followed generally, the effort that is being made by the 48 States for school construction, the State of Washington is seventeenth. As I recall the record, that is the position.

Mr. COLE. It was one in the middle. [Laughter.]

Mr. JACKSON. We were seventeenth, and I think they figured that on the basis of income in the State, the school construction cost, and the amount of money they make available for school construction.

Mr. COLE. I do not think that was for construction. That was the public funds used for public education.

Mr. JACKSON. For operation and maintenance and construction.

Mr. COLE. Yes.

Mr. JACKSON. Anyway, I think the record will disclose, Mr. Volpe, that the State of Washington is well up on the list so far as educational standards are concerned. There is no question about that, but with respect to the second point, as to the efforts being made by the State with the financial resources available, we are relatively high on the list.

Mr. VOLPE. The only point I wanted to make was that I think the facts indicate that while the addition of the school population because of the Hanford site does aggravate the situation, you would nevertheless still face quite a problem from the standpoint of a long-range program, because of your inability to acquire funds for a long-range permanent construction school program.

Mr. BLACK. Not if it had not been for Hanford.

Mr. VOLPE. If it had not been for Hanford—

Mr. BLACK. We would have been all right. May I say something off the record?

Mr. JACKSON. Yes.

(Discussion off the record.)

Mr. SHAW. Could I ask a further question along the same line as Mr. Volpe's? I thought you said as long ago as 1940 you actually had less adequate facilities than you had pupils, even at that time.

Mr. BLACK. We did not, but with our local availability of funds and State matching we could have far more than solved that problem.

Mr. VOLPE. But you do face a problem now insofar as the State matching funds is concerned. I believe you testified earlier that there is a certain amount due from the State which although due will not be available.

Mr. BLACK. Not until 1950, and I want to commit myself, as one school man, working for it tremendously so that it will be available.

Mr. SHUGG. May I ask one question, Mr. Chairman, with respect to one point?

Mr. JACKSON. Yes.

Mr. SHUGG. As I understood it, Mr. Black, your point was that if this agreement could not be consummated by the end of this month that steps might have to be taken to exclude some children from the coming school year. I am not aware that the consummation of this agreement by any Federal agency would change physically the facilities for this coming fiscal year or would affect your ability to care for the pupils during this coming year, this coming school year.

Mr. BLACK. Mr. Shugg, we have stood on our heads for 4 years, trying to find out where we will place the children. I testified earlier

that if a commitment were made so that we could move in, we would do everything in our power to continue if we could see the end in sight.

Mr. SHUGG. I can see that point, that some decision would give you assurance as to the future, but the decision itself would not affect your physical facilities for the coming school year.

Mr. BLACK. If we had a commitment within 2 or 3 weeks on our high-school building, so we could move into it by midyear, we will continue with all of it, and if the commitment is made on that basis, probably we will be after funds before the end of the year toward the construction of two elementaries, and next summer on the addition of a junior high school, to complete it, and if we get that set up—

Mr. JACKSON. Would the senior high school be completed by mid-year? Can you get it up?

Mr. BLACK. We build faster than on a cost-plus basis. They get so much money, and they do not make so much profit, and the sooner they get it done, the more they make.

Mr. COLE. I want to make certain that I understand Mr. Shaw's position, and that is that the situation in the Hanford area is no more acute for the coming school year than it was for the past school year, taking the area as a whole.

Mr. SHAW. Based upon the data, it will be better.

Mr. COLE. Does that same average situation apply to the Kennewick district?

Mr. SHAW. Yes. The Kennewick district, incidentally, sir, is the worst of all of these districts. In the coming school year, with the use of the 22 classrooms that we did furnish, they will still have a nominal usage per classroom of 35 pupils.

Mr. COLE. But they had those 22 units last year.

Mr. SHAW. Very early last year, yes. The basis of my comparison was made upon the beginning of last year, so their condition in the coming fall, we feel, will be the same as it was at the end of the school district—school semester of the district this past year.

Mr. JACKSON. Mr. Shaw, as I interpret Mr. Black's problem, the difficulty is not so much—if there is an emergency—in connection with a lack of space for the students, but the fact that the facilities that are now being used, particularly these temporary facilities are woefully inadequate. He referred to the temperature during this unusual winter we had where the classroom was down to about 45° or 50°. I mean is that not the real problem that they are concerned with, that the temporary facilities are not the kind that should be continued on indefinitely?

Mr. SHAW. Yes.

Mr. JACKSON. I think that is the nature of the emergency, if any.

Mr. SHAW. Yes, but that is not a new emergency.

Mr. JACKSON. It is a continuing one.

Mr. SHAW. The point I was making was that it was no worse, in any case, in any school district—it should be no worse this coming year than it was this past, and in most of the school districts it is definitely better because of their completion of school facilities during the summer.

Mr. JACKSON. They will not be as crowded, but the condition of the temporary facilities will remain pretty much the same.

Mr. SHAW. They are still pretty poor structures, a lot of them, but I would like to point out—

Mr. JACKSON. What about the danger of fire? That is something I think we ought to think about.

Mr. BLACK. I would like to make one remark regarding our junior-senior high set-up. We have one standard building to operate for 500 people. This last year we had 1,135 enrolled, and at the beginning of the next year we will have 1,350, and, gentlemen, I do not know if you have ever had any experience as a school man, or not, but to operate with 1,300-some young youngsters in a given building for 500 is a problem.

Mr. JACKSON. What is your understanding, Mr. Shaw, of the fire protection and what not of the facilities?

Mr. SHAW. Well, they have all been put in, on the specifications and materials and so forth of the school districts concerned, except for the 22 classrooms put in at Kennewick, and there Mr. Black can tell you better than I. They were acceptable to him, however, as temporary facilities. So, we leave the responsibility for that, of course, with the people who are going to use it.

Mr. JACKSON. There is less danger of these individual classroom Quonset hut type; is that what you mean?

Mr. SHAW. Well, those are old barrack structures which have been remodeled, but they are individual outlets and individual doors.

Mr. JACKSON. But there would be less danger in that type of building than an old building where the school building is on two floors or three floors?

Mr. SHAW. As a matter of engineering judgment, yes.

Mr. JACKSON. I mean, you can get out of a small wooden structure.

Mr. SHAW. One-story building, with individual outlets for classrooms, has a certain element of safety.

Mr. BLACK. Mr. Chairman, I thought I was doing rather nicely with those temporaries until I got the people in them; and we have had three broken legs; and a thrown-out hip by a school teacher trying to use the lavatory. That is why I travel a good share of the time; I do not have to meet them.

Mr. SHAW. Could I also emphasize one point, Mr. Chairman?

Mr. JACKSON. Yes, Mr. Shaw.

Mr. SHAW. In predicting the fact that by next September we will have no more pupils in these districts than we had at the end of the school term this last year, we have made an assumption which is extremely on the conservative side.

We had at the end of this past school term in those school districts slightly more pupils than we had at the beginning of the school term. At the beginning of the last school term we had a total employment at Hanford of 26,000. When school closed in June we were down to 15,000, and we are down now to 13,000.

A lot of those pupils stayed on until the end of the school year, but it is certainly reasonable to assume that with the start up of school again in the fall, a considerable number of those pupils who were present at the end of this past school year will not be there, so that this assumption that I have made in saying that the situation would be better is definitely on the conservative side.

Mr. JACKSON. Any further questions?

If not, we will go into executive session.

Mr. COLE. What is there about what the Commission has to say that requires it to be an executive session? If there is any reason for it, why, all right.

Mr. JACKSON. Well, I will leave that up to the Commission.

Mr. SMYTH. For one thing, I should say that the Commission is in a very informal status at the present time.

Mr. COLE. There is nothing secret about it; is there? That is a public fact.

Mr. SMYTH. There is nothing particularly secret about it.

Mr. COLE. Well, I think it would be helpful, not only for the folks who are interested in this problem would it be fair, but from the school end of it, that they should have some indication of the attitude of the Commission and of the Commission's position with respect to its capacity to give relief.

If Mr. Black and the interested school people can get that understanding from you people otherwise than through this committee hearing, why, well and good. If this is the only opportunity Mr. Black and his people have of finding out how the Commission feels about it, why, then, let us have it on the record so that you can hear it.

I do not know whether you have talked this over with him or not, and he has an understanding of your predicament.

Mr. SMYTH. I certainly have not talked with Mr. Black.

Mr. JACKSON. I certainly do not think there has been any discussion with Mr. Black other than the committee session on it.

Mr. SHAW. Well, since the committee session there have been no conversations at Hanford, but prior to the time of the committee meetings and in the committee meetings, there has never been any lack of understanding on the part of any of the school districts as to what the Atomic Energy Commission was out there at Hanford, and that was temporary, yes; permanent, no.

Mr. JACKSON. I think that is definitely true, because I recall that very statement of yours when we were out there, and I think the rest of them all understood that.

Mr. SHAW. That has been repeated.

Mr. JACKSON. Mr. Smyth, would you like to comment?

Mr. SMYTH. I will try to give the position, as I understand it, subject to correction from my colleagues.

You remember, first of all, that at the end of our session here last week, the suggestion was that after this morning's session, that is, after hearing from Mr. Black, the Commission might have a meeting and might make a recommendation.

Actually, we had a meeting last Friday, and I had to leave a little early, but I will give you what my impression of what our position is in a very informal way.

First of all, this does seem to us to be a question of very general principle, and not peculiar to the Atomic Energy Commission; that is, it seems to us though the situation may be more acute at Hanford than elsewhere in the State of Washington and elsewhere in the Nation, that there is a very serious educational problem, a problem of educational facilities, all over the country.

I might say that the financing of it is not confined to the public schools. I am very well aware of some of the difficulties private institutions are facing.

Therefore, I believe there is a general principle involved.

As far as the immediate position is concerned in terms of what Mr. Shaw has said, we do not see an emergency as of this particular month or as of this particular coming year.

Furthermore, as you have already stated, we have no money, nor have we any item in the budget for expenditures of this kind.

Therefore, we would certainly not be able to undertake this without discussions with the Bureau of the Budget and without, presumably, specific authorization and possibly legislation.

I believe that the position of the Commission is that we are not convinced that the Commission, as apart from the Federal Government at large, should undertake this responsibility, and that we are quite clear that the Commission's position is unable to take this responsibility immediately. That is my understanding of our position, and I will be glad to stand corrected if I am wrong.

Mr. VOLPE. It might be useful to add, Mr. Chairman, as Dr. Smyth has said, the position is an informal one because it is recognized that this is a Government-wide problem.

The Hanford area is not the only area in the country where a Federal activity has had a serious impact, and we have undertaken to discuss this with the Bureau of the Budget, and they have not expressed themselves either one way or the other way on it, but have indicated to us informally that this is a problem which they have been grappling with for some time, and have reminded us once again that it was also a problem which the Congress has been considering for some time, and that there is legislation—as a matter of fact, quite a number of bills pending—which deals with this question of Federal assistance.

Mr. JACKSON. In connection with the discussion that we had previously regarding precedents that have been established, I believe the staff has some bills or references to action taken by the Appropriations Committee. This is a digest of bills.

Mr. COLE. That does not mean so much so far as precedents go.

Mr. BORDEN. It was Mr. Alves who was going to furnish the precedents.

Mr. JACKSON. That is right. He called, and I talked to him this morning, and he advised me that he had located the references in the report on the Interior appropriations bill by both the House and Senate, and in the report funds were included for permanent construction at Grand Coulee Dam, I believe, and for an Indian school and some other items that have been approved by both the House and the Senate committees.

It has been passed by the House, approved by the Senate committee, and the bill comes up today, I believe, in the Senate. That is the only precedent that I know of of my own personal knowledge, I believe, with some degree of familiarity.

Mr. BLACK. Mr. Chairman, I think I can add to that precedent a little bit. The Army engineers at Hermiston, Oreg., at the McNary Dam, due to the laws in Oregon, building the schools entirely in Hermiston for the influx.

Mr. JACKSON. Permanent construction?

Mr. BLACK. Yes, and they are operating the schools there for a period of 2 years, because Oregon is 2 years behind in its appropriation of funds

Then, as a previous precedent during the war, the Navy built a \$2,000,000 high school in Bremerton, and turned it over to them equipped and all, and during the war, having quite a little connection with it, the precedents of the Government at that time were to take everything above a normal increase and aid with it.

Mr. COLE. Well, I can see the Commission's problem on this phase of their responsibilities: First, a general policy with respect to its entire operation, and then, more particularly, with respect to school operations, and then to the particular locality of school operation of which, I assume, Hanford is the most acute, is it not, of all the Commission's school problems?

Mr. SHUGG. That is right.

Mr. COLE. But even at Hanford there is a degree of acuteness. But it seems to me that where a school district is so seriously affected, as Kennewick has been, where a school load of direct Federal students has increased over 200 percent, that that presents a problem where the Commission, in my opinion, ought to feel justified in giving some relief and it would not establish a precedent to guide its activities all over the country or even at Hanford, the Hanford area, generally.

Mr. VOLPE. The question on the relief, Mr. Cole, is whether it should be handled as it has been, on an emergency basis, or whether the Commission should participate in—

Mr. JACKSON. On a temporary basis.

Mr. VOLPE. Well, an emergency and temporary basis.

Mr. JACKSON. Yes.

Mr. VOLPE. Or whether the Commission should participate in a long-range school construction program which, as I understand it, is what is involved here.

Mr. COLE. I do not see how the expenditure of public funds for any purpose, if justified on a temporary basis, can be denied when that temporary situation becomes a permanent situation.

I do not know—if it is logical to use public funds to relieve a temporary situation, when that same situation is acknowledged to be permanent, why, then, it is just as logical to use public funds for that purpose.

Mr. VOLPE. It is this question which the Commission has had some trouble over, because, as a general matter, the policy of the Federal Government has been to provide funds on a temporary, an emergency basis.

Mr. COLE. On the theory that it is going to be temporary?

Mr. VOLPE. Sir?

Mr. COLE. On the theory that it is a temporary situation?

Mr. VOLPE. Well, on the theory that the responsibility of the Federal Government—I assume this has been the theory—was to try to alleviate the immediate impact in that the school districts of the State would in time take over the responsibility. In other words, it ought to be made clear that the Commission realizes the seriousness of the situation. The Commission does not seek to minimize the importance of something being done. That which is troubling the Commission is whether the Commission should embark upon a program which heretofore the Federal Government has not seen fit to do, and particularly since that whole question is being now considered on a Government-wide basis.

You will recall, for example, the report which was made to the Senate Appropriations Committee, in which this whole question was discussed, and in which it was urged that there be a Federal-wide policy adopted. The reason for that is that up to the present time one agency has done one thing; and another agency has done another. Perhaps the Commission ought to break ground here; perhaps the Commission ought to be pioneering, but it is something which troubles the Commission.

Mr. JACKSON. I think that, as a general proposition, there ought to be one agency that would handle all the school problems. That matter is under consideration apparently by at least the Senate Committee on Labor and Public Welfare.

Mr. HOLLIS. I believe Mr. Alves said the other day he had considerable hope or considerable optimism that by the next session of Congress that bill would pass.

Mr. JACKSON. Well, he may be unduly optimistic. We have a bill known as the bill to give Federal aid to education that was almost through, too, but we have some of the same problems involved in permanent construction that may come up. I am not too optimistic about it at the moment.

It seems to me, though, what we have to decide here is whether it is proper for these districts to continue on in the temporary buildings or whether there ought to be some kind of permanent construction.

I agree with Mr. Cole that logically if there is an obligation for temporary facilities, then it follows that if those conditions that were temporary at one time become permanent, a similar obligation, maybe not in the exact proportionate amount in dollars, falls to the Federal Government.

I just do not see how you can avoid that situation. I think eventually this matter should be taken away from the Atomic Energy Commission because it is a Federal responsibility, and they should not be burdened with school problems.

I am sure that is the view of the joint committee, expressed in connection with community facilities. All the other collateral activities are likewise so considered. It is burdensome on the Commission, and I am sure the Commission would not object if by some magic all of those headaches could be removed. But it does seem to me that we should check the question of precedents, and I hope that information will be available very shortly, in order to have some background in connection with permanent school construction, with a program of permanent school construction, and then I think the Commission should try to see what can be done in this specific situation in Kennewick, because I think we can all agree that it is not right that a school district should go on for several years operating in very, very poor temporary facilities.

I am not saying that the people at Hanford have not done a good job. I think they have. They have provided temporary facilities, and they were not intended to be more than that, and in the winter-time it is quite a problem over there. It is a question of how long they can continue in those temporary facilities. Basically, I think that is what it boils down to. Do you not think so, Mr. Cole?

Mr. COLE. Yes.

Mr. JACKSON. What I am wondering about is if there is not something we can do in relation to this very acute situation at Kennewick. I think it is reasonable to consider that it is acute, having these students out in temporary buildings. If they do not build this year, it will be another year, it will be 2 years more on temporary facilities.

If the Hanford project were to terminate and these people were to leave gradually, then the temporary facility would have served its purpose. That has been its purpose in the past, and, speaking of temporary facilities, that device was one followed pretty much by all the Government agencies because they were dealing with wartime conditions, but here we are dealing with a permanent situation, at least, as to part of the attachables.

Mr. SHAW. Could I speak to that issue for just a minute, Mr. Chairman?

Mr. JACKSON. Yes.

Mr. SHAW. It is rather a nicety in the committee findings which I gathered somewhat as being misinterpreted, where it stated that we agreed on the federally incurred load, it is reasonable to suspect that that would be a permanent load to the school district.

Out of the thirty-two-hundred-odd pupils who are on the list as being eligible as a basis of computation on this thing, only about 950 of those are permanent employees at the project.

The fact that the school districts themselves can anticipate a permanent load of thirty-two-hundred-odd pupils or some such number does not mean that those thirty-two hundred will remain employees of the Federal activity, so that is a further nicety, and a thing which makes very difficult the arriving at the point of view that Mr. Cole mentioned of these people, if they are a temporary responsibility they are also a permanent responsibility, if they are permanent. The question is are they permanent employees of ours or are they permanent members of the school district. They are not necessarily both.

Mr. JACKSON. Gentlemen, it is necessary that we adjourn at this time, so we will adjourn, subject to the call of the chairman.

(Whereupon, at 12:35 a. m., the committee stood in recess, subject to the call of the Chair.)



## HANFORD SCHOOL FACILITIES

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WEDNESDAY, AUGUST 10, 1949

CONGRESS OF THE UNITED STATES,  
SUBCOMMITTEE OF THE  
JOINT COMMITTEE ON ATOMIC ENERGY,  
*Washington, D. C.*

The subcommittee met, pursuant to call, at 3:25 p. m., in room 1015, New House Office Building, Hon. Henry M. Jackson (chairman) presiding.

Present: Representatives Jackson and Cole.

Also present: Henry D. Smyth, Commissioner; Joseph Volpe, Jr., General Counsel; Carleton Shugg, Deputy General Manager; David F. Shaw, Deputy Manager, Hanford Operations Office, all of the United States Atomic Energy Commission.

H. F. Alves, Director, Division of School Administration, United States Office of Education; E. S. Black, Superintendent of Schools, Kennewick School District; and E. L. Lindman, Deputy State Superintendent of Public Instruction, Washington.

Mr. JACKSON. I think we can start in. The meeting will come to order.

This afternoon, Mr. Lindman, representing the State office of public instruction of the State of Washington is here to submit whatever information the committee may desire regarding the program of the State office of public instruction as it affects the local districts in the State of Washington.

Mr. Lindman, I wonder if you might just explain briefly for the record the law in the State of Washington with reference to funds for operation and maintenance of the public school system, how it works.

### STATEMENT OF E. L. LINDMAN, DEPUTY STATE SUPERINTENDENT OF PUBLIC INSTRUCTION, OLYMPIA, WASH.

Mr. LINDMAN. Mr. Jackson and members of the committee, in the State of Washington all territory in the State is a public school district. That includes territory which was entirely federally owned.

For example, the territory comprised in Richland, a Government reservation—

Mr. JACKSON. Reservation.

Mr. LINDMAN. Is from our standpoint, from the standpoint of our law, a school district, and shares in all of the State school funds.

Now, this year—perhaps Mr. Shugg has the exact figure—but I would estimate that it would be close to over half a million dollars which the State contributes to the operating of the school in Richland every year.

Mr. JACKSON. How much approximately?

Mr. LINDMAN. Over a half million, and the amount is increasing annually as the attendance in Richland increases because the State program just goes ahead and supports the entire attendance.

I mean the more attendance they have, the more State fund they will receive in the town of Richland for the support of the schools.

Mr. JACKSON. How much does it approximate for each child on an annual basis, per capita?

Mr. LINDMAN. In the case of Richland it approximates about \$175 per child.

Mr. JACKSON. There are 4,000?

Mr. LINDMAN. I think it is considerably in excess of 4,000, now in the school at Richland, probably closer to five.

The same thing applies for all Federal projects in the State, and is one of the reasons why the State of Washington is having a difficult financial problem with its schools.

Mr. JACKSON. Do you have an idea of how many children of Federal employees in these areas in which you have somewhat of an impact to the school districts at the present time, what that amounts to, what that is approximately?

Mr. LINDMAN. It will be a little hard for me to give you a figure. At Coulee Dam the State supports the school district in exactly the same way it supports the school district at Richland. It is a Government-owned reservation, but the State supports the school system.

In Bremerton, the navy yard site, again the State carries the bulk of the load for all of the schools there, the rest of it coming from local property and, of course, the Federal property being tax-exempt. Over 40 percent of the area of the State is federally owned, and that does not mean that the 40 percent of the value of the State is Federal, but over 40 percent of the area is federally owned.

In addition to that we have a vast number of Indian children whom the State educates from its State tax sources.

Mr. JACKSON. You get a very small contribution from the Indian Service?

Mr. LINDMAN. Yes. The contribution from the Indian Service does not amount to one-tenth of the amount the State contributes toward the education of those children, so that the State then carries what might be interpreted as partly at least Federal burdens in all of those areas.

Mr. JACKSON. It amounts to over a million dollars a year?

Mr. LINDMAN. Oh, it is considerably in excess of that, if you consider all the Federal reservations on the State. If I were making a very rough guess I would say it was close to \$5,000,000 annually.

Mr. JACKSON. How much do you distribute to the school systems in the State annually? I mean what proportion is that of the total?

Mr. LINDMAN. Total cost?

Mr. JACKSON. Yes.

Mr. LINDMAN. The State pays about 75 percent of the operating costs of the schools in the State in terms of millions.

Mr. JACKSON. I mean, how many million dollars does the State of Washington make available to the local school districts for operation and maintenance?

Mr. LINDMAN. This year, this last legislature appropriated approximately \$120,000,000 for the current support of schools.

Mr. JACKSON. Is that for a biennium?

Mr. LINDMAN. That is biennium, so that would be \$60,000,000 a year.

Mr. JACKSON. And this represents approximately about 5 million of the 60 which goes to the Federal reservations in the State?

Mr. LINDMAN. Yes, because under our State-support structure we give more money to those areas which have lower valuations, and if, in the case of the Indian lands, where there is no valuation, why, they naturally appear as a low valuation, or a poverty-stricken area, and that drain has been very severe on the State funds because here the federally tax-exempt properties showing no local funds, and the State through its, what we call, our equalization program, makes up for that lack of taxable resource locally. So, one of our desperate problems is trying to figure out some way to continue our present support system in the face of these declining local property-tax resources, a substantial part of which is due to removal of our property from the tax rolls and by acquisition of the Federal Government.

Mr. JACKSON. Now, Mr. Lindman, I wonder if you could tell the committee the money appropriated by your last State legislature for school construction, for the school construction program in the State of Washington, and the present status of that fund.

Mr. LINDMAN. The legislature appropriated \$6,500,000 for State aid to local school districts for school-construction purposes, and the legislature also proposed a State-wide bond issue to the people, to be voted upon the next general election for \$40,000,000 to be used as State support for school-construction purposes.

However, that bond issue money, of course, is problematical; it is an election which will be a year away, and it is not really available right now.

The 6½ million dollars have been used—have been spread very thinly—over the State of Washington.

I think it is important for the committee to understand that the entire State has growing pains and severe ones, in connection with trying to provide school plants.

For example, the total increase in attendance this last fall over the year before was 18,000 children.

An increase of 18,000 children on a State-wide basis creates a very severe building problem in just one year. We have been estimating for round numbers that it would take at the very minimum of a thousand-dollar investment per child on a State-wide basis, assuming that some of them can be housed in existing buildings and not all of them will require new plants; if they all required new plants, the cost will be greater, but you see when you consider housing 18,000 new children you have a cost of close to \$20,000,000, because these new children reside in places throughout the State where the schools are already overcrowded.

If they reside in certain places where the schools were not so crowded, it would be easier to handle the problem. It would be easier to handle the problem if that were the situation, but they tend to concentrate in the Columbia Basin area, in Kennewick, Pasco, Richmond, and in the metropolitan areas of Seattle and Tacoma, and so on.

So the 6½ million had to be spread over the entire State.

Just to make a comparison clear, while the State increased 18,000, these 6 school districts increased 2,000; in other words, the 6 school districts under consideration increased 2,000 while the State as a whole, increased 18,000.

Then, in addition to that, we had an earthquake that upset our planning considerably with respect to our school-building program.

It cost approximately \$3,000,000 in construction to replace plants that were destroyed by the earthquake.

Mr. JACKSON. That leaves three and a half million.

Mr. LINDMAN. Yes, approximately that, and that has been spread rather thinly over the entire State, and no action which was taken in Kennewick and—

Mr. JACKSON. Pasco.

Mr. LINDMAN. The Pasco area at the meeting of the board of education.

At that time, however, they gave some thought to an allocation but withheld final action because of the negotiations which were going on here.

Our State board of education, I am sure—and I am the secretary of the board—fully intends to participate in this on the same basis as other schools, but action was delayed pending a clarification of its relationship with the Atomic Energy Commission. These districts will receive exactly the same consideration as any other school district in the State with similar problems and similar local effort for the support of schools.

Mr. JACKSON. Considering all the factors of load growth, the districts involved in this discussion will be treated on an equal basis with other school districts?

Mr. LINDMAN. Yes. It is my understanding that in Oak Ridge and in other places the State does not contribute toward the support of the schools on the project site.

(Discussion off the record.)

Mr. JACKSON. Before asking that question, one more question, Mr. Lindman, I would like to ask of you: Could you state approximately how much money has been contributed by the State of Washington thus far to the Richland school district? If you cannot, if you do not have that information, possibly Mr. Shaw could give a rough estimate, or Mr. Shugg, as to the amount?

(The following was later submitted for the record:)

SUPERINTENDENT OF PUBLIC INSTRUCTION,  
STATE OF WASHINGTON,  
*Olympia, August 15, 1949.*

HON. HENRY M. JACKSON,  
*United States House of Representatives,  
Washington, D. C.*

DEAR CONGRESSMAN JACKSON: I am enclosing two tables containing information which you may wish to insert in the record of the hearings pertaining to the school building needs of the school districts in the Richland area.

Table I shows the amount of State moneys apportioned to the school districts in the Richland area from 1944 to 1949. You will note that annual State apportionments for current expenses purposes to schools in this area have increased from less than half a million dollars to more than \$2,000,000. The Richland school district will receive three-quarters of a million dollars in State aid for current expense purposes for the school year 1949-50.

Table II summarizes school building projects in the Richland area since 1941. You will note that a substantial amount of State and local school funds have been

invested in new school buildings in this area in an effort to keep pace with growing requirements.

I appreciate the opportunity to appear before your committee and submit this information.

Sincerely,

PEARL A. WANAMAKER,  
State Superintendent of Public Instruction.  
E. L. LINDMAN,  
Deputy Superintendent.

TABLE I.—Apportionments to school districts from current school fund and State school equalization fund

School district	1944-45	1945-46	1946-47	1947-48	1948-49	1949-50, estimated
Richland No. 400.....	\$78,670.64	\$405,379.08	\$388,424.27	\$552,403.96	\$536,488.20	\$775,000
Pasco No. 1.....	47,354.80	122,003.20	114,284.51	194,382.82	250,008.91	280,000
Kennewick No. 17.....	81,369.19	224,739.58	185,630.01	260,471.53	364,318.08	460,000
Kiona-Benton No. 52.....	17,115.13	50,173.83	27,825.69	42,606.37	48,551.70	51,000
Prosser No. 16.....	45,499.04	106,522.82	92,220.13	144,755.38	158,249.70	164,000
Sunnyside No. 201.....	104,532.33	217,864.20	232,047.69	378,011.90	419,941.67	415,000
Grandview No. 200.....	49,347.69	107,092.42	113,886.33	169,629.83	180,902.36	182,000
Total.....	423,888.82	1,233,775.13	1,154,318.63	1,742,261.79	1,958,460.62	2,327,000

TABLE II.—Summary of school building projects in Richland area since 1941

School district and project	Year built	Number of classrooms	Grade level	Source of funds			
				Local	State	Federal	Total
Kennewick:							
Elementary.....	1944	16	1-6	None	\$35,000.00	\$140,000	\$175,000.00
Do.....	1944-45	16	1-6	\$9,000.00	17,000.00	104,000	130,000.00
Pasco:							
Elementary.....	1945	4	7-8	3,000.00	17,000.00	30,500	50,500.00
Do.....	1948-49	9	K-6	150,719.88	168,000.00	-----	318,719.88
Kiona-Benton: None							
Prosser:							
High school shop.....	1947	4	9-12	37,000.00	23,000.00	-----	60,000.00
Elementary.....	1948-49	6	K-6	212,917.60	110,000.00	-----	322,917.60
Sunnyside:							
Elementary.....	1941	6	4-8	71,000.00	9,000.00	-----	80,000.00
Do.....	1947-48	22	K-6	205,708.06	371,702.93	-----	577,410.99
Grandview:							
Elementary.....	1945	4	1-4	40,706.75	31,834.63	-----	72,541.38
Do.....	1947-48	12	1-6	125,319.80	106,235.08	-----	231,554.88
Total.....				855,372.09	888,772.64	274,500	2,018,644.73

Mr. LINDMAN. I do not have the exact figure. Maybe Mr. Shaw can give a more accurate estimate than I can.

Mr. SHUGG. Do you know what it is, Dave?

Mr. SHAW. I have some figures on which can be based an estimate, which I have not completed computing. It will take me a few minutes. If I can answer to this question of assistance at the other installations first, and if you will give me a minute or two, I can have an order of magnitude estimate on the second question.

Mr. JACKSON. All right. I would like to ask you first, could you explain what the relationship is of the State of Tennessee to the school system at Oak Ridge, operated, I believe, by the Commission, with reference to the contribution of funds either for operation and maintenance or for any other purpose in connection with the school system?

Mr. SHAW. Yes. At Oak Ridge the school district includes the entire county, and is not concurrent with the confines of the reservation, so a reimbursement is made to that school district for all of the expenses of the schools within the reservation proper by the Atomic Energy Commission.

The State, therefore, contributes no money to the operation and maintenance of those schools on the reservation.

On the other hand, the Atomic Energy Commission makes no contribution to the State system for those pupils who live off to the project.

Mr. JACKSON. Spelled out, what does it mean in terms of balancing the costs to the Commission, bearing in mind, of course, that the contribution made by the Commission in the State of Washington covers only the 1-year lag, and then is terminated?

Mr. VOLPE. That is not Richland, is it?

Mr. JACKSON. Yes; it is off project.

Mr. COLE. On, too.

Mr. JACKSON. I understand from Mr. Shaw's testimony that at Oak Ridge the Commission makes no contribution for the 1-year lag and operation and maintenance expense for students of parents who are employed at Oak Ridge, but who live out of the district, is that the fact?

Mr. SHAW. Yes; that is the fact, and I do not know how many pupils would be so involved.

Mr. SHUGG. I believe about 40 percent of the employees at Oak Ridge live off the reservation.

Mr. JACKSON. Off the reservation. But the contribution that the Atomic Energy Commission makes in the case of the State of Washington for operation and maintenance for students on the reservation is only a single contribution that takes place once, and that is the end of it.

In the case of the contribution by the State of Washington to the Richland school system, which is an Atomic Energy reservation, it is an annual appropriation that is made available to the school district, is that correct?

Mr. SHAW. That is correct.

Mr. JACKSON. So that it might be helpful for the purpose of the record if the Commission could supply information showing the amount of money they are now expending at Oak Ridge for operation and maintenance, and then making a comparable offset for the contribution made by a State indirectly for the off-site students. I think that would cover it.

Mr. COLE. I think you would also have to show a comparative size of the student load.

Mr. JACKSON. Yes; spelled out in dollars it would have to show what the per capita allowance was.

Mr. ALVES. Mr. Chairman, may I make a comment? I believe it is correct that until about a year ago two counties, at least, adjoining Oak Ridge, did receive Federal funds for current operations through the Lanham Act and Landis bill from the FWA for current operations.

Mr. SHAW. It could be. I cannot answer that.

Mr. ALVES. Is that correct?

Mr. JACKSON. Mr. Alves, if you could assist in getting that information, of course it should be included because if it came from another

source it has the same indirect effect, to balance whatever the Federal contribution is against the State contribution.

Now, Mr. Shaw, the same questions with reference to Los Alamos' operations in the State of New Mexico.

Mr. SHAW. At Los Alamos the situation in the past has been very comparable to the situation at Oak Ridge in that the State was making no payments whatever to those schools which were located on the reservation, and the Atomic Energy Commission was making all of those payments.

With the recent change in the status of the reservation at Los Alamos, revisions are apparently under way in connection with the methods of distributing State school funds which will result in considering those pupils on the Los Alamos reservation as being entitled to State aid. The exact amount of money I was unable to ascertain, because it is still under negotiation, but it is said to be and expected to estimate the order of \$200,000 per year in a school district of approximately 1,200 pupils.

Mr. JACKSON. And your contribution now is running around about a half million at Richland on 4,000, is that it?

Mr. SHAW. Yes. It is, I believe, a little higher than that. That is, considering all sources of revenue to the school district, exclusive of the AEC allowance—

Mr. JACKSON. Yes.

Mr. SHAW (continuing). For the present school load, it is running close to a half million dollars. Also at Los Alamos, as at Oak Ridge, there is no payment back to the surrounding school districts from the Atomic Energy Commission of any sort whatsoever.

Mr. JACKSON. I believe you submitted a figure for the record at the last meeting in which it was indicated that about \$1,300,000 had been distributed by the Atomic Energy Commission to all the school districts for operation and maintenance, together with temporary construction. Could you give us the distribution of that?

Mr. SHAW. Yes.

Mr. JACKSON. Between temporary construction and operation and maintenance funds.

Mr. SHAW. Do you want this by school district, Mr. Jackson?

Mr. JACKSON. No, just the total, not by school district; just the approximate total.

Mr. SHAW. The total for maintenance and operation at Richland for the off-project, is that your question?

Mr. JACKSON. What I meant is what you have paid to the surrounding school districts for operation and maintenance expense up until now.

Mr. SHAW. Yes. \$471,600.

Mr. JACKSON. For all the school districts?

Mr. SHAW. Yes, sir. Exclusive of the construction money which was \$585,000.

Mr. JACKSON. Yes.

Mr. SHAW. \$471,000.

Mr. JACKSON. You receive more in 1 year than that entire total from the State at the present time?

Mr. SHAW. With our present enrollment—

Mr. LINDMAN. It might be added, Mr. Chairman, that the amount which the Atomic Energy Commission contributed on a 1-year basis

represents the permanent recurring annual burden which the State must pick up as the project moves ahead, because the Atomic Energy contribution is an adjustment payment for 1 year, until such time as the State system can swing in behind those youngsters so the State will absorb that recurring annual amount.

Mr. JACKSON. It is a single payment to take care of that 1-year lag. I believe that information is in the record previously.

Mr. SHAW. Yes; that was in previously, and as we mentioned then, there is the construction money in addition, and the value of the busses, whatever the busses may be. We just call them busses. We do not put a dollar value on them in that connection.

Mr. JACKSON. Off the record.

(Discussion off the record.)

Mr. JACKSON. Mr. Black had a question.

Mr. BLACK. I would like to ask just a couple of questions of Mr. Shaw, if I may. That nine-hundred-some-thousand dollars on construction includes all the \$300 bases?

Mr. SHAW. It includes what you have not spent, as well as what you have already spent. Does that answer the question?

Mr. BLACK. That is right.

Mr. SHAW. It is what we have offered in the form of firm commitments.

Mr. JACKSON. Did you have anything further on that, Mr. Alves?

Mr. ALVES. No.

Mr. BLACK. I might add, Mr. Chairman, that the busses and the temporaries in our community are considered loans. The title still remains with the Atomic Energy Commission.

Mr. JACKSON. Yes. I think that is in the record, too.

I believe Mr. Shaw explained that they were operated by the district, but title, I believe, remains with the Atomic Energy Commission. They are on a lease or loan basis.

Mr. COLE. I might ask, does the State of Tennessee have a State-wide system for aid to local districts for maintenance of the schools?

Mr. ALVES. It does.

Mr. JACKSON. The attorney general of the State of Tennessee made a ruling to the effect that funds could not be expended on the reservation. Was there not some such ruling which provided the basis for—

Mr. ALVES. I understand, Mr. Chairman, that was a ruling not too long after the beginning of the Oak Ridge activities.

Mr. VOLPE. It was not a formal ruling. I think, to round out the picture here on the Tennessee situation, there have been some very informal discussions about State support or partial State support of the school system at Oak Ridge. These discussions have not proceeded to any definitive stage as yet, but there have been discussions along those lines.

Mr. JACKSON. Well, Dr. Smyth, I think this information that will be given in a moment when Mr. Shaw gives us the tabulation of what they received, is a very important consideration and should be balanced with other factors in this over-all problem, and I think at least we get a little better picture of the role of the States in this very difficult problem.

Mr. LINDMAN. I might mention, I spoke to Governor Langlie before I left concerning the problem, and he pointed out that the

small emergency fund which was appropriated to him by the legislature was committed, and he also pointed out a fact which is pretty generally known in the State, and that is that the State appropriations at the present time exceed the revenues by approximately \$60,000,000 for the biennium, and that the State will have some very difficult readjustment problems, due largely to this sudden growth in population.

I do not believe the rest of the Nation has a picture of what it means to double a school system in a few years, to build buildings, faster than they have ever built them before in the history of the country, and that is the kind of a problem these districts are up against.

Mr. JACKSON. Mr. Alves, I wonder if at this point you could make some comment on the policy of other States with reference to making State funds available to local school districts for operation and maintenance, and again with particular reference to students on Federal reservations, such as the Hanford project, and the Bureau of Reclamation project, such as we have in the State of Washington.

Mr. ALVES. A number of States are providing some State funds to school districts for the education of children living on Federal property.

In general, the answer is that where a State program of financial assistance for current expense purposes is based on the average daily attendance, such State moneys are distributed to districts on the school load as measured by average daily attendance without reference to the residence-out children.

Mr. JACKSON. Are the other States as generous in their contribution to the local school districts, first, and second, as to the operation and maintenance of school systems that are on Federal property?

Mr. ALVES. To get an exact answer to that, I think would involve an analysis of the legal provisions for the distribution of State moneys in the States. I think, in part, I can give this kind of an answer: I know that in Texas, for example, because the Federal Government has never had a stated policy of assisting in educating children on Federal Government property, and because of the large number of installations in the State that are federally owned, the legislature years ago authorized the State board of education in that State to create special school districts, including only federally owned property.

As a specific example, when Randolph Field was established, in order that State funds might become available, the State board of education created the Randolph Field special school district. The State funds that go to that district, as far as I know, are only those referred to as the State per capita apportionment, which is about \$55 per pupil. Whether any of the State's equalization money is going to that kind of district, I am not prepared to say.

Mr. JACKSON. Well, Mr. Alves, if it is not too impossible, if you could supply for the record the policy of the States with reference to contribution to local school districts, and more particularly the Federal reservations in the various States.

Mr. ALVES. I will be glad to try to do that.

Mr. JACKSON. If you have that in the Department, that information,

Mr. ALVES. No; because that would involve an analysis of the laws passed at the last legislative sessions this last spring, and we just do not work quite that fast. In fact, we have not all the laws in yet.

Mr. JACKSON. Suppose we go back then.

Mr. ALVES. I can do this: I can provide examples of States. For instance, we know that Illinois has a recurring situation of providing a given amount. I think New Jersey is another instance. We can do that, but to give it across the board for the States, I am afraid, would require more time than you have.

Mr. JACKSON. Well, do the best you can.

Mr. ALVES. I will.

Mr. JACKSON. And if it is not right up to this year's decisions by the legislature, why, it will be the best we can get.

Mr. ALVES. All right.

Mr. JACKSON. Now, Mr. Shaw, do you have a recapitulation of the costs?

Mr. SHAW. Since the Manhattan District purchased the entire—nearly the entire—real estate of which the Richland school district is comprised, and purchased it at the same time that it purchased all of the then existing properties of the school district, an approximation of the amount of money which the State has contributed to the operation and maintenance of that school district which, therefore, includes the school years 1943 up through 1948-49 is in the vicinity of \$2,900,000.

Mr. JACKSON. \$2,900,000, and the contribution to date by the Commission is approximately \$1,300,000 for all purposes, exclusive of the school busses?

Mr. SHAW. For the offsite schools.

Mr. JACKSON. Yes. I am trying to get the off-set.

Mr. SHAW. If there is any relationship between the two.

Mr. JACKSON. I do not know whether there is. I am just trying to get the totals here. Whether there is a relationship is something that has to be determined.

Mr. SHAW. There is also the fact that the physical properties of the school district, the Richland school district, that plant has, of course, been constructed by the Manhattan District and the Atomic Energy Commission, so that represents an investment, on the other hand, of something up to upwards of \$11,000,000.

Mr. JACKSON. What does it amount to?

Mr. SHAW. \$11,000,000.

Mr. VOLPE. Mr. Chairman, if this is to be an offset, you would also want the figures of the Manhattan District, the contribution made from the Manhattan District, from 1943 to 1947, at the time the Commission took over.

Mr. JACKSON. Was there any contribution? I thought the \$1,300,000 represented the contribution.

Mr. VOLPE. It is my understanding that is the AEC figure which does not include the Manhattan District contribution.

Mr. JACKSON. It does not include Manhattan?

Mr. SHAW. That is since January 1947.

Mr. JACKSON. What were the contributions, do you know, Mr. Black, prior to that? Were they very substantial?

Mr. VOLPE. We can get those. We must have some figures.

Mr. JACKSON. I believe they will be and ought to be in the record. I thought that included all.

Mr. VOLPE. I just think we ought to have a complete picture.

Mr. SMYTH. Mr. Jackson, should you not really, if you are going to have a table of this sort—you have got the two groups of things, the

Richland and the off-Richland school districts, and you have got the contributions of the Federal Government both places, of the State both places, and of the local school districts to the outside.

Mr. JACKSON. Yes; we have not included that. That is right, Dr. Smyth. The \$2,200,000 figure, I believe, of Mr. Shaw's total does not include what the State is spending, of course, for the off-site students for operation and maintenance.

Mr. SMYTH. That is correct, but if you are going to make up such table, it seems to me you ought to have what the Federal Government has contributed on-site for operation and building, what the State has contributed on-site for operation, and there is no local contribution on-site. I do not know where it would come from.

Mr. SHAW. There is.

Mr. JACKSON. I mean the State of Washington has contributed on-site to date.

Mr. SMYTH. Oh, yes, I said that the State of Washington, but there is no local contribution, no local taxation so there cannot be any strictly local contribution.

Mr. SHAW. Comparatively nominal. There is some taxable private property in the school district.

Mr. SMYTH. I see.

Mr. JACKSON. Yes.

Mr. SHAW. That would take some time in preparation, and I am unable to give information in that sort of detail. These figures that I am giving now are order of magnitude figures which would require considerable research in just the preparation of data to confirm that.

One additional figure here, since it has been mentioned that this is being compared with the assistance that the Atomic Energy Commission has rendered to the off-site schools, is that about a half of this \$2,900,000 is money which has accrued to the Richland school district since the Atomic Energy Commission took over, just roughly. There have been half as many pupil years of enrollment in the Richland school district since January 1947 than there were before.

Mr. JACKSON. Does the \$2,900,000 figure cover contributions received under the Manhattan project?

Mr. SHAW. Yes, back to the time that this school district was taken out of the normal condition.

Mr. JACKSON. Does the Commission now have anything they want to say regarding what they propose to do on this? I mean, any further comment for the record?

Mr. SMYTH. I have no further comment other than what I said the last time.

Mr. VOLPE. I wonder if the information Mr. Cole asked for the other day has been obtained, that is, how much money is expected that the Federal Government would contribute.

Mr. JACKSON. Contribute immediately?

Mr. VOLPE. The contribution by the State. It may not have been your question—I thought it was.

Mr. COLE. You mean how much the Richland areas might expect to get from the State for—

Mr. VOLPE. How much they expect to get from the State. How much is actually available from the State, as distinguished from what they expect to get and what the Federal Government or what the Atomic Energy Commission would be asked to contribute.

As I recall the other day in a discussion of the Kennewick district there was some question as to how much was expected that the State could actually contribute because of the availability of funds.

Mr. COLE. I understood Mr. Lindman to say that the Kennewick area, the Hanford area, would get its share of any funds that are made available under this \$40,000,000 proposed bond issue.

Mr. LINDMAN. And the \$6,500,000 currently available.

Mr. COLE. Has any of the \$6,500,000 been assigned to any of these districts?

Mr. LINDMAN. No. The Board has not taken action on these grants.

Mr. COLE. But you said the \$6,500,000 have already been allocated.

Mr. LINDMAN. No; I do not say it has been allocated.

Mr. COLE. Well, committed.

Mr. LINDMAN. I do not believe I said that.

Mr. COLE. That is the impression I got.

Mr. LINDMAN. I did not mean to say that. Some of it is being held in reserve. A school building burned in Pasco which we have to replace in some way, and funds are being held to help in Kennewick and Kiona-Benton in small quantities.

Mr. COLE. How much of the \$6,500,000 are these districts going to receive?

Mr. LINDMAN. Again I would have to give an order of magnitude figure because that again requires the approval of the State board, but I guess the total amount that could go into the whole area would be in the neighborhood of \$200,000.

Mr. COLE. How much of the \$40,000,000 would they be entitled to?

Mr. LINDMAN. Well, there again that is a computation which we have not attempted to make and, that, of course, is a year in advance and quite problematical.

Mr. COLE. Mr. Black, did you not give us a figure the other day of the amount of State assistance for building construction which these districts could expect to receive, assuming that they were treated on the same basis as other school districts in the State of Washington, and assuming the \$40,000,000 bond issue were approved?

Mr. BLACK. Mr. Cole, I believe I clarified that for Kennewick and not for the district as a whole. Each district in the State is considered a separate entity with respect to the basis of percentage of apportionment. Kennewick being one of the worst in the State, as was signed up, was signed on a 70-30 basis, with the local funds only, which meant State 70 percent, and the local 30 percent of the moneys available. Kennewick raised \$300,000, that is their limit, which would entitle it under full matching for \$700,000, but that was construed on a basis of the last legislature appropriating \$40,000,000, which they did not, and now it is derogated on the basis of whether this \$40,000,000 bond issue passes or not, so what percentage it will be, if it is divided among the districts, prorated on a 6½ million dollar basis, I do not know what we will be entitled to.

Mr. VOLPE. According to Mr. Lindman it probably will only be a part of \$200,000.

Mr. LINDMAN. That is correct, immediately from the 6½ million, but from the \$40,000,000, from the standpoint of this committee's consideration, it can be assumed that if the \$40,000,000 bond issue

passes, the State would be able to carry out its full matching obligation, which would then be approximately \$700,000 as matched against \$300,000 of local funds in Kennewick.

Mr. JACKSON. It seems to me that this committee in the report that was worked up out there comes about as close to working out a fair and equitable adjustment as anything I have seen proposed here so far, and something can be worked out and some decision made by the Commission on the report, subject to whatever action Congress might subsequently take to lay down a national policy in this matter, and that is about the best that can be done, and bearing in mind, of course, all of the peculiar factors that exist in a given area.

I think that, of course, is quite obvious because it is apparent from the record here that each State has a different approach in making funds available to the schools and the Federal reservations. It is a case with respect to the State of Tennessee in its not contributing as much, obviously—and this is not being critical at all—as what the State of Washington is contributing in the way of support for operation and maintenance, but it is not possible to spell out a formula that is going to be universal throughout the Commission in all of its programs.

It will have to be determined on the basis of local situations. I am just wondering if some agreement cannot be made as to whether this report is going to be accepted or rejected or modified, and if it should be accepted, whether or not those payments that are recommended in the report could be made on some sort of an installment basis. In other words, they are not going ahead on this whole program in 1 year. Part of it could be made available the next 12 or 18 months, and in the meantime, if Congress determines another formula shall apply, well then, that will be written into the agreement. From then on out that is it, but I think we can discuss this thing from now until doomsday and we will not come to a unanimous point of view.

I share with the members of the Commission their desire to get out of the school business. It is not a school business, but a lot of other business, and speaking only for myself, I cannot help but feel that there is a responsibility here and, as Congressman Cole pointed out, I think in an excellent way, if you assume that there is a responsibility for temporary school construction, which I assume is predicated upon the assumption that there is some kind of a temporary emergency, and that emergency becomes permanent, I think it follows that then the next step is in order. I do not see how you can avoid that situation. Maybe I am clear off in jumping to the next point, but logically it certainly follows.

The point for determination is how much that contribution should be unless you are going to forget about it and withdraw your proposal on temporary construction.

I hope, and I would like for this committee to recommend, that there should be, and there would be a Federal determination, and a Federal administration of this whole program outside of the Atomic Energy Commission, and maybe handled through the Office of Education, and that statement is not being made with a desire to be critical of the Commission. It is being made with a desire that it apply to all Federal agencies. The Atomic Energy Commission is just one of the many, and I am sure the other agencies, such as the Bureau of Reclamation, the Corps of Engineers, a multitude of Federal agencies that

are concerned with construction programs are not in a position to go into the school business, and would like to achieve the same result, and I just do not see how this thing can be postponed any further, and I hope that the Commission can make some determination which the committee can act on and get it to a head and get it over with.

Mr. VOLPE. Mr. Chairman, I think that we have stated in, perhaps, a variety of ways the problem we face. You may recall some days ago I called your attention to a debate in the House on the matter of the extension of the Lanham Act in connection with operation and maintenance.

The debate in connection with the extension of that bill makes it, I think, quite obvious that the problem is an obvious problem that the Commission faces. This is unquestionably a problem for the Hanford area, but it is not one iota unusual, not one iota different from the problem which is being faced today by many States and by many local school districts in many sections of the country.

Mr. COLE. Except that—excuse me—I don't think you can point to another instance where the school load is comparable to the one at Kennewick.

Mr. VOLPE. Well, take for example Amarillo, Tex., where the Pantex plant is; as I understand it, there the increase in the school load was approximately 200 percent, and there are other examples of that.

Mr. JACKSON. Wait a minute, though.

Mr. COLE. It was well over that in Kennewick.

Mr. JACKSON. How many of that increase result and relate directly to a Federal activity in Amarillo?

Mr. VOLPE. It is the Federal activity; and an even more desperate situation, for example, is the one that Congressman Lodge stated in this debate where in the State of Connecticut a large Federal activity carried on during the war and then moved, but leaving behind the population which was brought there during the war period where the school district is actually left with the school population but without the means of employment, so that they have a dual problem of taking care of the school population and also the employment problem.

Mr. JACKSON. They are having that problem right at Hanford now. They have got both. I mean they have got a lot of unemployed people hanging around, too.

Mr. VOLPE. Yes.

The only point I am trying to make is this is not an unusual situation, and it is one that both the executive branch and the legislative branch of the Government have been trying to deal with, and it seems to us that the only question here is: Do we try alone to crack what has been a very difficult problem?

Mr. JACKSON. I think two precedents have been mentioned here. You are not alone in that regard. Funds have already been appropriated in Grand Coulee.

Mr. VOLPE. It is not clear whether that is on-project or off-project.

Mr. JACKSON. Well, I can tell you. I think there is no question in the case of Grand Coulee. If you check the hearings on the appropriations bill, the testimony was that the school building, I believe, is on the project, but the school district which embraces a number of students whose parents are not employed in any way by the Federal Government, 90 percent of the school district is publicly owned land,

but it was made on the basis of permanent construction—was approved on the basis of the inability of the local school district to obtain funds for school construction.

Mr. ALVES. Mr. Chairman, I sent over this morning a statement which set forth certain precedents, and this is one of them, the one you are referring to.

Reading from the Senate Committee Report No. 661 accompanying H. R. 3838, filed July 13 of this year, and involving the Interior Department appropriations bill, here is a short statement:

The committee concurs in the statement on page 13 of the House Report No. 324, Eighty-first Congress, first session, that of the funds appropriated for this project—

namely, the Columbia Basin project—

\$225,000 be used for new school construction and \$100,000 be devoted to repair and improvement of existing school facilities at Coulee Dam, Wash., and recommends that proportionate amounts, based on the relative enrollment of the dependents of Reclamation and contractor employees, be expended on school facilities at Grand Coulee, Wash., in accordance with Public Law 835, Eightieth Congress.

I checked, as officially as I knew how, to see whether that included schools at Grand Coulee Dam, which, I understand, is the federally owned part, and schools in the Grand Coulee school district, which is the non-Federal property, and I was advised that both school districts were included in this committee action.

Mr. JACKSON. Do you have any other examples?

Mr. ALVES. Yes, I have.

As I say, this was sent over, and will be part of the record. From the same hearings, from the same committee report, I took this case. True, it relates to one of the Indian schools at Truxton Canyon, Camp Verde, Ariz., where the Camp Verde Indian School burned in 1946, and \$8,000 was appropriated at a later date for rebuilding this school. That \$8,000 has not been used, because arrangements were made with the Camp Verde school district to take the children formerly going to the Indian school.

At the Senate hearing, the committee was advised that the Indian Bureau has a request from the Arizona State Department of Education to transfer to the Camp Verde public school district the \$8,000 to assist the State in a program of enlarging its public schools, and the committee recommends that this request be approved.

I will admit that the purpose here is the education of Indians, and the idea might have been to get the Indian children into schools with other children, but the point to be emphasized is that a Federal appropriation was made available in this instance, or is to be made available to a school district for the construction of a building not located on federally owned property. The assignment I was given was to check on buildings not on Federal property and financed by Federal funds.

I have one other case I would like to mention now. In connection with the authority which the Army engineers have, a representative of the Arkansas State Department of Education provided me with this information, and I quote:

A grant of \$60,000 was made by the Army engineers for use by the local school districts in constructing a new school building to assist in the education of children from the Bull Shoals Reservoir. The local school district supplemented the

\$60,000 grant with \$30,000 of district funds and constructed a permanent one-story building known as the Mountain Home School, which was occupied early in the calendar year 1949 and is used for high-school purposes.

Mr. JACKSON. Is that on a Federal reservation; do you know?

Mr. ALVES. It is in a school district, not on—every case I am referring to is not located on federally owned property.

Mr. JACKSON. Mr. Black made reference to two situations, I believe, at the last hearing: one with funds made available to the Oregon school system in connection with the construction of the McNary Dam—could you enlarge on that, or do you know?

Mr. BLACK. The only thing I have is a verbal report through the Engineers. They construct and operate the school there.

Mr. JACKSON. At McNary?

Mr. BLACK. Yes. They hire the teachers and pay the teachers' salaries, and all.

Mr. JACKSON. Is that on the reservation?

Mr. BLACK. No.

Mr. JACKSON. Well, is it a permanent building?

Mr. BLACK. I would say, from my own point of view, semipermanent.

Mr. JACKSON. Well, it is probably a temporary construction. Where is it located, Mr. Black?

Mr. BLACK. Hermiston, Oreg.

Mr. JACKSON. What about the high school in Bremerton, Wash.? I believe during the war the Navy supplied funds to Bremerton.

Mr. LINDMAN. Those were Lanham Act funds.

Mr. JACKSON. Permanent construction?

Mr. LINDMAN. Oh, yes. That was a joint project. The State contributed 20 percent, I believe, and the school district 5 percent, and the Federal Government 75 percent of total cost.

Mr. JACKSON. At Bremerton?

Mr. LINDMAN. At Bremerton, for a permanent high-school building.

Mr. JACKSON. That was during the war?

Mr. LINDMAN. During the war.

Mr. JACKSON. You do not know how much was involved, how much in the way of funds?

Mr. LINDMAN. Well, it was over a million-dollar project I am sure. It was well over a million dollars.

Mr. BLACK. Mr. Chairman, I would like to call to your attention one other situation in the State of Washington.

Several years back, there was a lumbering company which moved into a certain place and built the town, built all the school system and gave it in its entirety to the district, and I am speaking now of the Long Bell Lumber Co. of Longview, Wash.

Mr. COLE. What is that a precedent for? [Laughter.]

Mr. JACKSON. Is there anything more for the record?

Mr. COLE. Mr. Chairman, I would like to inquire if any progress at all has been made between whatever discussions may have occurred between Mr. Black, representing these people, these districts, and the Commission, in an effort to find some solution.

Mr. SHUGG. We had one discussion, Mr. Cole, Monday evening, and I think two points came up there. The first was as to what the Atomic Energy Commission or Federal funds would be required by the proposed high school itself. I think Mr. Black's method of arriving at

that figure is about as practical as anyone could use. It was to take the total funds and the total State expected funds and the total Federal or AEC expected funds and then, with that grand total, use the same ratio for the high school or any one of the other buildings, for any one of those three contributors as their total funds are to the total amount available.

Mr. BLACK. That type of formula would be difficult in any other district than ours, for the reason that most of them have already spent their money, and in that case you would have to construe them as funds spent back to such a date.

Mr. SHUGG. Yes.

Now, that did bring out one other point, in looking at Mr. Black's figures. The plan itself had \$300,000 available or which could be raised through the local bond issue, and they have the possibility of \$353,000 from the Commission, and as I understand it, Mr. Black's district has four construction projects in mind. One is a high school, two elementary schools, and a junior high school building.

As we go over those figures it did bring out this fact, that is very rough order of magnitude estimate on the costs, the high school is \$1,800,000, unequipped; the two elementary schools are approximately \$600,000 apiece, and the doubling of the junior high school would be approximately a million, so still, with the thought in mind as to how much of an emergency there is in this present situation, we noted the fact that one of those elementaries at \$600,000 is at least covered by funds already in hand. They could go ahead with one elementary, with the present \$353,000 from the Commission, plus their own \$300,000. That would seem to us at least to have some bearing on the degree of emergency situation as regards more adequate space at this moment.

It does not, of course, give the priority to the high school which the school district believes should be given to the high school itself. That was the chief result of our discussions, I think, Mr. Black, is that right?

Mr. BLACK. Well, the situation is this.

Mr. COLE. I do not see where you accomplished anything except to reach a decision that instead of spending any of the Kennewick funds allocated by the Atomic Energy Commission to Kennewick for a high school, to spend it all for one grade school.

Mr. BLACK. Yes.

Mr. SHUGG. Well, at least one school, one of the four schools projected, could be built and could be used immediately with the money at hand. It seemed to us to have some bearing to the extent to which this present situation constitutes an emergency.

Mr. BLACK. Mr. Chairman, the emergency there is not anywhere near in comparison and degree to the lower grades as it is with the high school. The charts will show you this last year that we have 1,135 enrolled in junior and senior high school, and with a move-up in grades, it would be better than 1,300 for this fall with one building to house 500, in which you can carry on a program of junior-senior high school work, and such a program does not lend itself to a temporary situation. That is where the emergency is as far as Kennewick is concerned.

Mr. SMYTH. Mr. Chairman, I am a little puzzled about this Kennewick emergency. Maybe I do not understand this table that, I think, was prepared by Mr. Alves on the original school districts, and the

money they have raised since 1940-41 in terms of the valuation; but, as I read it, the six school districts consisting of Grandview—Grandview has a total valuation of \$2,866,000. They raised \$303,000 in this period through a total millage of 130, and bond issues to make up the difference, which is approximately 11 percent of the valuation.

Kennewick, with a valuation of \$7,000,000, has raised only \$317,000, total millage of 5, as against 130 in Grandview, and \$300,000 of bonds, which is about  $4\frac{1}{2}$  percent, and the others range from  $4\frac{1}{2}$  percent approximately for Prosser—these are very rough percentage figures—up to 13 percent for Sunnyside where, with a total valuation of \$5,000,000 at Sunnyside they raised \$667,000, or twice as much money, more than twice as much, as Kennewick, although with a lower valuation.

I mean the situation has been developing over quite a long period.

Mr. BLACK. Mr. Chairman, I would like to have an answer to that question. It so happens that those millages are true in that sense, but does anyone have a right to ask that due to an overload that the people of that community were trying to eke out a living should pay  $2\frac{1}{2}$  times their ordinary taxation every year to keep up with it?

Now, I might say that for that very taxation you are reading there both the superintendent in Sunnyside and the superintendent at Grandview lost their jobs this year over the deal of putting on such taxation. [Laughter.]

Now, the man at Grandview was fired, and the man at Sunnyside beat them to the draw all over that one question.

Now, to raise that extra taxation there has to be a vote in the State of Washington. Forty percent of those who voted in the last general election must cast a ballot to make it legal, and 60 percent must be in favor, and if you think we have not done the right thing in Kennewick, come out and try to pass a special levy.

Mr. LINDMAN. Mr. Chairman, I am glad you brought that point up because I think we should clarify what has happened in these districts over the past few years. It will, I think, clarify the record.

From the period from 1943 on there has been spent in these six districts \$855,000 of local money, \$888,000 of State money, and \$274,000 of Federal money, which was Lanham Act funds.

Mr. JACKSON. Which was for school construction?

Mr. LINDMAN. School construction in these six districts. Some of them—they are all, of course, trying to keep up with the load, but for the record you ought to know that the State has already contributed \$888,000, the local districts \$855,000, and the Federal Government, through the Lanham Act for those same buildings, \$274,000, and yet those districts, even Sunnyside which is the one that has made the greatest local contribution, as you indicate from your report and has received the greatest State contribution, \$380,000, is on the double shift. In spite of a very excessive taxation, and in spite of liberal State grants they are still unable to house their rapidly increasing school enrollment. You have crystallized the idea that after excessive local effort has been made in the area, and State aid has been provided, as well, they have been unable to keep up with their increasing loads due to this general activity in the area which centers around Richland.

Mr. SMYTH. Well, Mr. Chairman, I was not questioning the difficulties in the whole area there, which, I think, has to be made very clear, but I was asking for an explanation, which I have certainly gotten, of the difference.

Mr. JACKSON. A very practical one.

Mr. SMYTH. Of the difference in the different districts, which seems to be quite striking in this table:

Mr. JACKSON. Even under the formula that has been worked out the funds would be so apportioned, as I understand it, that the districts that have made the larger millages or larger levies, I should say greater levies, I should say, would not be penalized for having done so, but would be given consideration on the basis of the formula that was worked out there.

It is pretty hard to get a uniform situation where you have got five or six districts all making various levies from time to time, and I think it is a point that should be commented on, and it is an indication of what the attitude has been locally, as to what should or should not be done by the local school districts, but I think it can all be taken care of in whatever agreement is worked out, because it is certainly something which relates to the element of the ability which has been made by the district.

Mr. SMYTH. Yes, I am very glad you made that point because that was essentially what I was trying to carry out, that we have to consider those points.

Mr. LINDMAN. I think it should be brought out here that the committee recommendation which was made in Richland was very cognizant of this problem, and the committee was very careful to draft a recommendation that did not either penalize or reward districts for previous happenings. In other words, one district was not to receive more money because they had levied less or to receive less money because they had levied more.

There was a certain load that could be attributable to Federal activities, and was in excess of what the districts could be expected to absorb with ordinary State and local resources, and that load should be the basis for any type of contribution which the Atomic Energy Commission would make. In that way then you would not find yourself in the awkward position of saying that because Sunnyside has taxed itself beyond reasonable limits and now has only 10 classes double-shifted, which is a bad situation, they are not as bad off as another school which did not tax itself.

Mr. VOLPE. Mr. Chairman, I attempted to give before some illustrations of comparable situations throughout the country. I have before me some of these figures, and the reason I stress this is that I feel, and I believe this is probably the Commission's position, that a distinction cannot be made that the Atomic Energy Commission should handle this problem in a manner which is, perhaps, separate and different from the way it has been handled by the Federal Government as a whole.

Let us take, for example, the Cooper River school district, North Charleston, S. C.

Prior to the war the school district enrollment was 3,540. During the war it went to 10,356, an increase of approximately 7,000 due solely to activity of the Federal Government; and since that time the enrollment has leveled off to 8,700, which is still twice the number of enrollment prior and during the prewar period.

The school district—this is a report which was made to the Senate Appropriations Committee—has raised its assessed valuation, and increased its tax levies, to the point where home owners are paying

almost twice the tax rate which was necessary to pay during the war, and still the school district has a deficit each year approximately of \$100,000 for maintenance and operation of its schools.

Another example is the Mad River Township, Ohio. Prior to the war there were 836 children in the school district. In 1947 the enrollment was 2,591 due to the Wright-Patterson Air Force Base.

Again, because of this burden there were 300 elementary-school children who were on half-day sessions, and it was necessary to transport 373 high-school students to an adjoining school district at a tuition of \$170 per child per year; 26 of those 46 classrooms in the district were in leased buildings, and many of them were unsatisfactory for school purposes.

Just prior to the beginning of the 1948-49 school year, a trailer camp, accommodating several hundred trailers, was placed in a school district, again increasing the school enrollment, but adding very little to the assessed valuation.

In Orange, Tex., the Orange school district, there was a school enrollment prior to the war of approximately 2,000. This jumped to 8,300, a 400-percent increase in enrollment.

During the 1947-48 school year, there were 5,500 students, still an increase of 150 percent over the prewar period.

Mr. JACKSON. Do all of these examples involve continuing Federal activities?

Mr. VOLPE. Continuing Federal activities, and attributable solely to a Federal activity.

Mr. COLE. Direct and indirect, both?

Mr. VOLPE. That is right, sir.

Mr. COLE. But they still do not approach the Kennewick figures of direct, except maybe this one out here at the Wright-Patterson Field.

Mr. VOLPE. Yes; certainly the Wright-Patterson approaches it, and these are given as typical illustrations in this report. It is not intended as a comprehensive report, a study of the problem throughout the country.

Mr. ALVES. Mr. Chairman, may I comment? That was the report cited the other day, and the report, as submitted, is for current expense purposes.

I would like to comment with reference to the school building situation.

During the war the Lanham Act program provided funds for constructing school buildings, and it happened that our office served as an assisting agency in determining the need for additional school facilities.

I recognize and remember very well each of the three districts. I personally have been in Orange, Tex. As I recall, there were four or five Lanham Act projects, school buildings built primarily with Federal funds. That similarly is true of North Charleston.

Mr. JACKSON. Permanent construction?

Mr. ALVES. Some permanent, some temporary, primarily permanent in Orange, Tex., I think all permanent, with the exception of one building, as I recall.

Those facts could be obtained directly from the Federal Works Agency, which did that.

Mad River Township, I know, had one or more buildings. Added to that list would be the famous Midwest City case in Oklahoma which, from the standpoint of extremely rapid increase, is probably as bad as any. I would like to make one further comment.

In some of these districts, not only those named here, but some of the list of another hundred more, there are still school building needs attributable to Federal Government activities. The fact that there is such a need in a group of districts, chargeable to Federal activities, is the primary reason for the introduction into the Congress this year of some forty-odd bills on school construction, a good number of which emphasize very distinctly and emphatically the critical emergency need, and a few, such as the present Humphrey bill, Senate 2317, specify emergency school construction needs, because of Federal Government activities.

I think it is very significant that that be here in the record in this fashion. I think the statements submitted to the Senate committee at the time, although they were for current expense purposes, when coupled with the fact that there have been Federal funds spent for school construction located off Federal property, just nails down, in my opinion, very thoroughly, the question that was raised.

Mr. JACKSON. Well, if the facts are as you recited them—and I am sure they are because you were in Orange, Tex., on a trip——

Mr. ALVES. Yes.

Mr. JACKSON. It would seem to me, Mr. Volpe, that they built permanent buildings in Orange in connection with that project, and as I understand it, it applied also in a couple of the others cited, that you have a precedent then for permanent construction.

Mr. VOLPE. It is true that during the war under the Lanham Act funds were used for permanent construction, but that was stopped after the war as a matter of Federal policy.

Mr. COLE. But they did not take the buildings away after they were up.

Mr. VOLPE. That is right.

Mr. BLACK. Well, according to the status, Mr. Chairman, the war is not over yet, is it?

Mr. VOLPE. I wonder if I could ask Mr. Alves one question? Can you reflect the report, the policy of the United States Office of Education on this problem, that is, whether or not it could be handled on an ad hoc basis or whether it should be handled as a Government-wide problem?

Mr. ALVES. I am not sure that your question is clear to me.

Mr. VOLPE. Let me restate it then. Does the United States Office of Education have a policy in connection with Federal assistance to local school districts?

Mr. ALVES. We have never had any funds to administer, so we have no policy as an office.

Mr. VOLPE. Do you advocate one as an office?

Mr. ALVES. Yes; I think the Commissioner of Education at the hearings before the Humphrey subcommittee set forth proposals of the Office of Education and the Federal Security Agency, which could be so cited, and they are, of course, in those hearings. I do not happen to have a copy with me. I will be glad to read a number of principles that came out of that, and be glad to supply the committee with a copy if you want that.

Mr. JACKSON. I think if it is not too long it ought to be included in the record.

Mr. ALVES. You might at least get an excerpt from it if you wanted to.

(The information referred to is as follows:)

[From Report of Proceedings of a Hearing Held for the Subcommittee of the Committee on Labor and Public Welfare, U. S. Senate, on S. 137, et al., June 7, 1949, pp. 117-126]

Mr. McGRATH. \* \* \*

\* \* \* \* \*  
That is, if we take the view that all the children in the United States should have at least a basic fundamental education for citizenship without any fads or frills, it follows logically that the Federal Government must provide Federal aid both for current expenses and for schoolhouse construction.

If you wish, Mr. Senator, I could give you the pretty accurate figures on that matter.

\* \* \* \* \*  
They will show that a State like Mississippi, for example, regardless of the efforts it makes—and it now makes several times the effort a State like New York makes to provide education for its children—cannot do so unless it impairs all other public services. They could take all money they spend for highways and pay school expenses, but that would not be economically sound, as you know.

\* \* \* \* \*  
The differentials in wealth and ability to support schools, so carefully documented as respects the need for Federal aid to the States for "current expenses," are equally relevant as respects the need for Federal aid to the States for "capital outlay" purposes.

Reports on file in our office showing State and local resources in relation to the need for public-school plants indicate that millions of children and youth of the Nation will be denied adequate, safe, and suitable schools unless the Federal Government provides financial assistance.

I might interpolate there that we do not consider any building suitable as a schoolhouse. The argument is sometimes made that buildings are available in which teachers and students can be housed, but the school plant is closely related to what the child gets in the way of education. We talk here of special facilities for educational purposes.

Senator HUMPHREY. Yes.

Mr. McGRATH. Importance of Federal financial assistance.

The Federal Government has participated in the financing of public-school-plant facilities in connection with several temporary and emergency programs. During the depression and prewar periods, the Federal Government provided funds through the FERA, CWA, PWA, WPA, and NYA programs for public works including schools. During the war the Federal Government provided, through the Lanham Act program, all or part of the funds for the construction of school facilities in several communities where the enrollments had materially increased because of Federal activities. For more than 15 years we have had such temporary- and emergency-assistance programs. These programs were based on the then existing emergencies. They emphasized employment for unemployed workers in prewar days. During the war the emphasis shifted to providing school housing for war workers' children. They followed a pattern of Federal-local relationships, and in many cases practically ignored State educational authorities.

It would seem that it is now time for the Federal Government to establish sound policies which recognize the jurisdiction and professional competence of the regularly constituted educational agencies at the Federal and State levels. In this connection I wish to indicate my agreement with the policy statement of the National Council of Chief State School Officers that—

"Federal funds for school planning and construction should be allocated through the United States Office of Education to the legally constituted State educational authorities, and not directly to local educational agencies."

Within each State there is a legally constituted State educational agency and a chief State school officer. The particular form of organization varies with the States, but in each case there is a State agency with State-wide jurisdiction over all public elementary and secondary schools. States have delegated specific educational functions to political subdivisions, constituting the local school administrative units and including cities, towns, counties, or school districts. These subdivisions are creations of the State. The State is the sovereign unit, with

which the Federal Government should deal: Any other procedure would tend to weaken and eventually to break down the traditional State responsibility for education, and open the door to Federal interference and control.

Let me give one illustration of why it is so important for the Federal Government to work through the State educational authorities in this matter of school-construction aids. Many States are now engaged in school district reorganization programs. If the Federal Government, in the operation of providing financial assistance for programs of school construction, does not give full recognition to the responsibilities and functions of State educational authorities, the probable result will be a freezing of obsolete school organizational patterns. School plants erected without relation to State programs or a satisfactory structure of local school units will handicap educational progress for at least a generation. This would largely nullify the efforts of States to develop modern school facilities according to logical patterns of properly located permanent school centers in relation to the distribution of school population. Furthermore, it would increase the cost of providing needed facilities.

It is clear that Federal-aid programs for school housing will be effective only to the extent that such programs facilitate rather than retard the development of sound State-wide plans. It is essential, therefore, that the Federal Government make its agreements with the several State educational authorities and not with individual local school districts.

The supporting public wants adequate school facilities, and is no longer much concerned about district lines established in the horse and buggy days. State educational agencies are aware of these conditions and are planning comprehensive State-wide school facilities programs. These State efforts should be facilitated and encouraged and above all should not be thwarted by Federal programs based on direct Federal dealings and agreements with local school districts.

While most States have made some studies of these problems as related to school plant needs, there is urgent need for more systematic and comprehensive studies in all States. The provisions of pending bills for allocating Federal funds to States for their use in developing sound school-plant programs are timely and consistent with efforts to determine permanent school centers in relation to sound local school units.

What is urgently needed is a program of Federal aid for school housing which will provide the needed funds and assure that they are used for school construction without imposing on the States undesirable controls. The States must be encouraged to plan the type of buildings most suited to their needs and to locate such buildings at permanent centers as determined in accordance with criteria or standards established by the States themselves. The function of the Federal agency is to assist States in their efforts to develop such criteria and to plan and carry out a comprehensive program of school construction that will meet their urgent needs and at the same time facilitate, rather than hinder, needed school-district reorganization.

I have not directed my remarks toward any of the bills now being considered by this committee, but I should like to restate and reemphasize for the committee in somewhat greater detail the principles referred to by the Federal Security Administrator which we believe should be embodied in any legislation providing Federal assistance to the States for school housing construction. Briefly then we believe sound Federal policy would require—

1. That Federal funds be made available to assist States in making surveys necessary for the development of their respective long-range State-wide school-plant programs.

2. That Federal funds for the construction of school-plant facilities be allocated to the respective States, rather than to individual schools or school systems, and that these funds be made available to State educational agencies for use in their respective States in accordance with their State plans.

3. That these funds be allocated on the basis of an objective formula which would provide—

- (a) That there be available for school construction in all States a uniform amount of money (Federal and non-Federal) per school-age population, 5 to 17, inclusive;

- (b) That the ratio of non-Federal to Federal participation in financing the program be based on the ability of the States as measured by "income payments"; and

- (c) That the Federal-participation percentage be calculated on a State-wide basis, rather than project by project.

4. That the Federal Government recognize a special obligation to give immediate emergency assistance in meeting critical school-plant needs occasioned by Federal Government activities; and that for 1 year only the Federal grants-in-aid for this purpose proportionate to the Federal responsibility, be allocated on a project basis after a determination by the Commissioner in cooperation with the State agency, the school district or districts, and the Federal agency involved; and that any critical project be determined to the extent feasible as an integral part of the State's over-all program of school construction.

5. The responsibility and authority for administering the program within the States be assigned to the States; that Federal relations thereto be carried on through the Office of Education, Federal Security Agency; that the Commissioner of Education be assigned the responsibility for reviewing and approving State qualifying plans for the use of Federal funds within the respective States; and that he be given the responsibility for providing consultative services to State educational agencies to assist them in—

(a) Setting up over-all State plans for participating in the Federal assistance program,

(b) Making studies to determine the need for and the location, type, and size of facilities, and,

(c) Developing State standards and regulations for the educational planning, constructing, and equipping of individual projects.

6. That each State designate a single State educational agency to be responsible for administering the school plant program within the State and that Federal funds be made available from the State allotment only for projects for which the locations and drawings and specifications have been approved by such agency.

7. That the State educational agency develop an approved State plan which sets forth—

(a) The manner in which the State proposes to determine its needs for school plant facilities and the priority of construction projects,

(b) The method to be used in determining the relative needs of different areas lacking adequate school plant facilities with consideration for those areas with relatively low financial resources and especially for those areas overburdened with enrollments resulting from war and defense programs and other Federal activities,

(c) Standards for the location, planning, construction, and acquisition of public-school plant facilities,

(d) The method of distributing State and Federal funds for providing public-school plant facilities, and

(e) Functions and responsibilities to be delegated to local units.

Let me close by expressing the hope that this committee will develop and report for favorable action by the Senate school housing legislation embodying the principles I have just enumerated. If the committee has any questions on the provisions of any of the pending bills in relation to these principles, I shall be glad to have Mr. H. F. Alves, who is the Director of the Division of School Administration of the Office of Education, and who is here this morning, to answer them.

\* \* \* \* \*

Mr. JACKSON. I think in that same connection you might state whether or not the committee report that was agreed to had the concurrence of the Commissioner of Education.

Mr. ALVES. It did.

Mr. JACKSON. Therefore, I assume that the committee report does represent the policy of the Office of Education on this subject?

Mr. ALVES. Policy is hardly a good word.

Mr. JACKSON. As to this specific situation, I mean.

Mr. ALVES. Well, certainly it represents a position of the office in that the Commissioner transmitted it. I do not think policy is determined except by Congress.

Mr. JACKSON. Well, I think, to be specific about it, the Bureau of the Budget would have to pass on the policy that the Department or the Office of Education works out, and then it becomes the policy of the executive branch of the Government.

Each department of the Government, I mean the various departments, have different policies, but the last decision is made by the Bureau of the Budget for the President.

Anyway, it seems to me that we have all the information here now, and it is the Commission which should make a decision of what they want to do. I mean, the idea was, as Mr. Cole expressed it at the beginning, that the Commission should make some sort of recommendation regarding this over-all problem, and then submit it to the committee, and I think that something reasonable can be worked out.

The committee will try to be very helpful in working out a recommendation that will make some sense out of this thing. I believe that is it, is it not, Mr. Cole?

Mr. COLE. That is what I suggested a week ago, but I find that we are right at the same place as we were when I made the suggestion. We have not moved off home plate, except to fill the record with a lot of figures. We have not accomplished anything.

Mr. JACKSON. I think if the Commission wants to say "No" they ought to say "No" and just decide, because there is no use of our going on any more. I mean it is up to the Commission, and then whatever happens will happen, whosever responsibility it is supposed to be, because the committee wants to do everything it can.

I realize the Commission has a tough problem, but I think it should make a decision.

Unless there is anything further there is no use in just having a long dialogue on the record here.

Mr. BLACK. From our point of view, representing the six schools, we feel that the committee which was formed at your insistence, worked out a fair and equitable situation. However, I realize the tremendous problem of funds, and the way they are incurred, but if the committee report could be accepted as an obligation, and funds supplied only as needed in a fair way, these schools could get rolling, stay with it, and they would all appreciate the opportunity of working with their neighbors. It will not take the total at one time or at the beginning of the funds worked out by that report by any means to get started, and should any Federal legislation take place during the period of formulation, then we would be glad to swing under that legislation, provided we did not have to change in the middle of one project, which would make that practically impossible.

Mr. JACKSON. Is there anything further for the record? If not, we will conclude the record at this point, subject to any other information that should be included in it.

(Whereupon, at 4:45 p. m., the committee adjourned.)

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**RECOMMENDATIONS ON LABOR RELATIONS POLICY  
IN ATOMIC ENERGY INSTALLATIONS**

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**HEARING**

**BEFORE A**

**SUBCOMMITTEE OF THE**

**JOINT COMMITTEE ON ATOMIC ENERGY**

**CONGRESS OF THE UNITED STATES**

**EIGHTY-FIRST CONGRESS**

**FIRST SESSION**

**ON**

**RECOMMENDATIONS ON LABOR RELATIONS POLICY  
IN ATOMIC ENERGY INSTALLATIONS**

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**MAY 3, 1949**

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### SUBCOMMITTEE OF THE JOINT COMMITTEE ON ATOMIC ENERGY TO HEAR RECOMMENDATIONS ON LABOR RELATIONS POLICY IN ATOMIC ENERGY PLANTS

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# RECOMMENDATIONS ON LABOR RELATIONS POLICY IN ATOMIC ENERGY INSTALLATIONS

**TUESDAY, MAY 3, 1949**

CONGRESS OF THE UNITED STATES,  
SUBCOMMITTEE OF THE  
JOINT COMMITTEE ON ATOMIC ENERGY,  
*Washington, D. C.*

The subcommittee met at 10 a. m., pursuant to call, in room 1501, New House Office Building, Hon. Chet Holifield (chairman of the subcommittee), presiding.

Present: Representatives Holifield and Jackson.

Also present: William H. Davis, Presidential appointee to the chairmanship of the Atomic Energy Labor Relations Panel; William L. Borden, executive director; Harold Bergman, deputy director; and E. L. Heller, staff member, Joint Committee on Atomic Energy.

Representative HOLIFIELD. The meeting will come to order, please.

This is a subcommittee of the Joint Committee on Atomic Energy, composed of Congressman Jackson of Washington, Chairman Holifield of California, and Senator Knowland of California. Senator Knowland is unable to be present because of a conflicting committee engagement this morning. We have tried to obtain another member to take his place from the Republican side of the committee, and hope that we will have him here as the meeting progresses.

We are highly honored this morning to have with us one of the outstanding men of national repute in the field of labor, Mr. William Davis. We are going to ask Mr. Davis to proceed in his own fashion to give this subcommittee a report on his recommendations for the setting up of policy in labor relations to be used by the atomic energy plants and their contractors, the reasoning behind that set of recommendations, and the reasons for not carrying them into the field of compulsory arbitration.

Also, we are going to ask Mr. Davis to testify, within the bounds of his own discretion, as to recommendations which he has made to the Atomic Energy Commission regarding their duties and responsibilities under this very complicated arrangement upon which we are operating a quasi-Government, quasi-free-enterprise group of plants in the interest of national defense.

Mr. Davis, we will ask you to proceed in your own way, sir.

## **STATEMENT OF WILLIAM H. DAVIS, ATTORNEY, NEW YORK CITY, PRESIDENTIAL APPOINTEE TO THE CHAIRMANSHIP OF THE ATOMIC ENERGY LABOR RELATIONS PANEL**

Mr. DAVIS. Thank you, Mr. Holifield.

As you know, the President appointed this Commission on September 3, 1948, and the members were Mr. Aaron Horvitz of New York, Mr. Edwin Witte of Wisconsin, and myself as Chairman.

The appointment referred to the President's message to the Congress of June 18, 1948. That was the message in which the President reported to the Congress the existence of a dispute in the laboratory at Oak Ridge, making the report under the provisions of the Taft-Hartley Act. In that message to Congress he said that he was going to appoint a Commission and the Commission was to do certain things.

One of them was to "explore the question whether any special legislation should be enacted to protect the national interests without depriving management or labor organizations of the initiative and freedom necessary for the progress of our atomic energy program."

The second one, using his words, was "the Commission should study ways and means of adapting to the atomic energy program the best of our experience in the complex field of labor relations."

He specifically requested us, as we took it, to apply our knowledge of procedures that had been successful and apply them, or consider their application, to the field of atomic energy. Then he said:

The Commission should concern itself also with special aspects of the problem, such as questions of bargaining representation, uniformity of working conditions, and wages, and procedures for grievance handling.

So that was our first charter of instructions.

He wound up by saying:

The Commission should concern itself, in short, with the broad code of conduct which should be observed \* \* \*.

We had a second directive, in a sense, derived from the announcement of policy of the Atomic Energy Commission, made in a report to the Congress in January of 1948, in which they laid down certain principles. These are embodied in our report. They emphasized the importance of continuity of production in vital installations, the wholehearted acceptance by the contractors and labor and its representatives of the responsibility incident to that, and they emphasized the matter of security in the sense in which that word is used in the atomic energy field; that is, secrecy and also safety, which has special aspects because of the nature of the material to be handled. Then they said that "consistent with the Commission's responsibility under the law" they wanted "the least possible governmental interference with the efficient management expected from the AEC contractors" and "minimum interference with the traditional rights and privileges of American labor."

Those were directives, too, and it made a pretty tough job on the whole. However, there was no doubt in our minds, and we quite fully accepted the basic idea expressed by the Atomic Energy Commission, which I believe was also expressed in the Atomic Energy Act by the Congress: the desire to carry on this program within the framework of free enterprise as we understand it in this country, and hence the desire to protect what may perhaps be called the normal relations of management and labor as far as collective bargaining is concerned.

Yet that has to be done within a framework in which the Government is the owner of the property, the contractor is the hired man, the money is paid by the Government, and most of the contracts are cost-plus contracts and for some time to come probably must be, with the consequence that the AEC has the responsibility for approv-

ing disbursements or reimbursements and really holds the purse strings.

Well, that made a very interesting situation.

I may say, gentlemen, that the atomic energy program is not the only place in our rather complex society in which the conditions which exist are such that production must go on and must not be interrupted.

So although the AEC in some of its work typified the situation where you cannot have interruption of production, it was not unique in that respect at all. But when you add to that the fact that the Government held the purse strings, and still was trying to get free collective bargaining, and the values of collective bargaining, you have quite a problem.

Those were the directives, so to speak, under which we started to work.

I do not know how much time you want me to take.

Representative HOLIFIELD. We have until 12 o'clock, Mr. Davis, so we would like to have this developed fully. It is a very important question, and it is a very difficult question.

Mr. DAVIS. Well, I think you would be interested, perhaps, if I gave a little time to telling how we proceeded with our job.

We almost immediately had meetings in New York with the officers of two of the biggest contractors, the Carbide & Carbon Chemicals Corp., and the General Electric Co.—separately, I mean—and we also had, almost immediately, here in Washington meetings with the representatives of the A. F. of L. and the CIO, both of which organizations have contracts in one or another of the plants. And, of course, we immediately had conferences with the staff of the AEC and with the Commission itself.

We then decided that we had better go out in the field and see what things looked like locally. We went first to Oak Ridge. Our procedure there was quite "on the table"; I mean, we had a conference with the AEC representatives, of course, and then we had a series of conferences with the local management, and with the local labor people. We, from the beginning, tried to develop our thinking quite openly, so that everybody concerned would know how we were thinking and correct our mistakes.

Then—I can't remember just when, but as I remember it, it was after we came to Oak Ridge—we drew up a rough draft of a report, at that time quite conscious that we didn't know the answer, but really just to set down topics. Then we went out to Hanford in Washington and went through the same procedure there. We saw the plants, of course, in both places, and conferred with everybody involved.

We went from there down to Los Alamos, and went through that installation. Then Mr. Horvitz and Mr. Witte went out to the Argonne Laboratories at the University of Chicago. I had a conference, together with Mr. Horvitz, with this association of associated universities that is running the plant on Long Island. We had talks with about everyone else that is involved in the program.

We then drew up a draft, which was marked "Draft No. 2," and of which, I think, the members of your committee had copies at that time. We circulated these drafts to everybody concerned, and got their comments and, after considering all the comments, we drew up the final draft.

I don't want to convey the impression that the final report was a collectively bargained report, because it wasn't. I mean, having received the suggestions of these people, we took them into account and gave them what weight we thought we should give them, and we finished the thing up and issued it. Nobody agreed to it in exactly its present form, and yet everybody concerned had seen it in the process of manufacture, so to speak, and had had the fullest opportunity to make any objections to it or make any suggestions that they wanted. That was the procedure.

When it comes to the nature of our thinking, which you spoke about, that is, the thinking which underlies the report, it is a little hard to define except from the report itself. I think that each of the members of the Commission would say, in different words, that the basic thinking underlying the report is that there are in fact creative values in what has come to be known as collective bargaining; that these differences of opinion which exist between the two sides are not horrible things that should be shied away from but are the expressions of the reality of the situation as it affects the people who are involved in it; and that every time they have a dispute and resolve that dispute by agreement, they make progress toward the real purpose of collective bargaining, and indeed the purpose of industry in my opinion, it being my opinion that in this society of ours industry is not in existence to produce washing machines or even atomic bombs, but to produce citizens.

The process of dispute and reconciliation that goes around the bargaining table is the opportunity that the citizen has to express himself down the line, to get the feeling that he is participating in his own destiny.

So all three of us had certainly a deep sense of the values of free collective bargaining, if it can be preserved.

Representative HOLIFIELD. You had the feeling that this thing which you call the creative factor was more important to the eventual success of the operation than certain factors of duress or coercion would be?

Mr. DAVIS. Yes; very much so.

I do not want to appear starry-eyed about this subject. I don't think I am. I am speaking from practical experience. And the fact is that what you want are willing workers on both sides of the fence, both managers and wage earners. The human race is a difficult institution, as you know, but there are great possibilities of release of human energy in these relationships, if they are properly conducted—and if we are not afraid to have a disagreement now and then. We used to say, on the War Labor Board, "If you don't have a disagreement, you can't have an agreement." That is really the way you make progress; the fact of the matter being that in industrial relations there are certain things that are necessary, unavoidable.

Dr. Baake at Yale, for instance, refers to "the necessities of survival of management and the labor union," created perhaps, in our society, by the basic acceptance by both sides of the idea of so-called free enterprise, private enterprise.

If you are going to have private enterprise, then certain things are essential to the survival of both groups. The trouble is that at the moment each side has, or may have, very exaggerated and prejudiced

opinions about what this necessity is for them. They think things are essential which are not.

Well, it is the job of bringing this erroneous opinion closer to the true necessities, you see, that is taken on by collective bargaining. Every time you do that, you make progress in the relationship.

While all three of us recognized that there are in the atomic energy program certain operations that cannot be interrupted, we also recognized that there are certain operations which can be interrupted.

For instance, we took a hypothetical case. I remember in our discussions with the parties, we said, "Suppose at Oak Ridge management decides to paint all the porches in Oak Ridge, and management says 'That is a maintenance job; we are going to have it done by the maintenance men,' and the union says, 'Oh, no, that is a contractors' job, and you ought to let out a contract for that,' and they disagree about that."

It is a subject which they often disagree about. Well, there is no reason why they shouldn't settle that the way they settle it in ordinary industry, in my opinion. If they want to have a strike about it, why not? Nobody dies if he doesn't get his porch painted this week. And if a strike is "available" in that sense, they certainly should be left to strike; the strike or lock-out being almost essential to free collective bargaining.

It is the possibility, gentlemen, of a strike or lock-out that puts a limit on unreason at the bargaining table—about the only thing that does. That is the thing that quiets passion and brings in the still, small voice of reason at the bargaining table, when people finally get up to the point: "Are we going to have a strike or not?" And without that control, you have an extremely difficult time to get the values of collective bargaining.

So, as I say, we realized that there were things in atomic energy that couldn't be interrupted. And so did everybody else, the management and the workers. And, as I say, we also realized that there were other things that there was no reason why we shouldn't interrupt.

Representative HOLIFIELD. In other words, there were two distinctly different fields—the operation of atomic production facilities, which could not be interrupted; and the construction of plant, housing, the maintenance and the janitorial type of work.

Mr. DAVIS. Yes.

Representative HOLIFIELD. And in this latter field you had no compunction against applying the ordinary methods of collective bargaining.

Mr. DAVIS. That is right.

Representative HOLIFIELD. But in the operational field where atomic energy machinery of production must be continuous in its operation, both from the standpoint of the needs of national defense and from the standpoint of the technological phase, where interruption would do great damage to the whole program, you realized that there must be continuity of operation.

Mr. DAVIS. Yes sir. That is exactly right.

Representative HOLIFIELD. And that put it almost, you might say, completely out of the field of normal labor-management relations.

Mr. DAVIS. That is right; out of the field of normal labor-management relations—but not absolutely unique.

Now, I was a member of the Board of Transportation in New York. I was supposed to be in charge of labor relations. I didn't do very well, and had to get out, but I did my best. But I said there, and I said to the union people, "We are not going to have any strike on the subways. You can't shut down the subways in New York." Trying to be humorous about it, I said, "All you have to do is look at the map of the city, of Manhattan Island. If you shut down the subway transportation system, you might as well give the island back to the Indians. You would be lucky to get your \$24 back. You just couldn't live."

And it was understood.

There are other instances of that, such as public service, the police. After all, a police strike elected Mr. Coolidge President. It was quite an event in American history. So it is not unique. In fact, there is a great mass of history in this country and abroad on such situations.

But now a strange thing developed, a thing I am sure you will be interested in, in our discussions. That is that both of the labor organizations recognized that there were things in the program that couldn't be interrupted, and they both proposed to us compulsory arbitration.

Representative HOLIFIELD. Let me understand this. Who proposed that?

Mr. DAVIS. The A. F. of L. and the CIO officially proposed to us that they would like to see compulsory arbitration agreed to beforehand with respect to all these operations that I referred to as vital operations.

Representative HOLIFIELD. What was the attitude of management on that?

Mr. DAVIS. The attitude of management, among the big concerns, Carbide & Carbon, and General Electric and Westinghouse, for instance, was opposed to compulsory arbitration. They said, "Let them strike."

And there was the small Zia Co. out in Los Alamos, which operates the town facilities, which wanted compulsory arbitration.

Representative HOLIFIELD. Now let me ask you, there, Mr. Davis: The opposition of these big companies to compulsory arbitration was on what basis? Was it on the general principle of being against compulsory arbitration, or was it because they thought they had the advantage in negotiations with labor because of public opinion demanding that the continuity of operation be maintained?

Mr. DAVIS. Well, Mr. Holifield, I can tell you what they said. It wasn't exactly the same. One of the concerns said, "We stand with the American workingman, and we believe he has an inalienable right to strike. He shouldn't be deprived of it." However, upon closer examination—because, after all, none of us involved in the discussion were born yesterday—it developed pretty soon that there were situations in which they couldn't strike. They had just been through, for instance, the affair at the laboratory in Oak Ridge, a situation in which the Taft-Hartley Act had done all its stuff. The injunction had been issued. It had been in existence for 80 days. The 80-day period terminated. The injunction was withdrawn. The judges walked off the scene, and all the imperiled American citizens saw of them was their backsides—and the men were free to strike.

Representative HOLIFIELD. In other words, the Taft-Hartley Act had not prevented the strike.

Mr. DAVIS. No. The men were free to strike, and they were very bitter locally about the situation. The top officials of the American Federation of Labor—I am not trying to pin any rose on them about it, but for good, sound, practical trade-union reasons, they came in there and said, "You can't strike. You have got to keep this thing running." Because Mr. Lillienthal had told them that he would keep it running if they didn't.

Well, that had just happened. Everybody knew that situations like that could develop, in which the men could not interrupt production. Whether you say it is because they are loyal citizens, or whether you say it is because they are loyal trade-unionists, or whether you say it is because they are subject to control by the higher officials in the organization, or whether you say, the fact is that they couldn't strike.

So there wasn't very much reality about that.

Another one of these concerns, with what I thought was more understanding, or perhaps sincerity, said, "Yes, we recognize that there are conditions under which the men cannot strike, and we recognize that so fully that we have taken it into consideration in the offers we have made." They told us that in their latest offer, after negotiating with the union and not being able to come to an agreement, they had withdrawn the offer, and improved it. And the top man, a very sincere fellow, said, "We improved it because we knew that the men could not interrupt production, and we felt a special responsibility to make our position fair and equitable." And he was perfectly sincere.

Representative HOLIFIELD. In other words, he, as management, recognized this creative factor, the value of it.

Mr. DAVIS. Yes, and he recognized that there were conditions where the men could not strike; although he was saying that he was opposed to compulsory arbitration. I said, "Why are you, when they can't strike?"

"Well," he said, sincerely, too, "because we feel that responsibility, and we feel that we can do what is fair and reasonable under those special circumstances.

He was an old friend of mine, and I had sat with him on boards in New York State, and so forth, for years, and I said to him, "Well, now, you are using adjectives of judgment value, 'fair' and 'reasonable'."

He said, "Yes."

I said, "Well, do you think human beings being what they are, that you can ask one person to take the value judgment of another fellow about what the other fellow does, which affects him?"

He looked at me a minute, and he said, "Yes, I do think so, in these special circumstances."

"Well," I said, "now, look: We have known each other for a long while and we have generalized a good deal. I will give you a definition of 'freedom'."

He said, "All right."

"Well," I said, "freedom consists in preserving to the individual the opportunity to challenge the value judgment of the other fellow about things that affect him." I looked at him and said, "Will you take that?"

He hesitated a minute, and he said, "Yes, I will take it."

From that time on, we didn't have any further trouble with that particular contractor as to this question of compulsory arbitration.

We turned down compulsory arbitration because Ed Witte and I had been members of the War Labor Board and Horvitz had been very closely associated with us during that period, and we knew the evil effects of compulsory arbitration. So it was we who turned it down. The unions were willing to take it. The big contractors were opposed to it. And we turned it down because we know it spoils collective bargaining.

That was the basic thinking, which left us in this position: that we have got to work out something that "preserves the risk," if you want to put it that way; or that takes the risk of human relations, and preserves this possibility of agreement.

There were three elements in our thinking, reflected in the report. In the first place, we recognized, as the Commission did, as everybody does, that there were special responsibilities because of the nature of the program, and that therefore on these situations where interruption is not possible, there was a special responsibility on both sides to come to an agreement, to stick to it until they worked it out. We put that down. Then, the President had asked us, as I pointed out, to consider the application to the atomic energy program of the best of our experience in the complex field of labor relations. So we made a survey from our own knowledge, and so forth, of things which had proved successful in the general field. And that led to section 4 of the report.

I will go back a little bit, if I may. The second item in the report almost settled itself. That had to do with security. And we found that there was a good deal of what we thought was unnecessary or unavoidable difficulty at the local plants arising out of the security rules. Because the Commission itself has the absolute responsibility for security, and they can't shift it. They make the security rules. They have to be administered from day to day by the management.

Well, the result was that some man who thought that he had been discriminated against, or had a grouch about the security rule might go to his employer, the contractor—it was being done—and build up a bitterness between the two of them; when the responsibility was not the contractor's at all, and he was just carrying out an order that he had to carry out.

So we emphasized, in a second item of the report, that in all matters of security the absolute responsibility is with the AEC and is not a matter of collective bargaining between management and labor.

Representative JACKSON. At this point, Mr. Davis, I would like to raise this question of security. It may not be in the same vein in which you have been discussing it.

Who should determine whether or not a given union is Communist-dominated: the AEC, or some other body? or the NLRB? What is your opinion on that? I am using "security" in a collective sense.

Mr. DAVIS. That is security, all right. But I would like to say this: Our Commission was not consulted on that subject at all by the AEC in the action up at Schenectady. We were informed about it, but we were not set up to solve a particular problem like that. We were just starting, and Mr. Lilienthal didn't ask us for advice about it. I want to make that clear.

Representative JACKSON. Yes, I assumed that had taken place prior.

Mr. DAVIS. As to my answer to your question, I think the personal answer would be, I should say, that the AEC has the responsibility and can't pass it to anyone else.

Representative JACKSON. In that situation?

Mr. DAVIS. Yes.

Representative JACKSON. In other words, in the field of security, AEC would be the final word both as to individual situations of security, where an employee was under question or being questioned, and as to the union entity itself that is attempting to make a collective bargaining agreement.

Mr. DAVIS. I think so. Of course, subject to the Congress. The Commission is a creature of the Congress. But I wouldn't think that they would dare to pass it on to anyone else, because there are problems that would have to be decided affecting these questions of security that involve top secrecy. And you have got to trust somebody, and it is the person you are entrusting with the secrecy, I think.

Representative JACKSON. I assume the precedent has been more or less established in that connection, in the Schenectady case and the UEW, has it?

Mr. DAVIS. The UEW, yes. They took the responsibility there. Were you going to ask something, Mr. Holifield?

Representative HOLIFIELD. That was about the same question I was going to ask you, sir.

Mr. DAVIS. The third item of the report was a reemphasis on the thing desired by the AEC; that is, that so far as possible, and subject only to the limitations contained in the rest of our plan, "the normal and typical aspects of wages, hours, and working conditions, which are the substance of collective bargaining between private employers and nongovernmental employees shall, in Government-owned, privately operated atomic energy installations be left to collective bargaining between management and labor free from governmental interference."

That is what everybody wanted, the Government, the contractors, and the labor unions. And it is hard to get. And we emphasized that in a separate document to the Commission. We weren't getting paid very much, so we gave some free advice to the AEC on the subject.

Representative HOLIFIELD. Before we get to that, I want to ask you a question or two on this point. You asked that the normal and typical aspects of wages, hours, and working conditions which are the substance of collective bargaining between private employers and nongovernmental employees be maintained in these plants. Yet you have a different situation there than you have in a privately owned plant, because most of these large contractors are operating on a fixed-fee-plus-cost cost of operation. Do you think that, in the bargaining, management would be inclined to say, "Well, the profit motive is not involved here. The easiest thing for us to do is go along with the union in its demands for higher wages. After all, Uncle Sam is paying for it. It is reimbursable." And have you found that they are willing to bargain as vigorously as they would if the profit motive was involved?

Mr. DAVIS. Now you are asking really two questions. One of them is: Is that a motive? Well, of course, they are human beings, and it is

a possible motive. The other side of it is to assume that they are honorable men, and would resist that. There is another resistance, and that is that most of these contractors, in fact all of them, even the universities, have their own private pay rolls. And they evidence very definitely a desire to protect those pay rolls. If they make an increase at Oak Ridge, for instance, how is it going to affect the private plants of C. & C.? In fact, in all the contacts we had with them, there was much more pressure, much more resistance, based on the fear of doing something in these AEC installations that would reflect adversely on their private relations, than there was evidence of inclination to spend the Government's money freely. We met one very interesting situation, too, where one of the contractors had made concessions to their private plants, and they proposed to put this concession into effect in the Government plant. Well, it was a fairly reasonable idea in general, but it happened that to do it in this particular plant would have been destructive of a wage structure that had just been set up, after great effort, you see. So the AEC came in and said, "You can't do it." They interfered to that extent.

I wouldn't think—well, I don't know what might result. But those are the pressures,

Representative HOLIFIELD. Your experience has been that these large contractors, because of their national operations in private industry, guard zealously the wage rate structure in the Government plants, and because of their own private fear that such adjustments might be demanded in their private industries if the wage went too high in the Government plant?

Mr. DAVIS. That is right. That is what has happened. But my prediction is that it won't happen forever. Because as a matter of fact, these wage rate changes in the atomic energy plants are not reflected back into their private plants. Actually there are differences in both directions. There are cases where the same company pays more in the AEC than in its private plants. There are others that pay less.

So that is going to weaken in time.

Representative HOLIFIELD. What have you set up, then, to take the place of that factor? Have you set up certain rules in your recommendations regarding comparable rates in the area, and comparable rates between two different unions in the same facility?

Mr. DAVIS. Let me put in an explanation, before I answer that directly. The basic protection is, of course, the final responsibility of the AEC to approve the reimbursement. And they certainly are going to have to assume that responsibility. If the wage rate is unreasonable, they are going to have to say so.

Representative HOLIFIELD. All right. Do you mean to say, then, that they should sit in with management and labor on these negotiations?

Mr. DAVIS. No, they can't do that. If they are going to sit in on them at all, they have to run them. There is no question about that. You can't be halfway in and halfway out.

Representative HOLIFIELD. That is what I want you to explain.

Mr. DAVIS. It can't be done.

Now, assuming the honest discharge of their responsibilities, what they have got to do is to take a chance on the whole package of the negotiations; not come in and say, "We will fix this rate, and that

rate," but look at the whole package after the negotiations are over. And there are going to be times, in my judgment, unless we have much more luck than we have in other places, where they are going to have to turn down a negotiated agreement. That is going to be pretty tough.

Representative HOLIFIELD. Does that not destroy the enthusiasm of management and labor to sit around the board, if they know that there is a possible veto awaiting them?

Mr. DAVIS. No, I think just the opposite, Mr. Holifield, because I think the way it is going to work is this, but let me add the rest of the answer to your first question, there.

So we recommended in a tentative way in this second paper that the AEC proceed to set up limits in the way of standards, like area rates, for instance; limits which still left room for bargaining.

Representative HOLIFIELD. You mean they set up the principle of complying with area rates, but not the specific ceiling of area rates?

Mr. DAVIS. That is right. What we were recommending was that they say to the contractors, and to the unions: "When you come to us with a negotiated contract and ask us to approve the disbursements, you have got to give us sound reasons. You have to support your agreement by reasons. We will indicate to you in general terms the conditions."

For instance, it can be said that the rate can be related in some reasonable way to the going rate in the area. If that is made too close, you see, the bargain is destroyed. Some risk has to be taken there. And if they are made too loose, the Commission would not be discharging its responsibilities.

I can understand that almost anybody would say, "Well that is not a realistic solution of the problem." But I say it is the only solution. The AEC has got to keep away from the bargaining table.

To come back to your second proposition, I think it is going to work this way. The unions and the management are going to come to the point where they will say: "Now, look. We have to give these guys downstairs reasonable cause for this wage increase. You say you ought to have a dime, and we think a nickel is right. What are we going to say? We would like to go along with you, but what are we going to say to the AEC folks?"

And they will be putting their heads together to justify the change jointly.

Representative HOLIFIELD. In other words, they have got to justify their agreement to, you might say, a higher authority.

Mr. DAVIS. A higher authority.

Representative HOLIFIELD. On the basis of reason.

Mr. DAVIS. Yes. And there is nothing that brings people together, you know, like ganging up on the boss. I think there will be a tendency there to make the collective bargaining more agreeable.

Representative HOLIFIELD. I want to explore one more point in that area. You definitely come out with a statement that the Atomic Energy Commission must outline certain over-all broad principles of labor policy. And I might say, as a member of the committee, that I think that conclusion is a good conclusion. I cannot see how the Commission can justify an aloof stand-off attitude all the way through and still want to maintain power given it under the McMahon Act, of final veto.

So unless it sets wide policy areas for management and labor to follow, it isn't assuming, in my opinion, its full responsibilities.

I want to know if, in this paper No. 2 which you have mentioned, which I assume contains certain recommendations which you have gratuitously offered to the Commission, you treated of the differences in wages for the same type of work performed by different unions.

Mr. DAVIS. Well, in one sense we did, but I think maybe not in the sense in which you are asking the question. I will explain that a little.

There is a situation which is illustrative, you get a better answer by illustration, down at Los Alamos. There is a situation at the moment down there in which this Zia Corp. is paying maintenance men practically the same rates as construction men. Maybe that isn't exactly correct, but let's assume it is correct.

Representative HOLIFIELD. I happen to know that it is substantially correct.

Mr. DAVIS. That can't go on forever. It is an outgrowth of the way the thing was built up down there. It is a construction job turned into a production plant and a city.

Representative HOLIFIELD. And it is also an isolated area, where the labor market is not full.

Mr. DAVIS. Yes, that is right.

Representative HOLIFIELD. They have to bid, in some instances.

Mr. DAVIS. And they can't live on the place. There is not half enough room for them. There are a lot of tough conditions there.

But that is an unnatural condition. In general industry a maintenance man gets a lower hourly rate than a construction worker. That is something they can lay down general rules about, if they are wise enough. And as to this area rate, for instance, there is nothing that I can see in the atomic energy program that makes any sense out of treating wage rates as an industry problem, or considering this situation as if it were like the case of a big company that had plants all over the country and employees who wanted to have the same wages in all the plants. There is nothing in the atomic energy program of that kind. And because of the very remoteness of these plants, and all the things which are tied in with that, they have got to fix wages on the basis of area rates, primarily, just on account of the law of supply and demand. They are buying their labor in the local market, and they won't get it if they don't do that.

As for our idea in this paper No. 2, I want to emphasize, gentlemen, that it was, as you say, gratuitous advice.

Representative HOLIFIELD. I did not mean to depreciate it by using that term, because I think you probably should be awarded a medal for proceeding above and beyond the call of duty.

Mr. DAVIS. Some of us got the habit of sticking our necks out down here in Washington, so we kept it up.

We were trying, in that paper, to outline a broad code of conduct, which the President had asked us to do. We felt that what we said would not make any sense at all, would just be glittering generalities, or even generalities that didn't glitter, if we didn't make them specific. So we said, "We are going to put down here, paragraph by paragraph, the kind of orders that we think might be issued; but they are not to be taken as direct advice on that specific form of order, but just as examples of the kind of thing we recommend."

So we did, in that document, put down a number of paragraphs, which would be bricks; so to speak, in the structure of the labor policy of the AEC. And my advice to them would be not to try to do it all at once, but to proceed step by step in building up these limits. They might be different for different areas, and so forth. In fact, I think that is the way they are proposing to do it; and in consultation with the parties, too.

Representative HOLIFIELD. You see, one of the labor difficulties we had at Oak Ridge at one time was that there was a wage differential between members of two unions doing the same type of work. It naturally caused a great deal of dissatisfaction among the members of the union with the lower wage. Management, on the other hand, would have been willing to have raised that differential to the level; but the argument was used that it would affect wage structures outside of atomic energy plants, and that was used as the excuse for not raising the wage up to the level of the competitive union in the same area.

Mr. DAVIS. Let me answer that, Mr. Holifield; because you are touching on a very important problem, although its importance may decrease.

What has been happening down there at Oak Ridge and at other plants, is rapid change of contractors. Every contractor had his own ideas of what he wanted to do in his labor contracts.

Also, at Oak Ridge, you have one part of the plant operated by one contractor and another by another contractor. That is not so any more, really. At the same time, you had rival unions in the two plants.

I said, when we looked into that Oak Ridge situation, that if the devil had come around and hired the best advice he could get for making a bad mess for labor relations, he couldn't have done any better. There was nothing that was left out at Oak Ridge. Everything that could mess up labor relations was there; and among them were different wage rates for the same kind of work paid to rival unions, and unions that were not only rivals but very close rivals, cases where the elections had been won by just about 51 to 49, and the defeated union was trying to reverse it, you see.

But they got through. They didn't have any interruption.

On the other hand, it is not impossible to have different wage rates in the same community for the same job. That may happen in the same atomic energy plant.

But take Detroit, for instance, where you have Ford, Chrysler, and General Motors. They don't pay the same wage rates. And the jobs are identical, many of them. Well, you say "Why?" Somebody says, "I like to work for Chrysler," or "I like to work for Ford." There are other things in the picture than wage rates.

Representative JACKSON. Mr. Chairman, may I develop a point with a few questions here?

Representative HOLIFIELD. Go right ahead.

Representative JACKSON. Mr. Davis, I assume it is important in determining your rules or suggested recommendations, and so on, in connection with this matter, first of all to find out what the state of mind of the employees is. Do they think they are working for a private company, or do they think they are working for the Government? Would you say that is reasonably important?

Mr. DAVIS. It is awfully important. And we were struck by that.

Representative JACKSON. It follows, then, that it is likewise important to determine whether management feel that they are acting as true managers in the sense of the thinking of a private entrepreneur. I think that is basic in this.

Now, to get back to the first: Do you think that the employees really feel that they are working for a private contractor? Or do they feel basically that they are working for Uncle Sam?

Mr. DAVIS. They feel, Mr. Jackson, that they are working for the project. We had a lot of talks, and my conclusion was that by and large the workers are interested, that their imagination is captured, by the kind of enterprise it is. It is quite certain that they don't give a damn who the employer is. Several of them said so in just those words.

Take the fellows in the laboratory at Oak Ridge, young scientists, you see. They said, "We don't care who the employer here is. We want to run this laboratory." And in the more general skills we found a definite, very definite feeling of devotion to the job.

Representative JACKSON. Which is inherent in scientific undertakings.

Mr. DAVIS. Yes, it is a big thing, this atomic energy. The men feel, "By God, I am working for the atomic energy program." There is a very definite feeling of that kind.

Representative JACKSON. In the Office of Naval Research they are working for Uncle Sam. Now, should we apply the same principles in this kind of situation? I mean, should we apply the same principles as far as our relationship with the employees is concerned in the case of the Office of Naval Research as we would apply to scientists at Oak Ridge?

Mr. DAVIS. Well, I really don't know. I don't know how they treat them at the Office of Naval Research.

Representative JACKSON. What I am getting to, and what concerns me in this, you see, is that I just have a feeling that the rank and file employees, not the scientists, are in effect working for Uncle Sam. I am talking about the rank and file of production people and not the scientific or creative personnel.

Mr. DAVIS. Yes.

Representative JACKSON. Following that through, if you assume there is that attitude, should our policy be the same, then, as it is in the arsenals and navy yards, where you have wage boards set up, that in effect do not set a wage pattern, but merely follow it? Is that a fair statement? In other words, should the contractor set the wage pattern, or should the contractor follow the wage pattern locally? I am wondering if we are not dealing with some fictions, here.

Mr. DAVIS. You have your finger on something. I have quite a lot of experience in connection with the arsenal wage-fixing, and some years ago, way back in the NRA days, I had quite a lot of contact with the navy yard wage fixing. Both of them are conventionalized procedures, which satisfy the desire for collective bargaining. They are very different.

John Frye, for instance, who was on the Wage Board in the Navy and represented labor, was always perfectly satisfied, and they didn't have much trouble in the navy yards. Yet, as you say, the law framed them in pretty much.

Another illustration is the people who are under the Bacon-Davis Act. The Bacon-Davis Act seems to say in rather strict words, "You shall pay, for this kind of a Government job, the prevailing rate of wages." And you would think, if you didn't know about it, that all you had to do was to go and ask somebody, "What is the prevailing rate of wages?" The fact is that there is enough uncertainty about the prevailing rate of wages to leave room for bargaining. Everybody gets along beautifully.

Now, in the arsenals they are supposed to follow rather than lead. But we had, during the war, a situation in which we had the War Labor Board controlling wages, more or less. I mean, we were administering the wage ceiling law, and we had the Little Steel formula and the fringe issues, and so forth, which again left room for bargaining. We had to work out with the Army a special plan for the arsenals, and we had a fellow named Abersol, John Abersol, who was assigned to that job and with the Army worked out the arsenal rates. They established again a lot of rules that left room for bargaining. I don't know whether that answers your question, Mr. Jackson.

Representative JACKSON. Do you not think there is a lot of merit in the idea that we ought to determine definitely whether the people who are working for all these installations are really employees of the Government or truly employees of the contractor? In other words, under present provisions of the law, or regulations, AEC in effect exercises certain regulatory control over wages, inasmuch as they have a veto over whatever is agreed to by the contractor. I mean, I wonder if that is not basic in reaching a sound decision in this whole business that we are talking about this morning? That seems to me to be the heart of it. And as I gather from your statement, if I may try to summarize it, though I do not like summarizations, what you are trying to do is to create an atmosphere of normal collective bargaining, and you are trying to do that by setting up balances through procedures as outlined in your report. Is that it? Are you trying to do that?

Mr. DAVIS. You are going one step further; and I would like to go with you.

Representative JACKSON. I am not trying to be critical.

Mr. DAVIS. I know you are not.

Representative JACKSON. I am now just trying to explore.

Mr. DAVIS. But at least the thing that came into our minds was: Is there any reality in the thought that these atomic energy plants can be run by private contractors and have the conditions of private industry, or is it just make-believe, and are they really Government employees?

So we asked ourselves: Why is this the policy of the Commission and of the Congress? The answer, to me, was: Here is a growing thing. Nobody knows what sector of our total social fabric and industrial fabric will be occupied by atomic energy and its outgrowth 20 years from now. So the Congress said, "We want to do this thing in a way that preserves private enterprise." And the Commission certainly has that same view; looking forward, I think, to an expanding use.

Frankly, my own view is that that is quite right. I am involved in the patent end of the thing, too. My specialty is patent law, and I am on the patent panel of the Commission. And it affects the

patent law very greatly. But I believe that 20 years from now what we now call atomic energy, the outgrowth of the scientific control of the structure of the atom, will be so spread through our whole industrial fabric that it will no longer be a Government enterprise alone. And that is certainly, I suppose, what most of us desire.

I think it was that thought, Mr. Jackson, that led to this emphasis. It would be a whole lot easier to say, "These folks are Government employees. Put them in the civil service. You can get along with them."

The arsenals do it, the navy yards do it. It is not an impossible thing to do at all. So it would be a lot easier to say, "Make them straight-out Government enterprise."

Representative JACKSON. But do you not have one clash? Do you have the idea of trying to carry out the theme of private enterprise, on the one hand; and over here on the other side you have the demand for continuity of production.

The time may come when this business over on the other side, continuity of production, might bring about a situation in which the veil of fiction will be removed.

Mr. DAVIS. That is just as likely to happen in coal mining as it is in atomic energy.

Representative JACKSON. Yes, that may be true. But by experience, which is what we have to go by, we know that there has been no interruption in the navy yards, arsenals, and so on. Is that a fair statement?

Mr. DAVIS. Pretty fair. There have been some interruptions, though.

Representative JACKSON. Is it not true that you are going to have a challenge here at some time?

Mr. DAVIS. Let me tell you something, as one man to another. This talk about the country being endangered by interruption of production is mostly bull. This country can stand a lot of interruption of production. And in the areas where it can't stand them, there isn't any interruption of production.

I have been in this field now, as an amateur, part of the time, since the NRA days. And there isn't any considerable amount of revolutionary spirit in this country in the labor movement or out of it.

Representative JACKSON. I want to assure you that I have a lot of faith in your judgment, and I respect you, and I would not want to convey the idea that I have any such thought at all. I am quite liberal in these things.

Mr. DAVIS. I am in an unfortunate position. I am out on a limb. The Commission proposed this plan. You know what happens to a guy who makes a motion to set up a committee. He is always made the chairman. So I not only proposed the plan, but I was made chairman of the panel to carry it out. That put me on the spot. But I am not worrying about it. I hope this panel never has to do anything.

Representative HOLIFIELD. Is it not true, Mr. Davis, that this point that Mr. Jackson brought up is a fact that we all recognized in setting up the McMahon Act? We recognized the fact that business, on the one hand, was not to be trusted by Government with the full control of atomic energy. On the other hand, business did not want to trust Government completely with it, because of the inherent power-

in the development of atomic energy. Therefore, we met, as we do in a democracy, on a compromise basis, and we said, "We will have Government in to a certain extent, and we will have private enterprise in to a certain extent."

Now, we are forced to work in this compromise arrangement because of the fears of both men in Government and men in business. And as long as we do not want to go over to either side, we must set up procedures in the half-way land by which we can operate. And that is what your panel suggestion and your formula tends to do. We are developing orderly procedure in this half-way land.

Mr. DAVIS. That is true.

I think Mr. Jackson's thought is very sound. It may well be that in this field there would come a situation which would face the Nation directly with this basic question: Are you going to run things by the Government, or are you going to run them by private industry? But I am all in favor of pegging along and, being a Jeffersonian Democrat. I think that the more we can do by self-control, the better off we are.

Representative JACKSON. Well, I raised the question for purposes of discussion in connection with your report. I think it is very important that we cut through fictions and determine the state of mind, the thinking, of both management and labor, in order to determine whether the procedures are sound. Is that important?

Mr. DAVIS. You are quite right about that.

Representative JACKSON. That is why I raised this question. If the man who is working in an AEC plant feels he is working for the Government, then you do get back to precedents. I mean, we do learn from the past. And you get back to this: How do we treat the people in the arsenals, navy yards, and so on? Are we entering into some new approach here? Should the contractor set the pace, such as is the case in private industry, or should the contractor follow the wage pattern in the area?

In other words, it is a case of following one and leading the other. I was bringing that thought up, because you do run into it.

Mr. DAVIS. I think you ought to let it work itself out. Right now, as I say, the contractors are inclined to say, "We won't do so and so, because it would affect our outside plants." My prediction is that 5 years from now you won't hear any more of that, as there is very little reality in it. And there are other reasons, of course, for getting contractors in. The job that they had to do when they started the thing could not have been done by any conceivable governmental organization.

Representative JACKSON. But the AEC still stands in the background. And, in effect, I am wondering if the bargaining representative of the union does not feel, "Well, AEC is an agent. They are not the real employer here. AEC can veto it."

Mr. DAVIS. They certainly do; and that is the trouble. It is a very real one, but—

Representative JACKSON. I wanted to ask one or two other questions, and then I will be through.

In connection with compulsory arbitration, do you not in effect place labor over a barrel of public opinion, to which management is ordinarily not subjected, and deprive them of their effective right to strike in that situation? I mean, if you do not have it? In other

words, management takes the position in this situation, in your atomic energy operations, that they will not go along on compulsory arbitrations, because in the long run they will maybe stand to lose more than they will gain. I assume that is the reasoning.

Mr. DAVIS. No. Generally, the American contractor is not in favor of compulsory arbitration by a governmental organization. That goes without saying. In one case, they say they are.

Representative JACKSON. Well, the unions favor it; but, as I understand it, management refused, in the abstract.

Mr. DAVIS. That is right. But neither was labor ordinarily in favor of it.

Representative JACKSON. No. That is true.

Mr. DAVIS. But here industry keeps on with the opposition, even in the cases where they agree that there can't be interruption. When you say, "What are you going to put in the case of the right to strike?" they say, "Well, we can be fair about it. Don't arbitrate."

In other words, what I should have said, Mr. Jackson, is that whereas we pretty generally find American citizens who are not well informed in the situation are displaying a great longing for an absolute solution of this problem in these critical emergency cases—and I will refer to the discussion in the editorial in the New York Times favoring an absolute solution in an emergency case—yet, in this atomic energy situation, the industry people have said: "We are not in favor of an absolute solution, even in these critical situations, because we can take care of it ourselves."

Representative JACKSON. Well, it seems to me the unions enter the collective-bargaining room at a disadvantage.

Mr. DAVIS. In such circumstances?

Representative JACKSON. In a general situation such as an atomic energy operation.

Mr. DAVIS. Where they can't strike?

Representative JACKSON. Yes.

Mr. DAVIS. Of course. And that is the basic reason that the other side, being human beings—I mean no reflection on them; they are all good people, that I have dealt with—say: "Well, these fellows can't strike. We know that. But we will be good to them. We will satisfy them. We will discharge our responsibility."

Now, that is unrealistic. Because the other fellows don't believe it. And, of course, the worker is at a disadvantage in a situation where interruption by strike is impossible.

Representative JACKSON. You feel the procedure set up here provides a proper balance?

Mr. DAVIS. Well, it comes as close to it as we could. Here, in our report to the AEC, we have in the main set up carefully considered procedures.

Those who know most about the subject from experience know that, if you can put these things into a well-defined procedure, you have the continuous opportunity and possibility of finding a settlement. So, in a sense, we drag it out. This panel is not supposed to come in until the Conciliation Service has failed and everything else has failed. Then we come in and we have some more discussion about it.

Then, in the end, we make recommendations, which nobody is bound by, not the AEC or the contractor or the union. In my

opinion, those recommendations come so close to being compulsory that it would be very difficult to tell the difference between them. I just don't see the AEC or the contractor or the union turning down such a recommendation unless some terrific emotional question were involved. And, if that happens, the panel ought to have too much sense to make a recommendation.

So, in that sense, you substituted this panel's judgment mediation for the much better thing of a strike, because you can't have the strike. That is the best you can do.

Representative HOLIFIELD. Mr. Davis, I want to ask you a question. Should the Atomic Energy Commission, in its relations with the contractors, have a definite understanding with them that they will cooperate with the Atomic Energy Commission along the broad lines of labor policy which they set forth?

Mr. DAVIS. Which the Commission sets forth?

Representative HOLIFIELD. Yes. Should that be part of the contract with the contractor?

Mr. DAVIS. Well, it should be part of the relationship.

Representative HOLIFIELD. Of the relationship?

Mr. DAVIS. If you are saying that the contractor ought to sign a contract beforehand and say, "I will be bound during the life of this contract to abide by any policy decisions on labor that the Commission may make, that is a little different question.

Representative HOLIFIELD. No; I am asking if he should be required, when he takes a contract from the AEC, to practice the formula which you have recommended.

Mr. DAVIS. Well, certainly. There is one thing that our recommendation requires of the parties, and only one, and that is that paragraph 5 requires that both sides agree that there will not be any interruption of production or disturbance until this panel has come in and had its chance to do its work and retire. That is the one thing that has to be agreed to by both sides.

I understand the Commission will proceed to get that agreement from the parties.

There are other recommendations in this part 4 which we regard as well-established practices. I don't know how the Commission is going to handle that, whether they are going to ask the contractors and the unions to agree to those and put them in the contracts, or just press for them, or what. I don't know.

Representative HOLIFIELD. I think that is very important, now. Your Commission, now, by order of the President, has come forth now with a formula. It seems to me that that formula should be an obligation on the part of both management and labor, because it is the best thinking that we have been able to get on this very complicated problem. Now, the question I am asking is:

Assume that this formula, or most of it, is adopted by the Atomic Energy Commission. Should it be made part of the contractual relation between the AEC and the contractor and between the union and the contractor?

Mr. DAVIS. If I were doing it, if I were the AEC, I would certainly try to bring that situation about. I would try to get all contractors and all unions to say, "We adhere to all of this, from start to finish."

Representative HOLIFIELD. All right. Now, at this time, can you tell the subcommittee what the attitude of management and labor

has been to this? You have worked along with them, I suppose, in developing it. What has their attitude been? One of cooperation?

Mr. DAVIS. Yes; it has been.

We had a rather amusing experience. The principal objection of the labor people to the original draft was that this panel had no time limits on it. Labor people are always afraid of stalling. They said, "Why, you can hold this thing up forever." So, we put in the time limits, and they were satisfied. And I think I can say to you that the labor organizations are satisfied.

I can't exactly answer, though, Mr. Holifield, because what happened was that we got letters from contractors after we had discussed the whole thing, saying, "We think this paragraph ought to be so and so." And most of those changes we embodied in substance. We never asked them if that satisfied them, you see. But I got from Winans of Carbide & Carbon a very cordial letter the other day, in which he thanked the Commission for the opportunity to discuss the thing with him. I think they will go along. That is my guess.

That is up to the Commission, and I don't think you will have to use any strong-arm methods in it. I don't believe in forcing people to agree with you if you can help it. And my guess is that we won't have any trouble about that.

Representative JACKSON. The fair judgment of management is at the heart of this thing; is it not? I mean, basically, in trying to work out the solution?

Mr. DAVIS. Yes.

Representative JACKSON. From your past experience, do you think that there is reasonable hope that management will be fair and act in good faith?

Mr. DAVIS. Mr. Jackson, I will answer that in the words of David Harum: "There is just about as much human nature in one man as there is in another—if not more." And I think, and know, that you will find among them men of responsibility as well as troublemakers. You will find both.

You see, the American people are bad people—they are bad people to try to push around. That is true of both sides, in my experience. They always think they are right. They justify their conduct by what they call rationalization, and so forth. And I don't think it is any more so or any less so on the side of management than it is on the side of labor. This is a tremendous program.

I was speaking to the President the other day, and I am not sure that he knew what I was talking about, but I said, "One significant thing to me in the atomic energy program is not that they succeeded in tearing down the uranium atom and producing a lot of heat, but that they have succeeded in building up the uranium atom to produce plutonium, the first time in the history of man that science has been able to build up a more complex structure from a less complex one. That is the significant thing."

Well, that is a little idealized. But I do think that, in this thing, the atomic bomb is the small end of it. In the first place, it gives a tool of observation to science that is many, many times more exact than they have ever had before. The whole history of science, which I have had occasion to follow in my lifetime, is this: that every time you get a better measuring instrument, you discover entire new worlds, almost, of scientific information. That is what is going to happen.

So that the penetration of this thing into our living in every direction is going to be tremendous. It isn't going to be all Government, unless we change our system of Government. And, to get back to your point on that, which I almost lost, you find these industry people saying, some of them: "Why, we don't want this job. We are doing it for nothing, at a dollar for our services, and we are only doing it from patriotic motives. We are called upon by the Government to do it, and we do it."

Well, I don't think so. I don't think so. I don't think the big companies that are in it are going to get out of it. I don't think the General Electric Co. is going to give up the \$30,000,000 laboratory, and the direct contact with this system.

Representative JACKSON. With all these technological improvements, and so on, it is hard to measure in dollars and cents. At least, there is no income tax paid on it right away.

Mr. DAVIS. That is right. That applies to these laboratory men also, Mr. Jackson. For instance we talked to one or two of these men at Oak Ridge. These men at Oak Ridge say, "We don't care who runs this thing. We want to run the laboratory."

Well, why should they care? They have the most beautiful laboratory the world has ever seen. They are working on a field of knowledge that is new. They are right on the frontier of it, and they are making discoveries all the time. Well, that is a tremendous temptation to anybody, and it is just as big a temptation to Carbide & Carbon as it is to the men in the laboratory, in my opinion. I don't think they are going to get out.

Representative HOLIFIELD. And Uncle Sam is paying the bill for them to exercise their ingenuity and their brains in the field that they have chosen. The scientists are getting the benefit of financial support which they never in their wildest dreams hoped to get, through this atomic energy program.

Mr. DAVIS. That is right. It is a field in which every day something new is put in that pile at Oak Ridge, and nobody knows what is going to happen to it. And they have not been able to do that in science for generations. You see, there has been no such new field.

Representative HOLIFIELD. Outside of the scientific field, it may be that we are leading the way in some human-relations advancement by developing and applying some procedures here that are based on reason rather than on emotion and economic force.

Mr. DAVIS. That may be. I had just spoken of the contractors, and I think the same thing I said as to them is true of the men involved, is true of the men right down at the bottom. We saw in these plants—and I am quite sure we were not deceived—an extraordinary devotion to the job. I think that can be made use of in developing this thing.

Representative JACKSON. There is a lot of trial and error in all of this. You are in a new field, just like the scientists are in a new field. I presume we will learn a little bit as we go along.

Mr. DAVIS. Let me say something there, Mr. Jackson. As Mr. Holifield has suggested, this may be sort of a bellwether effort. I don't know. But this field of industrial relations is the thing that is going to cause us either to succeed or to fail in trying to maintain the peculiar social system which we have in this country, and which is pretty well going out of existence everywhere else in the world. If we can make the so-called private enterprise or free enterprise system

work, it will only be through this collective bargaining as a substitute for socialism or communism or what have you. The question is, Can you get enough self-control to keep the machine running? The only way you can get self-control in a free society is by this process of agreement.

Representative JACKSON. Which comes from maturity.

Mr. DAVIS. Yes. This is an old subject with me. I saw in the Sunday Times that they quoted to me—I don't know whether Louis Stark was responsible for that or not—but they quoted a remark I made on the War Labor Board, you know, when I started out by saying, "Creation is the product of persuasion, a well-tested thing." Then the boys began making fun of me, because, they said, "The old man goes around with this benign appearance and this remark about creation being the product of persuasion, and he has a big club behind his back which he doesn't hesitate to pull out every now and then."

'So they pressed me so that I finally said one day, "Well, boys, you have got me down, and I have got to modify Mr. Plato's aphorism, so I will say that 'Creation is the product of persuasion—except in cases of rape'."

Representative HOLIFIELD. Mr. Davis, we are going to have to conclude our hearing. The House is now in session.

We certainly want to extend to you the thanks of this subcommittee and of the main committee for your time and your explanation of this recommendation of yours. You have given us a great deal of good thinking and a great deal of good philosophy, we feel, this morning. We certainly thank you for your appearance here.

Mr. DAVIS. I thank you, Mr. Holifield. I was very glad to be here.

Representative HOLIFIELD. Unless there is an objection, the Report of the President's Commission on Labor Relations in the Atomic Energy Installations will be included as part of the record.

(The document referred to, entitled "Report of the President's Commission on Labor Relations in the Atomic Energy Installations," is as follows:)

#### REPORT OF THE PRESIDENT'S COMMISSION ON LABOR RELATIONS IN THE ATOMIC ENERGY INSTALLATIONS

This Commission was appointed by the President on September 3, 1948, "to make a special study of the problem of peaceful and orderly settlement of labor disputes in Government-owned, privately operated atomic energy installations so as to carry out the objectives of my message of June 18, 1948, to the Congress."

In his message to the Congress of June 18, 1948, the President stated what he expected of the Commission in the following words:

"The Commission should explore the question whether any special legislation should be enacted to protect the national interest without depriving management or labor organizations of the initiative and freedom necessary for the progress of our atomic energy program. The Commission should study ways and means of adapting to the atomic energy program the best of our experience in the complex field of labor relations. The Commission should concern itself also with special aspects of the problem, such as questions of bargaining representation, uniformity of working conditions and wages, and procedures for grievance handling.

"The Commission should concern itself, in short, with the broad code of conduct which should be observed by management and labor in their relations with each other in this vital program."

In January 1948 the Joint Congressional Committee on Atomic Energy requested the Atomic Energy Commission to advise it as to labor problems relating to continuity of production in the AEC program. In response to that request, the Commission on January 16 transmitted to the committee a report on labor problems relating to continuity of production in the Atomic Energy Commission

program.<sup>1</sup> In that report the aims of the Atomic Energy Commission were stated as follows:

"(a) Wholehearted acceptance by contractors and by labor and its representatives of the moral responsibility inherent in participation in the atomic energy program;

"(b) Development of procedures to assure (1) that all participants in the program are loyal to the United States, including those whose participation involves the exercise of negotiating and disciplinary authority over bargaining units, and (2) that determination of unit, jurisdiction, and similar questions will not breach security;

"(c) Continuity of production at vital AEC installations;

"(d) Consistent with the Commission's responsibility under the law, the least possible governmental interference with the efficient management expected from the AEC contractors;

"(e) Minimum interference with the traditional rights and privileges of American labor."

(1) In our study of the subject, we have coupled the moral responsibility emphasized in item (a) above with the continuity of production called for by item (c). The necessity for continuity of production at vital Atomic Energy Commission installations is apparent. We therefore recommend—

1. That management and labor in all Government-owned privately operated atomic energy installations, recognizing that the atomic energy program includes vital operations which must not be interrupted, wholeheartedly accept a special responsibility to seek in every way by voluntary procedures and mutual agreement peaceful and orderly settlement of disputes affecting such vital operations and, within the limits defined by paragraph 5 below, to forego all resort to strikes, lock-outs, or other interruptions of any such operations.

With mutual acceptance of this special responsibility, differences of opinion between management and labor at vital AEC installations should be settled without interruption of production by free collective bargaining initiated at the local level and carried, if necessary, to the highest levels of management and labor.

(2) Item (b) above deals with questions of security, including secrecy and safety. The Atomic Energy Commission must have absolute and final authority in these matters. We therefore recommend—

2. That on all matters of security at all Government-owned, privately operated atomic energy installations the Atomic Energy Commission has absolute and final authority, and neither the security rules nor their administration are matters for collective bargaining between management and labor.

We assume that in formulating security rules and regulations the Commission will want to consult with the representatives of management and labor affected by such rules. Both management and labor will, of course, be called upon to apply the security rules in day-to-day operations, but it should be understood that all unresolved disputes arising out of the administration of security rules are to be referred to representatives of the Commission. Neither the security rules nor their administration should be regarded as matters for collective bargaining between management and labor.

(3) Paragraphs (d) and (e) above call for the least possible governmental interference with "the efficient management expected from the Atomic Energy Commission contractors" and with "the traditional rights and privileges of American labor." They express in the field of management-labor relations the basic national policy declared by the Atomic Energy Act of 1946 that "the development and utilization of atomic energy shall, so far as practicable, be directed toward \* \* \* strengthening free competition in private enterprise." We recommend—

3. That, subject to the Commission's responsibility under the law and to the limitations specified in other paragraphs of these recommendations, the normal and typical aspects of wages, hours, and working conditions which are the substance of collective bargaining between private employers, and nongovernmental employees shall in Government-owned, privately operated atomic energy installations be left to collective bargaining between management and labor free from governmental interference.

Because interruption by strikes or lock-outs of production or services vital to the atomic energy program cannot be tolerated, the processes of collective bargaining

<sup>1</sup> Exhibit No. 1 (p. 117 ff.) of the hearings before the Joint Committee on Atomic Energy, Congress of the United States, 80th Cong., 2d sess., on labor policy in the atomic energy plants, pt. I, Mar. 9, 10, 12, 15, and 16, 1948.

at these installations differ from the normal conditions of collective bargaining between private employers and non-Government employees, in which the possibility of a strike or lock-out is an ever-present pressure toward agreement.

There are many other areas of private employment in which a strike or lock-out is not useful or practically available because, unlike ordinary industrial operations in which interruption of production puts the pressure on the management and labor involved in the dispute, the pressure in areas of essential service falls more heavily upon the public than upon the parties to the dispute. There is available for study a great mass of practical experience with specialized collective-bargaining procedures in such areas of private employment where interruption of production is intolerable. The object of all these specialized procedures has been to assure continuity of operation and yet to preserve to each of the parties full opportunity to challenge those decisions of the other party which affect its interest, to the end that a final resolution of the dispute may be reached by agreement or acceptance under all the pressures and responsibilities that exist when the public welfare is at stake.

We have attempted to take into account, in our consideration of management-labor relations in atomic energy installations, this vast body of experience in areas of private employment where interruption is intolerable. Later on in this report we present our recommendations as to the special procedures which, in our judgment, should be tried out in the field of atomic energy.

(4) Before proceeding to those recommendations, we address ourselves to that part of the President's message which directed us to "study ways and means of adapting to the atomic energy program the best of our experience in the complex field of labor relations."

We assume, in the first place, that the Atomic Energy Commission itself will follow in letter and spirit that policy in management-labor relations which, since 1935, has been the declared policy of the Nation "by encouraging" at atomic energy installations, subject only to security requirements, "the practice and procedure of collective bargaining and by protecting the exercise by workers of full freedom of association, self-organization, and designation of representatives of their own choosing, for the purpose of negotiating the terms and conditions of their employment or other mutual aid or protection"; and that management and labor at Government-owned, privately operated atomic energy installations will likewise adhere to that policy.

(a) A great body of experience in the field of labor relations in private industry has established the wisdom of including in the labor-management contract adequate grievance machinery terminating in final and binding arbitration of all disputes involving the interpretation or application of the contract, thereby assuring settlement of all such disputes without interruption of normal operations. We, therefore, recommend—

**4. a.** That all collective-bargaining agreements at Government-owned, privately operated atomic energy installations provide that grievances and disputes involving the interpretation or application of the agreement will be settled without resort to strikes, lock-outs, or other interruptions to normal operations by an effective grievance procedure with arbitration as its final step unless the parties mutually agreed upon some other method of assuring continuity of operations throughout the term of their agreement.

The details of the effective grievance procedure are matters for collective bargaining between management and labor at the installation, but we commend to the Commission and to management and labor the report of Committee 6 unanimously adopted by the President's National Management-Labor Conference of 1945.<sup>2</sup>

(b) Another labor-management technique of proven value in private industry is a well-planned procedure which brings the experience and the responsibility of the very highest levels of management and labor to bear upon the settlement of all critical disputes. Procedure to this end needs to be carefully planned, so as to leave with local representatives primary responsibility for good relations at each particular installation and yet make available in crises whatever wider experience and heightened responsibility may exist at the higher levels of management and labor, as well as the relatively detached judgment of individuals who have not themselves been directly involved in the earlier stages of the dispute. All of these considerations are made especially important in the field of atomic energy by the overwhelming responsibility to maintain continuity of production. We therefore recommend—

<sup>2</sup> U. S. Department of Labor, Division of Labor Standards, 1946, Bull. 77, pp. 44-47.

b. That, fully recognizing and safeguarding the primary responsibility of local representatives for sound and stable relations at each Government-owned, privately operated atomic energy installation, provision be made for bringing to bear upon the settlement of critical disputes all available experience and responsibility of individuals at the very highest levels of management and labor.

(c) An outstandingly significant aspect of labor-management relations in private industry emerges from first contacts and initial attitudes with their enduring effect upon subsequent collective bargaining. As is well known, it is when a labor organization has only partially established itself as the representative of a group of workers that latent grievances are brought to the forefront and present the greatest difficulty. It is during that period also that the union has the least control of the union members, who have not yet learned from experience the limits of what organization can and cannot do for them. And that period when mutual confidence between management and union leaders is most difficult to obtain is the very time where it is most valuable. There is any amount of practical experience to show that relations which get off to a good start usually proceed quickly through the initial period of organizational troubles and develop more rapidly those elements of understanding and responsibility upon which good in-plant relations ultimately depend. It is peculiarly important, therefore, in these early stages to avoid attitudes and acts which give rise to hatreds and leave a residue of bitterness. Militant aggressiveness on the part of union representatives and concealed or partially concealed opposition on the part of management to the self-organization of the workers and their free choice of representatives are among such disruptive attitudes.

While we do not hesitate to recommend in general avoidance of such trouble-making attitudes and actions, the very nature of things makes specific recommendations of particular procedures in this area of relations almost impossible. There is, however, one point at which a procedural recommendation seems appropriate, and well within the limits of our best experience in industrial relations in private industry. The Labor-Management Relations Act in its provisions for determining bargaining units and for designating representatives in contested cases gives the National Labor Relations Board the power to decide, subject to judicial review. It also provides, however, for consent elections in bargaining units agreed to by the parties and approved by the Board. Experience shows, as we have pointed out, that avoidance or minimizing of controversy at this stage of the relationship is of lasting importance, and this is particularly true in the case of atomic energy installations because in consenting to the opening up of representation proceedings in the field of atomic energy, the Commission has felt that security considerations require that it should be continuously informed of the progress of controversial proceedings before the Board in order that it may effectively intervene to prevent violation of security rules and regulations. This difficulty is avoided, of course, if the question of representation is settled by agreement as to the bargaining unit followed by a consent election. We therefore recommend:

c. That, subject to the security provisions of paragraph 2 above, management and labor at Government-owned, privately operated atomic energy installations make every endeavor to determine bargaining units and representatives by agreement and consent election in preference to contested proceedings before the National Labor Relations Board.

If questions of security arise at this point, as at any other point in management-labor relations, they should be referred to the Atomic Energy Commission in accordance with recommendation (2) above and with the policy of the Atomic Energy Commission announced in its communication to the National Labor Relations Board of September 27, 1948.

(d) Finally, there is an overwhelming body of evidence in the history of industrial relations in this country over the last 10 years to show the value of a sincere purpose by both sides, once collective bargaining representatives have been designated, to make the union an integral and responsible element of the plant organization by training management's supervisors and union officers to recognize the function and responsibility of the union and to have an accurate understanding of the provisions of the collectively bargained contract under which they work. We therefore recommend:

d. That in all Government-owned privately operated atomic energy installations in which representatives have been chosen by the workers and lawfully designated, or recognized by management, management and union cooperate to integrate the union into the plant organization as a two-way channel of communication and a medium of understanding between management and workers.

(5) We now come to our recommendations as to the introduction of mediation and conciliation to aid in the voluntary settlement of disputes at Government-owned, privately operated atomic energy installations.

It will be understood, of course, that the provisions of the Federal laws as to conciliation and as to national emergencies are as fully applicable to Government-owned, privately operated atomic energy installations as they are to other operations of private industry. It is desirable in any industry, however, to develop by collective bargaining individual procedures suited to the particular industry; and this is peculiarly important in atomic energy installations where interruption of vital operations is intolerable.

We outline below our recommendations for such procedures with the precautionary remarks (a) that the mediation agency and its procedures should protect to the utmost all possibilities of uninterfered-with voluntary agreement, and (b) that the mediation agency have absolute discretion as to the means and procedures of conciliation it will recommend or employ. We suggest, furthermore, that if our recommendations are approved, the adoption of the plan should be for a trial period of 2 or possibly 3 years, subject however to termination at the discretion of the Atomic Energy Commission in the discharge of its responsibilities under the Atomic Energy Act. With these precautions, we recommend:

5. a. That the Atomic Energy Commission establish a labor-relations panel of three impartial members appointed by the President from nominations submitted to him by the Commission.

We suggest that the members of the panel be compensated for their services on a per diem basis. Full-time employment will not be necessary or desirable. We assume that the Atomic Energy Commission will supply the panel with necessary advisers and assistants and will make provisions for all necessary supplies, facilities, and services.

b. That the panel be empowered to take jurisdiction of any management-labor dispute which collective bargaining and the normal processes of conciliation have failed to resolve and which threatens to interfere with an essential part of the atomic energy program.

c. That at Government-owned, privately operated atomic energy installations every recognized union and every contractor be required to agree that there shall be no interruption of production or services or changes without agreement in the terms and conditions of employment existing when the dispute arose before the panel takes jurisdiction and that after the panel takes jurisdiction in a dispute, existing terms and conditions of employment will be maintained without change and no action will be taken to impede production or services in any way so long as the panel retains jurisdiction and for an additional period of 30 days if in any case the dispute remains unsettled and the panel makes final recommendations, as in e below; provided, however, that the obligation of the parties under the agreement shall end as to any particular dispute (1) if the panel does not take jurisdiction of the dispute within 15 days after either party requests the panel to do so; or (2) if, at any time more than 30 days after the panel takes jurisdiction of the dispute, either party notifies the panel of its desire to terminate as to that dispute its obligation under the agreement and within 20 days thereafter the dispute is not disposed of by mutual agreement or the panel has not made recommendations as in e below; or (3) whenever the panel announces that it does not intend to take jurisdiction of the dispute or that it has terminated its jurisdiction; and

d. That the panel have full discretion in the use of all voluntary procedures to end the dispute by mutual agreement and as to when and how it will terminate its jurisdiction of the dispute; provided only that if the panel finds that the subject matter of the dispute or any part of it is within the scope of any procedure mutually agreed to by the parties for adjustment of disputes without interruption of production, then the panel shall return the dispute or such part thereof to the parties for settlement under the agreed procedure.

While the power of the panel to take jurisdiction has been broadly expressed above, and broad discretion should be left with the panel as to when and in what cases it will take jurisdiction, yet it is a basic purpose of the proposed plan that resort to the panel is not to be thought of as a customary or an easily available part of the management-labor relationships. The creative possibilities of responsible collective bargaining should always be jealously preserved. The parties should not be encouraged or allowed to evade their own primary responsibility to meet their own problems and to settle them by mutual agreement.

It is, however, of critical importance to avoid in such proceedings all aggravating delays or neglect, all "stalling" either in fact or in appearance. It is obviously

correct for the panel to keep out of—to have no power to proceed with—a dispute in which the agreed procedures for settlement have not been fully used. And if, upon taking jurisdiction of a dispute the panel should find that the parties have not already made use of the Conciliation Service, or of other available means of conciliation, then, even after the panel takes jurisdiction, it should have the power to insist that the possibilities of settlement by such agencies of conciliation should be fully explored. Since the parties will be bound by the foregoing provisions to continue operations under existing terms and conditions of employment until the panel takes jurisdiction or announces that it is not going to do so, and after the panel takes jurisdiction until the dispute is (1) finally disposed of by agreement, or (2) the panel announces termination of its jurisdiction, or (3) the recommendations of the panel under e below are rejected, it is necessary to provide as above for reasonable time limits for panel action. Such time limits, which may be resorted to by a party who feels that the panel is neglecting the dispute or unduly delaying consideration of it, are not to be taken, however, as easily available avenues of approach in conflict with the basic purpose stated in the foregoing paragraph.

All experience with labor-management relations in private industry emphasizes the importance of leaving mediators and conciliators wholly free to devise, to recommend, and to employ all applicable means for inducing a meeting of minds, and the need for such full freedom of action is emphasized in these Government-owned, privately operated atomic energy installations where the obligations to effect a settlement of the dispute by agreement without interruption of production will necessarily impress itself upon the panel as well as upon the parties. We do not want, even by implication, to suggest any limitation on the full discretion of the panel, but for illustration, and without limitation, we make the following remarks to indicate some of the available procedures: It may be that upon examination of the dispute the panel would find that the operations affected by the dispute are not vital, that they do not critically affect the health or safety of the public so that the dispute may safely be left to the ordinary processes of collective bargaining without restrictions; or the panel may find that available agencies of conciliation have not been made use of to an adequate extent; or it may find that substantial parts of the dispute arise out of questions of fact which can be removed from the areas of dispute by further examination with or without the aid of the panel, leaving, perhaps, a residue of dispute which can be settled by further negotiation between the parties on their own account. It has come to be recognized also, in the field of voluntary settlement of disputes with the aid of mediation, that agreement can often be facilitated by putting down in writing a precise definition of the points of controversy with a view not only to make sure that the parties can at least agree upon what they are disagreeing about, but also looking to the possibility of submitting one or more points of controversy to voluntary arbitration limited by explicit stipulation and before a known arbitrator in whom the parties have confidence.

This procedure is likely to be particularly fruitful where, as in critical atomic energy installations, interruption of production is intolerable and failure to come to a voluntary settlement may lead to Government intervention. A careful statement of the area of dispute, particularly when it is coupled with a foreknowledge that the arbitrator will be someone in whom both sides have confidence, often leads to a voluntary agreement to arbitrate a part or the whole of the dispute. The panel should not be denied the power to act in its discretion as arbitrator if both sides desire that, although we think it is probable that such an agency would not want to act as arbitrator except possibly in very exceptional cases. It may be that under some circumstances disputing parties who have agreed to submit all or any part of the dispute to voluntary arbitration will also be able to agree upon some criteria of decision for the guidance of the arbitrator, thereby further defining the limits of the voluntary arbitration and avoiding the risk that is likely to accompany so-called open-end arbitration. Another important avenue of voluntary settlement lies in the possibility that the panel may be able to work out with the parties other voluntary procedures for settlement of the particular disputes under consideration and for avoiding like critical disputes in the future.

The principal thing is, however, that the panel have full freedom of action to make whatever suggestions and take whatever steps may seem appropriate at the particular time in view of the particular situation.

Our final recommendation is:

e. That, if the panel is unable to effect a settlement of the dispute by voluntary agreement, then it may in its discretion proceed to recommend such terms and

conditions of settlement as the panel may deem appropriate, and for 30 days thereafter the status quo shall be maintained as in c above.

The foregoing recommendations could be put into effect within the provisions of existing legislation. We make no recommendation for enactment of special legislation at this time, believing that the recommendations or something substantially equivalent to them should be given a trial for a period of 2 or 3 years. If they failed to secure continuity of production at any vital Government-owned, privately operated atomic energy installation, the effect would be to throw the full responsibility back into the hands of the Atomic Energy Commission. If this responsibility then seemed to make any special legislation necessary, the Commission would, in recommending legislation, have the benefit of the practical experience gained by the work of the panel and the Congress would have the benefit of that experience in considering such special legislation.

In conclusion we want to emphasize, Mr. President, this thought: That the foregoing recommendations are no more than the bare bones of a skeleton structure upon which the flesh and blood of a vital organism may be built up by sincere people fully conscious of their tremendous responsibility for the general welfare. To get the maximum productive efficiency demanded by the overwhelming importance of the atomic energy program calls for sound and creative labor-management relations at all atomic energy installations. The best of formulas could not do more than create a favorable environment within which such relations may be built up in time under the stimulus of sincerity and good-will.

Respectfully submitted.

WILLIAM H. DAVIS, *Chairman.*  
AARON HORVITZ, *Member.*  
EDWIN E. WITTE, *Member.*

JOHN T. DUNLOP, *Consultant.*

DONALD B. STRAUS, *Executive Secretary.*

Representative HOLIFIELD. There will also be included in the record a press release from the Atomic Energy Commission, dated May 3.

(The press release referred to, entitled "AEC Announces Action to Assure Continuity of Essential Operations," dated May 3, 1949, is as follows:)

#### UNITED STATES ATOMIC ENERGY COMMISSION

WASHINGTON 25, D. C.

(No. 170—Information for the press—for immediate release)

#### AEC ANNOUNCES MOVES TO ASSURE CONTINUITY OF ESSENTIAL OPERATIONS

The United States Atomic Energy Commission announced today it is taking steps designed to prevent stoppages in its essential operations and to assure maximum freedom for labor and management to bargain collectively in AEC's Government-owned, privately operated plants.

These steps were recommended in the report recently sent to President Truman by his special Commission which investigated labor relations problems in the atomic energy industry. The report also proposed appointment by the President of an atomic energy labor relations panel. The President has named William H. Davis as chairman of the panel.

The Commission moved to:

1. Obtain agreements from prime contractors and recognized unions which, in the event of labor disputes, would serve to maintain operations and existing terms and conditions of employment until the labor relations panel has an opportunity, if it feels such action is necessary, to intervene and take action;

2. Begin discussions with national leaders of recognized unions in the industry and with management to formulate a permanent policy that will permit normal negotiations between labor and management on wages, hours, and working conditions without AEC intervention except where it is necessary for the Commission to discharge its responsibility under the McMahon Act; and

3. Establish the principle in matters of labor expense on cost-plus-fixed-fee contracts that employment conditions be established with reference to conditions in a reasonable segment of comparable industry in the area. The application of this principle will be worked out in the discussions with labor and management.

The Commission is communicating with contractors and recognized unions in the atomic energy industry to obtain agreements assuring continuity of operations and employment conditions while disputes are before the labor relations panel.

The Commission also approved an initial statement of its role in labor management relations. The statement follows:

"The report to the President submitted by the President's Commission on Labor Relations in Atomic Energy Installations proposes that 'the aspects of wages, hours, and working conditions which are the substance of collective bargaining be left to management and labor' without AEC intervention except as is necessary to discharge its over-all responsibility for the atomic energy program.

"This over-all responsibility requires Commission review and approval of matters of security, including access to plants and to information.

"This responsibility extends also to review of labor expenses under the cost-reimbursement contracts used in many AEC operations. Such matters are at the very heart of any collective bargaining between the contractors and their organized employees. To keep government supervision and the resulting effect on free collective bargaining to the minimum consistent with a full discharge of its over-all responsibilities, the Atomic Energy Commission has decided to issue a statement defining its role in labor-management relations at atomic energy installations and the principles it will be guided by in the exercise of this role. These principles will be designed to provide an outer framework within which representatives of contractors and employees may meet and exchange proposals and counterproposals based upon reason, and reach agreements molded to fit their special problems.

"In carrying out the Commission's responsibilities under such established principles, its staff will refrain from either direct or indirect participation in negotiation between the parties. Cost reimbursement will be predicated upon whether a negotiated labor contract, when considered as a whole, is within the established principles. Participating contractors and recognized unions will be consulted in the initial formulation of these principles and in such subsequent modifications as experience warrants.

"Pending establishment of these proposed principles, the general policy in matters of labor expense is that employment conditions be established with reference to conditions in a reasonable segment of comparable industry in the area."

The initial statement is being transmitted to prime contractors and to national officials of recognized labor unions at Commission facilities.

Representative HOLIFIELD. If there are no further questions, the meeting stands adjourned.

(Whereupon, at 11:55 a. m., the committee recessed, subject to the call of the Chair.)

X



# LOS ALAMOS RETROCESSION BILL AND AEC CONTRACT POLICY

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## HEARINGS

BEFORE THE

## JOINT COMMITTEE ON ATOMIC ENERGY CONGRESS OF THE UNITED STATES

EIGHTY-FIRST CONGRESS

FIRST SESSION

ON

## LOS ALAMOS RETROCESSION BILL AND AEC CONTRACT POLICY

\_\_\_\_\_  
FEBRUARY 17, 21, AND 24, 1949  
\_\_\_\_\_

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(Created pursuant to Public Law 585, 79th Congress)

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# LOS ALAMOS RETROCESSION BILL AND AEC CONTRACT POLICY

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THURSDAY, FEBRUARY 17, 1949

CONGRESS OF THE UNITED STATES,  
JOINT COMMITTEE ON ATOMIC ENERGY,  
*Washington, D. C.*

The committee met at 2 p. m., pursuant to call, in room 457, Senate Office Building, Senator Brien McMahon (chairman) presiding.

Present: Senators McMahon (chairman), Connally, Tydings, and Hickenlooper; Representatives Durham (vice chairman), Price, Kilday, Cole, Elston, and Hinshaw.

Also present: Senator Clinton P. Anderson; David E. Lilienthal, Chairman; Adrian S. Fisher, General Counsel; Joseph Volpe, Deputy General Counsel, Atomic Energy Commission; and Capt. Carroll Tyler, Manager, Santa Fe Operations Office, Atomic Energy Commission.

The CHAIRMAN. Gentlemen, we will come to order. Mr. Lilienthal.

## LOS ALAMOS RETROCESSION BILL

### STATEMENT OF DAVID E. LILIENTHAL, CHAIRMAN, ATOMIC ENERGY COMMISSION

The CHAIRMAN. Now, Mr. Lilienthal, you want to direct your attention first to the Los Alamos proposition, as I understand it.

Mr. LILIENTHAL. Yes, Mr. Chairman, to the bills S. 152 and S. 210, both providing for the retrocession and jurisdiction over Los Alamos in the State of New Mexico. The purpose of my appearance is to state very briefly the Commission's hearty approval of the purposes and form of these bills, preliminary to introducing Mr. Carroll Tyler, who, as you know, is the Commission's manager at Los Alamos, and who will go into the legislation in much greater detail as he is able to by reason of his managership there.

Senator HICKENLOOPER. Mr. Chairman, there is a House bill filed identical to these, is there not, too?

The CHAIRMAN. That was referred to the House Committee on Public Lands.

Senator HICKENLOOPER. The only thing, for the record I thought they all ought to be before us.

Mr. LILIENTHAL. It is my understanding that the House bill passed the House this morning. If I may proceed with this brief statement, then.

One of the most time-consuming, difficult problems the Commission has concerns the management and operations of the communities at Oak Ridge, in Tennessee; Richland, in Washington; and Los Alamos,

in New Mexico. These communities are operated and are maintained as an integral part of the national atomic energy program.

Maintaining adequate living conditions in these communities is, of course, not a technological problem; nor is it very dramatic, but it is unquestionably a vital and a difficult one. Unless living conditions are adequate in these communities, it is impossible to attract and to hold people to operate the plants and laboratories essential to carrying out the substance of the atomic energy program.

The Commission would like to emphasize that the proposed legislation under consideration by the Joint Committee on Atomic Energy is viewed by the Commission as necessary to remove a very unsettling and disturbing situation at Los Alamos which, in our opinion, if left uncorrected, will doubtless impede the operations of the program being carried on at Los Alamos.

In brief, this situation arises from the fact that a large portion of the land at Los Alamos is jurisdictionally part of the State of New Mexico, while a few scattered plots throughout the area are under the exclusive jurisdiction of the United States of America.

As a result, persons residing in the exclusive jurisdiction territory, these scattered plots, are not permitted to vote and are not considered residents of the State of New Mexico for the purpose of voting, obtaining divorces, probating wills, adopting children, et cetera.

In passing, I should like also to point out that this problem does not arise in either of the Commission's other communities at Oak Ridge or at Richland. Those communities are located on lands owned by the United States Government which are, however, for jurisdictional purposes, considered to be lands within the jurisdiction respectively of the State of Tennessee and the State of Washington.

The purpose of these bills is simply to turn back to the State of New Mexico normal State jurisdiction over the scattered plots acquired by the United States and thus to make all of Los Alamos part of the State of New Mexico. In this way, the Commission feels that the unsettling situation now prevailing at Los Alamos can be corrected, and what might be a serious handicap to pushing ahead in the program at Los Alamos will thereby be eliminated.

Thank you, sir.

The CHAIRMAN. Are there any questions?

Senator HICKENLOOPER. Chairman Lilienthal, I have some historical familiarity with this problem. One of these bills that has been filed was filed by me at the request of the Commission last year.

The CHAIRMAN. That is the one we are now considering.

Senator HICKENLOOPER. I thought you were considering both. It does not make any difference to me which one you are considering.

Senator TYDINGS. What is the number of the bill?

The CHAIRMAN. S. 152.

Senator HICKENLOOPER. There is only one thing. While I introduced the bill at the request of the Commission, and I am here to tell the committee the various departments apparently that are interested who have O. K.'d this bill, that is, the Department of the Interior, and I think the Attorney General and various other groups, I have not been fully satisfied in my own mind as to whether the Commission has resolved the question of criminal and law-enforcement areas in connection with the restricted areas on top of the hill there in Los Alamos.

In other words, what is your view on whether or not the county sheriff can come through your barricades there if he says that a crime has been committed inside that fence? And what is the situation so far as the National Guard of New Mexico is concerned when ordered out by the Governor?

I say those questions have been raised before, but I have never had an adequate or satisfactory answer to that question of criminal jurisdiction.

Mr. LILIENTHAL. If I may, Senator Hickenlooper, I would like to have our general counsel speak on those questions as to the legal situation. I am not sufficiently familiar with it to answer the question.

The CHAIRMAN. Mr. Fisher, do you want to answer that question?

### STATEMENT OF ADRIAN S. FISHER, GENERAL COUNSEL, ATOMIC ENERGY COMMISSION

Mr. FISHER. Senator Hickenlooper, the answer to that is that the bill places 5 percent of Los Alamos in the same position as the other 95 percent now is. I could not with candor before this committee state that every possible inter-governmental problem can be resolved in advance; but I think I can tell the committee that this does not in any way restrict the security authority of the Commission granted by the Atomic Energy Act.

Senator HICKENLOOPER. My question goes into this point: What is the jurisdiction of that county over alleged crimes or suspected crimes committed within the confines of the restricted area at Los Alamos where restricted work is being done? And what is the limitation or the power of the Governor of New Mexico with regard to the National Guard going in there and taking over in times of emergency? That is my question.

Mr. FISHER. The answer to that is this: With reference to crimes committed in the 5 percent, which would be taken out by this bill, the jurisdiction is in the State courts; but the State courts would have no authority, or the State officials would have no authority, to execute their prosecution of those crimes, their State-enforcement activities, in any way which interfered with the authority of the Commission to retain restricted data and to control it.

In other words, on the hypothetical case that a murder had been committed in a highly classified area, it is not our position that State officials could immediately break in on the grounds that that was essential. Appropriate arrangements would have to be worked out, and I am confident that with good will on both sides, the necessary arrangements could be worked out to handle that.

Senator HICKENLOOPER. I am merely trying to clarify this. I understand you have to work in comity with the people down there; but that is a matter of comity and agreement. What is the status of the jurisdiction?

Let us go into one of your highly restricted areas on top of the mesa at Los Alamos. Now then, assume that murder was suspected up there. A dead man was found within that area; and assume that the Atomic Energy Commission for some reason said, "We do not want anybody in here at this time." That is a rather broad assumption, I admit.

Would not the sheriff have the right in any event to break through your barriers and go in and do what he conceived to be his duty under the law in New Mexico? Or could you stop him? Do you exercise the control over the law-enforcement agencies in that area if this legislation should go through?

Mr. FISHER. Senator, may I first point out that that situation exists today at Los Alamos. The very question you put is not raised by this bill because some 95 percent of the land on the area——

Senator HICKENLOOPER. Just answer my question. Is it or is it not?

Mr. FISHER. I would say it depends on the arrangements he attempted to make. I think it would be up to us to work out arrangements with him whereby he could carry out his duty without at the same time compromising the security of our program on that.

If you put to me the hypothetical case of a situation where that would be impossible, I think there is no such case. I think we would tell the sheriff, "Sheriff, you cannot come in until we have worked our arrangements under which this can be done without in any way compromising the security of restricted data." As long as I am connected with the Commission, I hope we would be able to do that and work it out right, but without in any way compromising restricted data because the situation that exists today, as you know, sir——

Senator HICKENLOOPER. Again let me say that I have the most complete faith in your ability to work out arrangements between the Atomic Energy Commission and the law-enforcement authorities. I take that on faith. What I am asking you: What is the actual legal situation? What is the ultimate answer?

There is either a right or there is not a right.

Mr. FISHER. Senator, my answer to that is this: The right of Federal ownership means the right to issue all essential and necessary regulations to carry out the purposes for which the Federal Government owns this land. Now, I cannot at this stage predict every possible conflict that might arise, and say whether that right would or would not exist.

I am confident that we have all the power that we need without the authority of exclusive jurisdiction on 5 percent of the area, to issue the regulations under which we could prohibit him from coming in until the arrangements could be worked out. If we reached an impasse, that presents, I believe, a hypothetical question; but I do think we have the right to restrain him until the appropriate arrangements can be worked out.

Senator HICKENLOOPER. Mr. Chairman, if you will excuse me for pursuing this point rather strenuously, I may say parenthetically I have been trying to get an answer to this thing for the last 6 months almost, and I have yet failed to get a specific answer.

May I put it another way. In this case of a direct conflict of authority or conflict of intention or program between the Atomic Energy Commission in a restricted area at Los Alamos and a determination of the local law-enforcement officials, either the county sheriff or similar officials or the National Guard of New Mexico, who has the power to prevail under the law? Who is superior?

Mr. FISHER. It is my understanding of the law, sir, that in any case where it is necessary to carry out the Federal function for which this property is owned and held, that the Federal authority is superior.

Whether or not a particular decision of the Federal officials in carrying out their authority is a justified one may, of course, become a matter for the courts to decide.

But if the courts were to decide that we were justified in any particular action in carrying out the authority to control restricted data and to run reservations of this kind granted us by the Atomic Energy Act of 1946, that is the finding that must be made. If that finding is made, it is my understanding, and we will be prepared for this committee, if the committee would like, to document that further, that if the act is consistent with the Federal purposes and the purposes for which the Federal Government owns the land, the Federal Government prevails.

Senator HICKENLOOPER. All right. Let us suppose the sheriff is knocking at the wire gate down there and he says, "There has been a crime committed here, or I have every reason to believe there has." And suppose that the manager of the atomic energy program down there, for some reason that may be difficult to imagine at the moment, says: "It is not to our interest or it is not in accordance with our program or under our responsibility to let you in right now. Things are going on in here that we have to guard very carefully."

Under those circumstances, let us assume that the manager or whoever is responsible there believes that he is properly carrying out his duties. Then, is it your opinion that the Atomic Energy Commission or the Government, acting through it, has the right to supersede the authority believed to be possessed and normally possessed by the State law-enforcement authorities of New Mexico if this retrocession goes through?

Mr. FISHER. Senator Hickenlooper, in order to complete that question, I would have to understand the reason, because the reason why we are acting is the whole crux of the problem you are posing.

We have the authority, by virtue of the ownership of this land, to issue all necessary rules and regulations consistent with the purposes for which we own this land, those purposes being set out in the Atomic Energy Act of 1946.

When you say "for some reason or other," to my mind you eliminate the part of the question which is essential for its intelligent answer.

Senator HICKENLOOPER. Let me put it this way, then. Generally speaking, under State law, and I think this is universal, if the law-enforcement officials have reason to believe that a crime has been committed on certain premises, they can, under some circumstances, invade those premises without a warrant. Usually, they have to go and get a warrant to search the premises.

Let us suppose that the sheriff of that county showed up with a search warrant for your restricted area, under the allegation, upon which the warrant was based, that a crime had been committed to the best of his knowledge and belief. He showed up at the gate and said he had a search warrant and he wanted to search those premises; but the Commission believed that it was to the best interests of the Commission and the program and perhaps even the United States not to allow a search of those premises at that moment.

Who would prevail? Would the search warrant prevail, or would the order of restriction of the General Manager or whoever operated it prevail?

Mr. FISHER. If the reasons which the Commission believed that no one should be permitted to enter those premises for appropriate reasons in carrying out the Commission's responsibility to maintain the security of restricted data under the Atomic Energy Act of 1946, if those were the reasons—and I have to add to your question because I believe you said for some reason—if those were the reasons, I think the Commission would prevail.

May I add to this statement by saying as follows: We recognize that when you say "work it out," you say, "Maybe he will not be able to work it out; then who will win?" I think there may be a thousand to one or a million to one—

Senator HICKENLOOPER. I think you can work out a gentlemen's agreement or a working arrangement. I am not disputing that. But I am talking about where is the root of the authority.

Mr. FISHER. The root of the authority depends on whether the reasons under the act are consistent with the purposes of maintaining the security of restricted data under the Atomic Energy Act of 1946, or any other purposes set up under that act.

If they are, we have the authority. If they are not, if they are capricious or for any other reason inappropriate, we have not.

Senator HICKENLOOPER. Do you believe that it will take an act of consent on the part of the New Mexico Legislature in order to confirm or assure the maintenance of jurisdiction and under proper conditions in restricted areas at Los Alamos?

Mr. FISHER. No; I do not, sir.

Senator HICKENLOOPER. Senator Tydings asked me to yield to him.

Senator TYDINGS. What court has jurisdiction over the criminal offenses committed on the area we are talking about now?

Mr. FISHER. Right now that is in a state of lamentable confusion. As to 95 percent of the area—

Senator TYDINGS. I mean the restricted area.

Mr. FISHER. Federal courts.

Senator TYDINGS. Federal courts exclusively?

Mr. FISHER. Yes, sir.

Senator TYDINGS. Have the State courts any right at all in the highly restricted area?

Mr. FISHER. When you say "the highly restricted area," due to the historical—

Senator TYDINGS. I do not want to call for names, but you know what I mean.

Mr. FISHER. But the point I make is just to that point, that there is no correlation between the highly restricted area and the area of Federal jurisdiction. If this were a situation in which you had Federal jurisdiction over one part and the State over another—

Senator TYDINGS. I am talking about what is. I am asking you whether the State courts have jurisdiction over the highly restricted area for crimes committed thereon.

Mr. FISHER. Today, yes; some portions of them, sir.

Senator TYDINGS. Who owns the land?

Mr. FISHER. The Federal Government, sir.

Senator TYDINGS. Can the people who live on it vote in New Mexico?

Mr. FISHER. No, sir; they cannot.

Senator TYDINGS. Why not?

Mr. FISHER. They can on some, and on some others they cannot. It is a provision of the laws of the State of New Mexico, which we will be glad to introduce for the record.

Senator TYDINGS. I am not going to be too specific. You know what I have in mind. Are the guards there civilian or military?

Mr. FISHER. They are civilian, sir.

Senator TYDINGS. If you had military guards there at this particular area, then there would be no question about the military authorities having the primary right to enforce breaches of the law; is that right?

Mr. FISHER. Well, sir—

Senator TYDINGS. They would be military personnel. Would they be subject to court martial or would they be subject to the civilian procedure?

Mr. FISHER. There are very few military personnel on the area.

Senator TYDINGS. I say, if you had military personnel guarding this highly restricted area, which of the two people would have jurisdiction, the military authorities or the civilian authorities?

Mr. FISHER. The military authorities, sir, I understand have jurisdiction over military personnel in uniform.

Senator TYDINGS. So if you had military authorities at this highly restricted place and there was a breach of the law, the military would have the right to deal with it at once and they would have jurisdiction, unless they waived it to the Federal courts?

Mr. FISHER. That is a breach of the law with respect to military personnel or with respect to civilian personnel?

Senator TYDINGS. I am talking about any breach of the law that occurs there that involves the military. So as to put the question more specifically, let us assume that one soldier shot another soldier, and they were both military.

Mr. FISHER. They would be subject to the Articles of War.

Senator TYDINGS. All right. Let us suppose the soldier shoots a civilian.

Mr. FISHER. Subject to the Articles of War, I assume, sir.

Senator TYDINGS. In case you had a civilian guard and a civilian shoots a civilian, who has jurisdiction over the crime committed, assuming it is murder? A civilian guard shoots another civilian.

Mr. FISHER. It would depend on where he shot him, sir.

Senator TYDINGS. Suppose he shot him in the esophagus. Or suppose he shot him in a highly restricted area, without any camouflage.

Mr. FISHER. Portions of the highly restricted area are under the Federal jurisdiction. Portions of the highly restricted area are under the State jurisdiction.

Senator TYDINGS. Then your answer to Senator Hickenlooper is this: Theoretically, from your subsequent testimony, as I take it, you intend to work out an arrangement so there will be no conflict, and if a situation as he envisioned were to occur, you would deal with it with diplomacy and so on.

The real truth of the matter is that the Federal authorities have the right and jurisdiction in the matters in the highly restricted areas we are discussing.

Mr. FISHER. When you say jurisdiction in the matters, sir, that is what troubles me. The Federal authorities would not have jurisdiction in the sense of territorial jurisdiction over this area.

Senator TYDINGS. I am talking from the standpoint of crime.

Mr. FISHER. In this area, if this bill were passed, it would as to 5 percent —

Senator TYDINGS. I am talking about the highly restricted area where that crime occurs.

Mr. FISHER. In the highly restricted area, at the present time portions of it are in State jurisdiction and portions of it are in exclusive Federal jurisdiction. I wanted to make that point clear.

Senator TYDINGS. I am talking about the part that is under the Federal jurisdiction. Have I married the issue enough?

Mr. FISHER. Yes, sir; you have. If the part of the highly restricted area —

Senator TYDINGS. I am only trying to get an agreement between what I believe is your obvious view and mine. You stated that the Federal courts and not the State courts would have jurisdiction over the federally owned, highly restricted area. Therefore, the sheriff would come to the place without jurisdiction, would he not? If his court does not have jurisdiction, he would certainly have no power that the court conferred on him.

Mr. FISHER. Senator, I am afraid I have not made a good explanation of this. If this bill were to pass, the sheriff would have jurisdiction over the crime of murder if a civilian shot a civilian.

Senator TYDINGS. On what area?

Mr. FISHER. On the entire area, sir. What he would not have is the right to come barging into a restricted area without the approval of the authorities charged with the responsibility for maintaining security.

Senator TYDINGS. So, in the absence of any regulations, he would have the authority to come barging in?

Mr. FISHER. Yes, sir; as he does now, in much of the highly restricted area.

Senator TYDINGS. In the event he did come in, which would have jurisdiction over the offense committed, State or Federal courts?

Mr. FISHER. If this bill were to pass, sir, the State court.

Senator TYDINGS. In the highly restricted area which is still retained by the Government, the State would have jurisdiction?

Mr. FISHER. There are some Federal offenses, as such, of course, straight murder.

Senator TYDINGS. In the federally owned, highly restricted area, you say that the State courts would have jurisdiction for crimes committed in the federally owned, highly restricted area?

Mr. FISHER. That is correct, sir. May I show you a map to define this?

Senator TYDINGS. No; I am only interested in this for this reason. I have not probed it thoroughly, but it seems to me that if that is a correct statement, and I am not saying it is not, that this highly restricted area, and particularly the part that you know I have in mind, ought not to be subject to the control of anybody under the sun except the Government of the United States for anything that is committed there.

Do you agree with that or not?

Mr. FISHER. No, sir; I do not.

Senator TYDINGS. You do not?

Mr. FISHER. No, sir.

Senator TYDINGS. Why not?

Mr. FISHER. Because I believe the authority of the United States—I do not believe we are interested in prosecuting murder cases as murder cases. I think our interest in it is to carry out the purposes of the act and the purposes of the act are——

Senator TYDINGS. I am thinking from the standpoint of security, not of the theory of law.

Mr. FISHER. But we have authority to maintain the issue of security regulations, and we have authority to tell the sheriff, "You cannot come in until we make proper arrangements," so that security will not be compromised.

Senator HICKENLOOPER. Where do you get that authority?

Mr. FISHER. From the Atomic Energy Act, sir.

Senator TYDINGS. Do you mean to say that until you issue a regulation, he has the authority?

Mr. FISHER. Sir, the regulation——

Senator TYDINGS. Answer me "Yes" or "No." He either has or he has not.

Mr. FISHER. He has, but the regulation is already in effect. May I add to that, Senator. I believe it would help you if I showed you this map.

Senator TYDINGS. I have one before me.

Mr. FISHER. As you observe, the areas of exclusive Federal jurisdiction, as I understand it, are the areas in black, which are affected by this bill. You will observe that they are rather spotted across the area.

Senator TYDINGS. Let me tell you what I am driving at. There are certain parts of the atomic energy activity that you and I and everybody else connected directly or indirectly with this want to have guarded over and above any other phase of it. That is obvious.

Mr. FISHER. Yes, sir.

Senator TYDINGS. Do you think it is wise to allow a situation of such vital importance to our own security to roam around into the realm of where a regulation is proposed by the Atomic Energy Commission of the United States to deal with the matter? And do you not think that in order that we do not leave it to any hazard whatsoever that we should make sure that that is as tight as we can make it for security reasons as against almost any agency or branch of the Government of which you can conceive?

Mr. FISHER. We think this is extremely tight, sir. I may add that Oak Ridge and Hanford are presently, and have been, through the entire operations of the Manhattan District, in the same situation.

Senator TYDINGS. I am not thinking of Oak Ridge and Hanford. I am thinking of something else.

Mr. FISHER. They are quite important.

Senator TYDINGS. I am thinking of something else, and I don't want to be too specific, but assuming that a situation exists which was super, super, super secret——

The CHAIRMAN. Senator, I might interrupt. Everybody knows and has known for years, that is where most of the bomb making is done, uranium at Oak Ridge and plutonium at Hanford.

Senator TYDINGS. Yes; but I am dealing with a very small area of ground, theoretically, in this particular estimation of the matter. It seems to me there is a twilight zone there of indecision where it is not

perfectly clear what the Federal rights are, and that in the absence of the enforcement of those rights as a means of regulation the thing is left to somewhat of a dispute that could conceivably be costly. In other words, the sheriff may not be the sheriff who appeared. The sheriff might be a man with a badge on who is not the sheriff. The sheriff might have a phony search warrant, and after one Pearl Harbor, I don't want to see another one.

Believe me, I cannot imagine any situation that would be easier if it was not well taken care of. How do we know the sheriff is a sheriff? How do we know that his search warrant or his bench warrant, or whatever it may be, is authentic?

Mr. FISHER. We will not let him in until we find out, sir, until we are sure.

Senator TYDINGS. You mean you won't?

Mr. FISHER. That is right.

Senator TYDINGS. But how do you know that the man on guard there won't let him on? Your regulations say if the sheriff comes you think you could work it out. But have you used all the precautions to make sure that a fifth columnist, for example, does not impersonate the sheriff and get in there and do a lot of damage?

Mr. FISHER. This situation existed, the type—

Senator TYDINGS. Of course, the time to do that is before Pearl Harbor, and not after.

Mr. FISHER. I agree with you 100 percent.

Senator TYDINGS. There are thousands of Americans who could not believe that Pearl Harbor was possible until after our fleet was on the bottom, but it is history, and we can have another one unless we make this pretty tight. I do not like to be hit twice on the head before I get wise.

Mr. FISHER. I do not like to get hit once, sir, but this situation exists at Oak Ridge and Hanford; the split situation which existed at Los Alamos existed throughout the entire war under the Manhattan District, as well as the AEC, and the experience of the last 5 years has shown that it is perfectly possible to work out security arrangements under which the Federal Government has the final say on security arrangements, without involving the Federal Government in a variety of other items, such as miscellaneous petty crimes. We have enough to do to run the program and run it well without getting too far into the Federal divorce law to handle divorces of people that live in this area, and a variety of other things which would be essential.

Senator TYDINGS. Nobody is contending that you should handle them. But I would be interested in knowing, if I could not get a good ingenious man, say, from the FBI, that had some training, and put him in the guise of a sheriff with a badge on and with a warrant, and if he could not, with ingenuity worm his way into the place where he had not ought to be? That is my proposition. The time to close the door is before the situation can happen.

Mr. FISHER. Sir, if that were to happen, I would be very much surprised; before he could do that he would have to go through the clearance procedure set up in the Atomic Energy Act.

Senator TYDINGS. Yes; but we were surprised at Pearl Harbor. They told us they had radar; they told us they had all these things.

Mr. FISHER. The FBI would have investigated.

Senator TYDINGS. But it didn't work.

Mr. FISHER. The clearance procedure would require that the FBI itself investigate this man. It is difficult for me to see how, with the entire clearance procedure which operates now, for which we have the entire resources of the FBI placed by law at the disposal of the Commission for just this sort of thing, that this particular area would in any way decrease the national security if it were made available to normal State processes in this way.

Senator TYDINGS. Well, I am glad we have had this discussion, because if it will result in the security part of the Commission taking appropriate action so that nobody can get in that thing without your knowing all the if's, and and's, and but's, and all the other angles to the proposition, without your permission, that is one thing.

But I do not want to leave the door open, and particularly with the situation which you know I am discussing——

Mr. FISHER. Yes, sir; I do.

Senator TYDINGS. So that somebody can make another sneak attack on us like was once made, which everybody, including our highest military people, pooh-poohed until it actually happened and then they had very, very red faces.

Mr. FISHER. Senator Tydings, if this bill were to pass with the highly restricted areas, no local sheriff could get in there without a pass.

Senator TYDINGS. I don't like that pass business.

Mr. FISHER. That would require the clearance procedure and the FBI investigation. In most cases, if it could be worked out our security police would serve the warrant for him, and not let him in at all. That is the normal arrangement.

Mr. HINSHAW. Are they authorized to do that?

Mr. FISHER. I beg your pardon?

Mr. HINSHAW. Are they authorized to do that for the State courts?

Mr. FISHER. I think so.

Mr. HINSHAW. In other words, they are deputized by the State?

Mr. FISHER. I am not sure of the present arrangement. That has been done in the past and there has been no indication otherwise. They do it at Hanford I know, sir.

Mr. HINSHAW. Excuse me, Senator, for interrupting.

Senator TYDINGS. That is all right, sir. Anybody can interrupt me, because we are all trying to reach one purpose, and that is to close the door on it.

Mr. KILDAY. Will the Senator yield?

Senator TYDINGS. Yes, I would.

Mr. FISHER. We have two deputies just for that purpose now.

Mr. KILDAY. On that point, I take it for many years the law has reserved to the sovereign state when it cedes jurisdiction, the right to execute civil and criminal processes.

Does the State of New Mexico reserve that right in this instance?

Mr. FISHER. Yes, they do.

Mr. KILDAY. Then the situation now is that an officer of the State of New Mexico armed with a legal warrant would have the legal right to enter, so that the——

Mr. FISHER. Well——

Mr. KILDAY. Wait a minute. I have been through this many times as a prosecutor on Government reservations. It has always worked out as you say. But as far as the legal right is concerned, the State of New Mexico having been sovereign over this land at the time

it ceded its jurisdiction to the Federal Government, if it retained the right to execute civil and criminal process it retains sovereignty to the extent that it did reserve the right?

Mr. FISHER. That is right.

Mr. KILDAY. Therefore, strictly technically, a sheriff armed with a legal right would have the right to enter—he would not, I grant you, but the point is that by passing this law as to the things which Senator Hickenlooper fears, we do not change the legal situation as it now exists.

Mr. FISHER. That is correct, sir.

Senator HICKENLOOPER. Mr. Chairman.

The CHAIRMAN. Senator Hickenlooper.

Senator HICKENLOOPER. Jurisdiction over this land was exclusive when it was ceded to the Atomic Energy Commission. Do I understand there was a reservation in the cession that retained to the State of New Mexico the right to serve processes on this land?

Mr. FISHER. That is my understanding, sir.

Mr. KILDAY. All States do that.

Mr. FISHER. That is right, but of course there is a difference as to the sort of things on which processes might be served.

Senator HICKENLOOPER. But let's get this clear.

You are assuring this committee that in the cession of authority and jurisdiction over this land originally from the State of New Mexico to the Atomic Energy Commission, or the Government in this program, that the State of New Mexico specifically reserved the right to the service of process in the ceded lands, or ceded jurisdiction less the right to serve process, is that correct?

Mr. FISHER. That is correct; yes, sir.

Senator TYDINGS. Then the sheriff would have the right to go any place in this reservation and serve the process as a matter of legal right. I am not saying that he would do it, or that you would allow him to do it.

Mr. FISHER. No, sir.

Senator TYDINGS. I am talking about his right.

Mr. FISHER. But that right is subject to the superior right of the Federal Government.

Senator TYDINGS. Then if they reserve the right in the act by which they ceded jurisdiction with certain reservations, it is not subject to anything that is not ceded?

Mr. FISHER. May I respectfully disagree and explain my reasons for it?

Senator TYDINGS. Yes.

Mr. FISHER. As to an area which was under State jurisdiction all along, which the Atomic Energy Commission took over under the authority granted by the Atomic Energy Act of 1946, and where there has been no cession of rights at all, the authority of the sheriff to come in is subject to the authority prescribed by Congress, since it is in pursuance of a Federal purpose, of a Federal act superior.

Senator TYDINGS. Let me get this straight. Are you talking now about a piece of land that has never been ceded?

Mr. FISHER. Yes, sir; I am.

Senator TYDINGS. I am talking about a piece of land that has been ceded, and it has been ceded with the reservation that the sheriff and other enforcement agencies of the local court, or the State courts, let

us say, of the State of New Mexico, reserve the right at all times to enter upon said premises for the purpose of civil, or criminal, or whatever the reservations are. I am not asking whether they would do it, I am not asking you whether you couldn't deal with them, I am asking you under those reservations don't they have the right to do it?

Mr. FISHER. They have no greater right, sir, than they had before the cession itself.

Senator TYDINGS. I agree with that.

Mr. FISHER. May I carry on one further point. That is the reason I got to unceded land.

Federal proprietorship of land covers the authority to issue the necessary regulations for the purpose for which the Government owns the land. One of these purposes is the authority to control restricted data. That implies the authority to keep unauthorized persons, of any size, shape, or description, out of areas where the national defense and security would be impeded if they were permitted to come, whether there is State jurisdiction or not.

Senator TYDINGS. I see your argument. Now, let us put the question this way—

Mr. FISHER. Yes, sir.

Senator TYDINGS. Then you are telling me that on land which New Mexico ceded to the United States of America, with the reservation that it had the right to send its local officer, clothed with the proper authority from the State courts, into that area, that nevertheless they could not come?

Mr. FISHER. Where a proper and appropriate superior Federal right set up by constitutional law intervened, as I believe is to be the case here.

Senator TYDINGS. All right, I get your point of view. I do not agree with it.

Mr. FISHER. I would like to submit some authority on that, sir, if you would like.

Senator TYDINGS. Yes, I know there is a wide area of conflicting law between the State and the Federal Government, and I am not familiar with the decisions, but I am sure when certain plants are located in certain places, in a highly restricted category, it never was conceived as a matter of theory—not dealing with the practice—that the Federal Government would accept a reservation which at least in color would give the State the right to go on to that. I would assume your answer would be accurate in the absence of any reservation, but if New Mexico reserved that, you only got what she gave you.

Mr. FISHER. No, sir. There are two things. Not only the Federal Government got what was given by New Mexico, but on the question of the authority to retain restrictions, that the Federal Government got the authority given it by the Constitution of the United States, and by duly enacted constitutional and Federal law, and appropriate regulations issued under the authority granted by that law.

I would be delighted, sir, to submit some further authorities on that.

Senator TYDINGS. This is being taken down. I would like to see your authorities, and I don't think they will all be on one side. I would like to have them on both sides because you can find any amount of authority on the conflict of law between the States and the Federal Government, as long as from here to that door, on both sides of every part of the conflict. You know that is so.

(The information submitted by the General Counsel of the Atomic Energy Commission is as follows:)

#### MEMORANDUM ON FEDERAL AUTHORITY OVER LOS ALAMOS

This memorandum is directed to the question of whether the proposed retrocession of jurisdiction over part of the Los Alamos site will give local officials the right to enter upon the part retroceded in a manner, at a time, or in a place which might compromise the security safeguards of the project.

It has been consistently held by the United States Supreme Court that the Federal Government, in the performance of duties and exercise of powers imposed and bestowed upon it by the Constitution and by Congress legislating thereunder, enjoys immunity from interference by the States. See, for example, *Van Brocklin v. Anderson* (117 U. S. 151, 6 S. Ct. 670 (1886)); *Johnson v. State of Maryland* (254 U. S. 51, 41 S. Ct. 16 (1920)) and cases cited therein; *Mayo v. United States* (319 U. S. 441, 63 S. Ct. 1137 (1943)).

It follows from this that the right of the Federal Government to exercise control over lands acquired by it in the performance of a Federal function does not depend upon whether the Federal Government has acquired or retains political jurisdiction. It has been universally held, regardless of the jurisdictional status of the land in question, that the United States Government, as owner of land acquired in the performance of a Federal function, has full power to control its use, and that State action which conflicts with the Federal purpose for which the land is held has no force or effect. *State of Ohio v. Thomas* (173 U. S. 276, 19 S. Ct. 453 (1899)); *Hunt v. United States* (278 U. S. 96, 49 S. Ct. 38 (1928)); *State of Arizona v. State of California* (283 U. S. 423, 51 S. Ct. 522 (1930)).

There follows an analysis of the more significant cases in which the Supreme Court of the United States has considered the question of whether a particular State measure does conflict with the purposes for which the Federal Government holds lands. It should be noted that, while the results of these cases depend upon the facts of the particular case, all of them accept the principle that, in the event of conflict, the Federal purposes must prevail.

*State of Ohio v. Thomas* (173 U. S. 276, 19 S. Ct. 453 (1899)): The United States, by act of Congress (act of Jan. 21, 1871, 16 Stat. 399) had retroceded political jurisdiction over a soldiers' home to the State of Ohio. Ohio law required the display of prominent signs in places where oleomargarine was sold or served. Oleomargarine was served at the soldiers' home, and no signs were displayed. The State began criminal proceedings against the governor of the home. The Supreme Court held that the governor was not amenable to State criminal process, saying:

"We are of the opinion that the governor was not subject to that law, and the court had no jurisdiction to hear or determine the criminal prosecution in question, because the act complained of was performed as part of the duty of the governor, as a Federal officer, in and by virtue of valid authority, and in the performance of that duty he was not subject to the direction or control of the legislature of Ohio."

*Hunt v. United States* (278 U. S. 96, 49 S. Ct. 38 (1928)): Agents of the Federal Government found it necessary to kill deer to protect trees and plants on United States-owned land within the State of Arizona. This was done in violation of State game laws. The United States Supreme Court sustained the contention of the Government that the power of the United States to protect its property was free of any limitation by State police power. The court stated that " \* \* \* the power of the United States to thus protect its land and property does not admit of doubt \* \* \* the game laws or any other statute of the State to the contrary notwithstanding." The result of this case did not depend upon political jurisdiction over the land, which was held by the State.

*State of Arizona v. State of California* (283 U. S. 423, 51 S. Ct. 522 (1930)): A statute of Arizona forbade construction of any dam within the State without the prior written approval of the State engineer. The statute made it clear that Federal dams were intended to be included. Pursuant to the Boulder Canyon Project Act (45 Stat. 1057), the Secretary of the Interior commenced construction of a dam at Black Canyon, half of which was in the State of Arizona, without obtaining the approval required by Arizona law. Jurisdiction over the site was in the State. Arizona sought to enjoin construction and subsequent appropriation of water. The Supreme Court vindicated the authority of the Secretary, as following from a Federal statute enacted within the constitutional power to improve navigation.

*Penn Dairies v. Milk Control Commission of Pennsylvania* (318 U. S. 261, 63 S. Ct. 617 (1943)), involved a milk distributor selling milk to an Army camp in Pennsylvania. The Federal Government had acquired no political jurisdiction over the camp. Penn Dairies had landed a low-bid contract with the War Department, but at the cost of violating the minimum price provision of the State milk-control law. As a result, the Pennsylvania authorities refused to renew the Penn Dairies' license. The Supreme Court held the Pennsylvania milk-control law applicable to sales of milk to the Army post, and sustained State action.

This case does not represent any departure from the basic principle that on United States-owned reservations Federal policies prevail. The court expressly stated that: "Congress \* \* \* could declare State regulations like the present inapplicable to sales to the Government." The decision of the court was based on a finding that the State enactment was not inconsistent with Federal policies, and the opinion relied upon Federal statutes, such as the 8-hour law, Davis-Bacon Act, and Walsh-Healey Act, which were thought to be consistent with the spirit of the Pennsylvania enactment. In a companion case, similar State action was held inapplicable where the Army post involved (Moffett Field, Calif.) was under the exclusive jurisdiction of the Federal Government. *Pacific Coast Dairy v. Department of Agriculture of California* (318 U. S. 285, 63 S. Ct. 628 (1943)). While a comparison of these two cases does show that the status of jurisdiction may be a controlling factor in determining the application of some State laws, comparison also shows that jurisdiction is controlling only when State action is not regarded as conflicting with the policies and functions of the Federal Government.

It can thus be seen that the Federal Government as owner of land acquired for the performance of a Federal function is not bound by any State measure which conflicts with the purpose for which the Federal Government holds the land. The question which must be decided in each case is what those Federal purposes are and whether the proposed State action is in conflict with them. In the case of land, such as that at Los Alamos, held by the Atomic Energy Commission, the purposes and functions are those set out by the Atomic Energy Act of 1946.

Two of the purposes set forth in the Atomic Energy Act of 1946 are of primary significance on this question. The first is that set forth in sec. 1 (b), which lists as one of the major programs relating to atomic energy, "A program for Government control of the production, ownership, and use of fissionable material to assure the common defense and security, and to insure the broadest possible exploitation of the fields." The second is that set forth in section 10 (a), which states: "It shall be the policy of the Commission to control the dissemination of restricted data in such a manner as to assure the common defense and security."

These two purposes are carried out by a variety of specific provisions of the act. By section 4 the Commission is required to "be the exclusive owner of all facilities for the production of fissionable material" and is charged to "produce or to provide for the production of fissionable material." By section 5 the Commission is made the exclusive owner of all fissionable material. By section 6 the Commission is directed "to engage in the production of atomic bombs" and to develop the military application of atomic energy. All persons engaged in production activities are required to comply with the security regulations issued by the Commission (sec. 3). Furthermore, section 10 (b) (5) (B) (1) provides that: "No arrangement shall be made under section 3, no contract shall be made or continued in effect under section 4, and no license shall be issued under section 4 (e) or 7, unless the person with whom such arrangement is made, the contractor or prospective contractor, or the prospective licensee agrees in writing not to permit any individual to have access to restricted data until the Federal Bureau of Investigation shall have made an investigation and report to the Commission on the character, associations, and loyalty of such individual and the Commission shall have determined that permitting such person to have access to restricted data will not endanger the common defense or security."

Further indication of the importance which the Congress gave to the Commission's authority to control restricted data can be gathered from section 10 (b) (6), which provides that: "This section shall not exclude the applicable provisions of any other laws, except that no Government agency shall take any action under such other laws inconsistent with the provisions of this section."

Thus, the Atomic Energy Act and its legislative history indicate that Congress intended to grant sufficiently broad authority to the Commission to enable the latter to discharge novel and far-reaching responsibilities. Security of restricted data, continuity of operation, and assured obedience to Federal policies were among the considerations that led Congress to place atomic energy development

under the type of Government control provided by the act. In these circumstances it is clear that the Atomic Energy Commission must have and has, in fact, ample power to conduct its operations without heed to the demands of a State which are inconsistent with the policies of Congress or with the actions of the Commission taken under these policies.

The authority vested in the Commission under these decisions and the Atomic Energy Act is presently the basis for the Commission's visitor-control program at the great majority of the land which it uses. It is the entire basis of the Commission's program at Oak Ridge and Hanford, over which the State has jurisdiction, and over that 95 percent of the Los Alamos area under State jurisdiction. Even as to the remaining 5 percent, the Commission would rely on this authority if a question were to arise under section 8-203 of the New Mexico Statutes, under which the State reserved the same jurisdiction for the service of civil and criminal process that would have existed had the State retained all political jurisdiction.

ADRIAN S. FISHER,  
*General Counsel, Atomic Energy Commission.*

Mr. FISHER. Well, I think on this point, sir, it is pretty clear in terms of superior Federal right, where it is for an appropriate federal purpose.

The CHAIRMAN. Mr. Fisher, there is one thing I want to clear up very definitely. It is my understanding that this retrocession bill returns to the State of New Mexico only such jurisdiction as the Federal Government acquired under the New Mexico cession statute, is that not true?

Mr. FISHER. That is correct, sir.

The CHAIRMAN. It is further my understanding that the Atomic Energy Act, and all other Federal statutes, such as the Espionage Act, which would normally be applicable, will continue to apply, just as they do in other portions of New Mexico and the other States of the Union?

Mr. FISHER. That is correct, sir.

The CHAIRMAN. In other words, the situation as to this particular area will be the same as that throughout remainder of the Los Alamos area?

Mr. FISHER. Tha is correct, sir.

The CHAIRMAN. In other words, by passing this bill we do not want to wipe out our authority to try somebody that you should catch down there stealing some restricted data?

Mr. FISHER. This does not do that in any way, sir. It puts it on the same basis as the rest of Los Alamos, Oak Ridge, and Hanford.

The CHAIRMAN. I wanted to have that legislative history so that there is no doubt in our minds about it.

Mr. FISHER. Yes, sir.

The CHAIRMAN. Now, I have a telegram here from the Governor of New Mexico, which I would like to read. It is quite short. He addresses it to me as chairman of the Joint Committee, and he says:

I am advised that Joint Congressional Committee on Atomic Energy to hold open hearing on bill to retrocede exclusive jurisdiction over certain areas around Los Alamos to the State of New Mexico on February 17. Would like to see jurisdiction returned to State. We will offer all facilities available toward guaranteeing security for that area.

THOMAS J. MABRY,  
*Governor, State of New Mexico.*

I think the Governor should be advised that we are glad to have his assurances of help in maintaining security, but we feel the primary duty and responsibility is upon the part of the Federal Government, as operated in this instance by the Atomic Energy Commission. Isn't that your feeling in the matter?

Mr. FISHER. That is my feeling, sir.

The CHAIRMAN. I do not mean to be discourteous to the Governor, but I think he ought to know that we want to take care of our own.

Mr. FISHER. That is correct, sir.

The CHAIRMAN. Senator Anderson is here.

Senator HICKENLOOPER. I want to ask a question.

The CHAIRMAN. Pardon me, I didn't mean to interrupt.

Senator HICKENLOOPER. Just one more question.

The whole purpose of my inquiry, Mr. Fisher, is not that you are not going to get along with the State of New Mexico. I think your relations will be cordial and cooperative, as a general rule, and probably always. But between two individuals it is not necessary to draw a written contract, except as against a contingency when you might have to use it. And the question of who has the ultimate, final, controlling jurisdiction over the areas in which restricted operations are performed, where that ultimate authority rests, I think is a very vital question, and I do not think it should be left in the nebulous atmosphere of "we will make proper arrangements, because we always have."

I have walked down the street and driven an automobile for a good many years, and I have never had an accident, but that is no sign that my past record and my past history will automatically prevent and insure me against an automobile accident this afternoon or tomorrow or in the future.

Mr. FISHER. Senator, I would just like to add this one point. If it is a matter that relates to security the authority is ours. It is ours now despite this reservation in the cession legislation, and it will be ours after the passage of this bill; I mean, if this bill were to be passed it would be ours. It would in no way affect the authority of security.

The CHAIRMAN. Any further questions of this witness?

Mr. COLE. I should like to inquire.

What is the situation with respect to Hanford and Oak Ridge on this point of jurisdiction?

Mr. FISHER. They are in State jurisdiction, sir, Federal ownership. They are the same as all of Los Alamos will be if this bill were to be passed, as opposed to 95 percent of it now.

The CHAIRMAN. All right, Mr. Fisher, thank you.

Senator Anderson wanted to make a brief statement.

## STATEMENT OF HON. CLINTON P. ANDERSON, UNITED STATES SENATOR FROM THE STATE OF NEW MEXICO

Senator ANDERSON. Mr. Chairman and members of the committee, I only want to suggest that time in this is of extreme importance. The State of New Mexico would appreciate early action upon it.

The legislature is now in session and will conclude its session in the early days of March. If this bill is to be passed——

The CHAIRMAN. Pardon me, Senator Anderson.

Mr. Fisher, Senator Hickenlooper has a couple of questions he wants to ask you after we finish with Senator Anderson.

Senator HICKENLOOPER. Wait until we finish with Senator Anderson and then I would like to ask you one or two more questions.

Mr. FISHER. Yes, sir.

Senator ANDERSON. Because of this time element, the legislature is soon to adjourn and the State would like a chance to pass upon some legislation involved in this, but cannot do it unless the law is passed.

Now, the community at Los Alamos would like to have some sort of community organization. It is now operated more or less by the Federal Government, the manager of the project. They would like to set up some type of community organization or form into some sort of a municipality. They can do it under State law if this law is passed, and the legislature is anxious to make possible the things that the folks in that community desire if this legislation can be enacted.

We were glad that the House of Representatives passed a bill permitting it this morning, and I hope that this committee can give an opportunity for the Senate to act upon it also.

It is a pretty hard situation in which some of those people find themselves. The Government has asked some extremely distinguished scientists and very fine people to come out there and work in a location far removed, perhaps, from their old home ties. They land in the community and suddenly find that they are not residents of that State, although people who live next door to them may be residents of the State. The line cuts through residential sections, it cuts through dormitories, cuts through residences themselves.

I do not vouch for the correctness of this, but in one of the letters I was advised that a family living where the husband and wife occupied adjoining bedrooms, if they desired to adopt children, the husband can and the wife cannot. The law does not permit the wife to participate, and yet the consent of both is required.

In the other areas, they are not able to go through the formalities for the adoption of children. They are permitted to be married in the community, but they cannot acquire divorce. They are not allowed to vote in some areas, and are allowed to vote in others.

It does make a conflicting and complex situation.

I think all they are asking in this bill is to place these people on about a parity with what is at Oak Ridge and what is at Hanford.

I am quite sure there is no one in the State of New Mexico, whether he be the Governor, the sheriff, or anyone else, who questions the security rights of the Federal Government.

Although if this bill should pass, these areas to which we are referring will then be in the shape that the other areas were. In those other areas which were involved in highly restricted matters there was never an attempt on the part of the State or any county officer to exercise jurisdiction in that locality.

The relationships between the State officials and the people in charge at Los Alamos have been extremely proper and cordial and at no time has there been the slightest disposition on the part of the State to question the authority of the Federal Government to maintain all proper security in that area. Some of us who tried to go in and out of that area realize how careful that security is.

I illustrated to the chairman just a moment ago that I went up to Los Alamos to speak at the invitation of the people in Los Alamos. I was given a pass through the gate, stuck it in my pocket, finished my speech, and went back to the gate and could not get out.

Mr. KILDAY. When you went there you did not know they couldn't vote, though?

Senator ANDERSON. Oh, yes. This was before I was a candidate for public office. But a great many of the people there do vote now, others do not vote. Some people are permitted to get game licenses,

other people cannot. It depends upon which particular street they happen to live in. We think that is a bad situation.

Senator TYDINGS. Senator Anderson, I would like to say that I had no reference to the land in this bill in my questions. You understood that?

Senator ANDERSON. Yes.

Senator TYDINGS. This land is not involved in the series of questions I was directing to Mr. Fisher.

Senator ANDERSON. Yes, sir.

Senator HICKENLOOPER. Mr. Chairman, can I ask the Senator a question?

The CHAIRMAN. Senator Hickenlooper.

Senator HICKENLOOPER. Mr. Anderson, I think you know that generally I am in sympathy with the purposes in this bill. I think there should be a retrocession there so that this question of jurisdiction which has been troublesome, I assure you, not only in Los Alamos, but it has been troublesome in Oak Ridge, and it has been troublesome at Hanford, and there are questions that have not yet been solved on jurisdiction, even though those two places are supposedly under State jurisdiction. I happen to know about some of those instances.

But let me pose you this question: Suppose that a strike or an internal disturbance of some kind should occur on the hill at Los Alamos. I am speaking of the small mesa where the restricted area is located.

Suppose that physical violence of substantial size should break out there, and just suppose someone should really begin to take over up there. Would it be your judgment, after the passage of this bill, that the State of New Mexico could send a couple of companies of the National Guard up there and walk in and take over that thing without the consent of the proper authorities, if there were disturbances going on there that normally come from riot or similar occasions?

Senator ANDERSON. Well, I will say you, Senator that I am not a lawyer. In the conduct of my own business I have always engaged lawyers to tell me what the law is, and I would want to do that in this instance.

But I am quite sure it would not be the theory of the State of New Mexico that they could send a couple of companies of National Guard in. There was a strike at Los Alamos on one of the projects. It was a rather serious occasion. The people of Los Alamos handled it perfectly without ever any request for help from the State of New Mexico.

Senator HICKENLOOPER. I think most disturbances of that kind are handled without the calling out of troops, but occasionally in this country—and too frequently, so far as I am concerned—there have been occasions when the State has called upon the Governor to call out the National Guard to preserve order.

I am not talking about normal disturbances or work stoppages, I am talking about the emergency conditions at the plant. I am not asking you to pass a legal opinion on that, I thought you were a lawyer, as a matter of fact.

Senator ANDERSON. I could only say this, Senator, whatever that hazard is it now exists. The passage of this bill does not change it. This bill only applies to a very few acres out of the total acreage and whatever that disturbance was it would take place on ground

probably to which this bill does not apply. It would be pretty hard to pick out little isolated sections.

Senator HICKENLOOPER. There are some of those areas that are pretty important, pretty vital.

Senator ANDERSON. I do not know. It just so happens I have never gone to Los Alamos trying to find out anything about it, even when I was a member of the National Security Resources Board I declined the invitations to go in there, because I didn't think I had any business in there.

The CHAIRMAN. Why not, if you were a member of the National Security Resources Board, why did you feel that way, Senator?

Senator ANDERSON. I did not think it was important that I understood anything about the atomic processes. I was engaged in the production of food. I thought it was none of my business, and the less I knew about the other man's business the better off I was. I could not talk about what I did not know.

The CHAIRMAN. Any further questions?

Mr. COLE. Mr. Chairman, may I inquire if the Senator knows the reasons why this jurisdiction was ceded to the Federal Government in the first instance?

Senator ANDERSON. I have no knowledge of that.

Mr. COLE. With respect to Los Alamos where it was not done, and with respect to the other areas?

Senator ANDERSON. I do not know. As you know, Mr. Cole, we had a very curious situation when Los Alamos was being set up. No one in the State knew what it was all about, and most people in the Army did not know what it was all about. It was carried as a very separate project.

The very nature of the work, the very secrecy of the work made it essential that the people of New Mexico did whatever the Federal Government indicated was desirable, and not ask any questions about it. All we knew was that the school was suddenly abandoned and people began moving in; heavy machinery began to arrive, and that the less we asked about it the better everyone would feel. So I do not know why they did not do it.

Mr. COLE. Maybe Mr. Fisher can tell me very quickly. I do not want to delay the Senator.

Mr. FISHER. I was not connected with the project at the time, but my investigations have led me to believe that at Oak Ridge and Hanford they were unable to procure the necessary State consents. In Los Alamos it depended on the way the land was acquired. The Army went out and got it, they acquired it under the State consent statute and then got exclusive jurisdiction. If it was owned by other Federal agencies and transferred, it had not been acquired under that statute. So the present patchwork which you see on the map before you is largely historical accident. The difference, even in the black spots on this map, and Hanford and Oak Ridge, is the fact that the legislators in Washington and Tennessee took different views than that of New Mexico, even in a smaller part.

Mr. DURHAM. Setting up under this legislation, did that give them the authority to set up a municipal government and assess taxes?

Mr. FISHER. No, sir. Further legislation would be required on that. There was no authority under this bill to tax any Federal lands.

This would give the legislature or the State of New Mexico, if it were to desire it, authority to impose types of taxes which would not interfere with Federal operations. That is, subsequent legislation could do that by New Mexico.

Senator ANDERSON. May I just say right there, if I may, please, Mr. Durham. The very reason I am here today is because of that situation. The Legislature of New Mexico is now in session. As Los Alamos continues to grow it may be a town of 10,000 people or 20,000 people before long. A town of 20,000 people needs to have some sort of municipal government. The legislature is anxious to pass whatever type of legislation the community of Los Alamos thinks it would like to have.

Mr. DURHAM. I agree with you on that.

Senator ANDERSON. Even though they do not have municipal government.

Mr. DURHAM. Does the same status exist here that exists at Hanford and the other places?

Mr. FISHER. Yes; and it exists now by existing under Federal consent on taxation under the Buck Act, but that is by virtue of Federal consent as given in the Buck Act.

Mr. HINSHAW. Mr. Chairman. When I visited Los Alamos I gathered the impression that certain of these lands were Indian lands, is that correct?

Senator ANDERSON. I think more of them come from the Forest Service.

Mr. HINSHAW. Well, I say, is any of this land Indian land?

Senator ANDERSON. A small portion, perhaps, is Indian land.

Mr. HINSHAW. What effect does this legislation have on the Indian land?

Mr. FISHER. It is my understanding, sir, that none of the land involved in this cession is Indian land.

Mr. HINSHAW. But there is land in the Los Alamos tract which is Indian land?

Senator ANDERSON. But it is land acquired as other lands were acquired, and not as this forest land was acquired by transfer.

Mr. HINSHAW. It is my understanding that there are certain complications which exist now with respect to the Indian lands, because of the jurisdiction that is involved.

Senator ANDERSON. I do not know about it.

Mr. FISHER. It is not my understanding, sir, that the portion of land protected by this bill, the 5 percent, that any of it was Indian land.

Senator ANDERSON. It is all Forest Service.

Mr. HINSHAW. I am still asking the question. We do have Indian lands that are connected with the Los Alamos project. Now, what is the status of those lands with respect to its jurisdiction in the State of New Mexico?

Mr. FISHER. These lands affected by this bill——

Mr. HINSHAW. I am not talking about those lands. I am talking about the lands that are in the Los Alamos project area. They are Indian lands. What is their status under the present conditions?

Mr. FISHER. It is my understanding, sir, that while there were some Indian lands originally when they were acquired they were transferred and ceased to have their status as such; they no longer

have them at this time, and this bill does not affect them. I can give you further detail on that, if you would like.

Mr. HINSHAW. Mr. Chairman, the only reason I bring that subject up is because I believe the manager of the project at Los Alamos was considerably concerned last summer over the fact that certain portions of the land were under the jurisdiction of the Indian Bureau.

Mr. FISHER. The manager is right here, and he would be prepared to testify on that, sir.

Mr. HINSHAW. Is that correct?

The CHAIRMAN. Can you clarify that, Mr. Tyler?

Mr. TYLER. I think I can clarify the situation somewhat on that, Mr. Chairman.

A portion of the property which is owned by the Federal Government is designated as sacred Indian land. It was never part of an Indian reservation. It is sacred by tradition. The Indians do not occupy it. It is not within a fence. We have an agreement with the local pueblo whereby they may conduct certain sacred ceremonies on that land at the proper times.

They themselves, even by their own tribal rules, are not allowed to occupy it either. We have no particular trouble there at the moment with that situation. It is working itself out very smoothly.

It is actually Federal property. It is not actually a part of any reservation, but by tradition it is sacred and we authorize them to conduct their ceremonies.

Mr. HINSHAW. That is the same sort of situation that we have, I suppose, in another part of New Mexico where a dam is proposed to be built which will submerge certain sacred Indian lands, and all kinds of hullabaloo has been raised around the Congress about the submerging of those lands. Just why, I do not know.

But I wanted to bring this up because it is part of the consideration I presume.

The CHAIRMAN. Mr. Fisher, has the Commission presented everything you want to on this subject?

Mr. FISHER. Would you like to say something?

Mr. TYLER. I am agreeable to questioning, if you have any questions, sir.

The CHAIRMAN. I want to find out from Senator Anderson: Do you have anything further to add?

Senator ANDERSON. No, thank you.

The CHAIRMAN. Thank you very much.

Mr. Tyler, did you say you had anything to add?

Mr. TYLER. Yes; I have one or two remarks I would like to get in the record.

The CHAIRMAN. All right, go ahead.

Mr. TYLER. I have a prepared statement which I do not think is worth reading, in that it covers in general the background of the situation and what it concerns. That has been more or less belabored here to some extent, but I think this should go in the record, so as to be available to the committee.

The CHAIRMAN. Yes, certainly.

Mr. TYLER. All right, I will put that in the record.

**STATEMENT OF CARROLL L. TYLER, MANAGER, SANTA FE OPERATIONS OFFICE, ATOMIC ENERGY COMMISSION**

Mr. TYLER. My name is Carroll L. Tyler. I am manager of the Santa Fe Operations Office (which is that part of the Commission immediately concerned with development and production of atomic weapons). Carrying out this program is largely a function of the Commission's Los Alamos project which is located approximately 35 miles from Santa Fe, N. Mex. The project occupies an area of approximately 69,000 acres. Included in this area are the living quarters, and community facilities for the 9,000 people who reside at Los Alamos.

As you know it has been the policy of the Commission to work to develop as nearly normal a community at Los Alamos as the special circumstances permit. This policy reflects far more than consideration of the personal convenience of the residents. It relates directly to a major requirement of the atomic energy program, that of developing communities in which the top-notch personnel we must have will be willing to work and live.

A serious obstacle in the path of such development at Los Alamos has been the very complex status of jurisdiction that prevails in this area. Of the total project area of 69,000 acres, all of which is owned by the Federal Government, normal State jurisdiction over approximately 65,000 acres is vested in the State of New Mexico.

The remainder of this area consists of some 3,600 acres in 35 separate parcels acquired from private owners through condemnation proceedings instituted by the Manhattan District. Pursuant to provisions of the United States Constitution and State cession statutes, exclusive jurisdiction over these areas was ceded by the State and accepted by the United States.

The boundaries between the two jurisdiction areas conform to no natural boundaries in the project. Part of the laboratory area is on State jurisdiction land and part is on Federal jurisdiction land. The same is true of the residential and commercial area. In some instances, the dividing line cuts right through houses and dormitories.

Of great importance to the residents are the rights that accompany citizenship in a State. These include the rights to vote, to probate wills, to adopt children, to obtain divorces, and to produce resident hunting and fishing licenses. Two recent cases in the New Mexico Supreme Court have held that residents of those areas under exclusive Federal jurisdiction are not residents of the State of New Mexico either for the purposes of voting or for the purposes of obtaining divorce. The State attorney general has ruled that such residents may not adopt children or obtain resident licenses for hunting and fishing. State statutes do not provide for the administration of estates for decedents who did not reside in, die in, or leave property within the State.

(Two cases decided in the Supreme Court of the State of New Mexico regarding the rights of residents of Los Alamos are marked "Exhibit Nos. 1 and 2" and appear in the appendix at p. 95 and p. 97, respectively.)

The confusion that arises in law enforcement is obvious. For example, in the case of crimes, the particular spot where the offense is committed may determine whether the case will be tried before State courts on one hand, and United States courts on the other. In fact, local police officers frequently carry maps in order to determine which laws apply.

We are, therefore, placed in a situation where, because of the nature of the jurisdiction over 5 percent of the total area, a great many of the inhabitants are deprived of those rights possessed by Americans in any normal community, and there is confusion, lack of uniformity, and duplication of effort with respect to law enforcement.

The proposed legislation before this committee would retrocede to the State of New Mexico the exclusive jurisdiction which the United States presently holds over the 35 parcels of land within the boundaries of the Los Alamos project. Thus, the State of New Mexico would reacquire that jurisdiction which it ceded to the United States at the time the property was acquired by the Federal Government, and uniformity of jurisdiction would be established at Los Alamos.

This retrocession of jurisdiction would not vest exclusive jurisdiction in New Mexico; Federal laws would apply to this area as they would to any area under normal State jurisdiction. Moreover, this retrocession would in no way take from the Federal Government its authority under the constitution, over the lands to which it has title. This authority exists independently of the type of jurisdiction over the area. In the case of lands acquired by the United States for governmental purposes the State cannot exercise any jurisdiction which would interfere with the use of the land by the Federal Government. Thus, in the case of the other 95 percent of the lands within the Los Alamos project, and in the case of all the lands within the Hanford and Oak Ridge projects, the Commission has been able to work out adequate arrangements for the solution of all essential problems of law enforcement without in any way compromising security.

In conclusion, I would like to emphasize that this bill would give to the people of Los Alamos the important rights of State citizenship without which they will never regard Los Alamos as a satisfactory place in which to live. It would eliminate confusion in law enforcement and in no way compromise security. I urge that it receive your favorable consideration.

I would like to ask the indulgence of the committee to this extent: We have, as Senator Anderson outlined, a rather difficult social position there, political position, and so forth, in trying to maintain a community of something over 8,000 people, and a growing community, in the sense of self-government without any authority. They have difficulty passing ordinances and enforcing them, and so forth.

These things will all be resolved by this particular legislation, which I appreciate you understand.

I would ask your indulgence to this extent: That while the question which Senator Hickenlooper has raised, which is a very important question and should have consideration, I would feel very unhappy if the committee saw fit to resolve this very difficult question of Federal control over vital atomic areas, in considering this particular bill which concerns a very small part of my area—5 percent—and will not resolve anything in the other 95 percent at this time.

I would suggest, and would be pleased, if the committee is in favor of the bill, that they not divert the bill in order to resolve another equally important or very important question. I concede the importance of that question, but let that stand on its own merits, and change this 5 percent back with the other 95 percent. Then, if the situation warrants, swing the whole 100 percent back the other way.

I think the community requires this type of legislation at this time; and I think, if the committee is in accord with it, it will be a very useful thing.

If later on it is decided to revert everything back to complete Federal control with fences around it, an ironclad control, that will be fine; that will be a different action which I do not feel should hang on this particular item of legislation.

The CHAIRMAN. Any questions?

Senator HICKENLOOPER. Mr. Chairman, yes; I want to question him on one point to clear up this record.

The CHAIRMAN. Senator Hickenlooper.

Senator HICKENLOOPER. I do not think there has been any discussion here about any areas, except the restricted areas. I do not know the full extent of the restricted areas out there, but I am talking about the areas where vital installations are operated and vital activities of the Commission are carried on. I do not think it can just be pushed aside for later consideration, if it can be resolved and the jurisdiction can be well understood at this time.

So far as the residential areas there are concerned, I think that can be worked out very easily and probably can be resolved very easily under this act. I have no dispute about the jurisdiction there.

May I ask you, do you expect, if this act is passed, that there will be established a municipal organization under the laws of New Mexico, for the residents?

Mr. TYLER. Under the laws of New Mexico, we hope to petition for and obtain a charter.

Senator HICKENLOOPER. Do you expect to do that?

Mr. TYLER. We expect to do that; yes, sir.

Senator HICKENLOOPER. And do you anticipate a self-governing municipal community there with a mayor, council, and the power to pass ordinances?

Mr. TYLER. We expect something similar to that, sir. It has been my understanding since I have been there, and it is the agreement of the community, that any charter which they choose and have legal authority to get from the State will be acceptable to the Commission—I have discussed this with the Commission—subject to the veto power of the manager, but only in such items as concern security and the business of the Commission. But, as far as traffic rules and local ordinances are concerned, I would prefer and I think it is more healthy that they run their own lives.

Senator HICKENLOOPER. There is just one point in pursuing this, and I am perhaps laboring the point a little bit. That is, that the same thing is going to come up at Hanford and at Oak Ridge.

Mr. TYLER. It is going on now, sir.

Senator HICKENLOOPER. And they have not solved the situation there. I had hoped for some time we would have a settlement of the jurisdictional matter so that those people could either be citizens of their own sovereign community or so that they would be complete wards of the Government and stop being neither fish, flesh, nor fowl.

Mr. TYLER. That is what we are endeavoring to do.

Senator HICKENLOOPER. I am trying to find out, if this retrocession bill is passed, is it the purpose of the people of that community and the Commission to see that a municipality is set up there—I do not know whether they call them incorporated villages or towns, or what reference they make to them—so that they can have a duly elected mayor or any other municipal organization to be responsible for personal property, taxes, and things of that kind that come under the laws of New Mexico.

Now, your statement that they must set up such a municipal organization as will meet the approval of the Commission indicates the Commission is still going to run the show out there and that an independent municipal organization will not come into being.

Mr. TYLER. May I amplify that a little bit, sir?

The situation at Oak Ridge, Hanford, and so forth, is necessarily different. As you know, since you are thoroughly familiar with the situation, our restricted areas are within the town. They are not separated and cannot be separated until such time as we accomplish a new laboratory area, which is in process of study.

As long as that situation exists, the town is a closed town and the Government has control as to who is allowed in and out of the town. As long as we have that situation, I am responsible for security in the town, and I must have certain authority over that town to insure security.

When and as we have moved the so-called laboratory area over to another mesa which is in the process of study—and some construction is under way—when that happens and the town can be an open town, then possibly they can have full autonomy. They cannot have full autonomy as long as it is a closed town under one jurisdiction. It will have to depend on a sense of proportion that they have the fullest possible autonomy.

The Commission cannot yield its jurisdiction as long as it is responsible for the security of a closed area, which includes a town of necessity, as long as the laboratory areas are within the town.

Does that answer it, sir?

Senator HICKENLOOPER. Yes.

Mr. TYLER. We are studying the situation.

Senator HICKENLOOPER. It merely continues the situation where these people will be independent people and they will not be independent people. I do not think that resolves the problem at all.

Mr. TYLER. It resolves it about 98 percent, sir. They are independent up until such time as they choose—

Senator HICKENLOOPER. They are independent up until such time as the discretion of an individual out there, who is representing the Commission—

Mr. TYLER. That is quite right, sir.

Senator HICKENLOOPER. Representing the Commission tries to put his thumb down.

Mr. TYLER. That is quite right, sir.

Senator HICKENLOOPER. Of course, that is contrary to our general conception of municipal authority and municipal responsibility.

Now, I am hopeful we will get a situation there where people can run their own businesses independently.

Mr. TYLER. I think we will, sir.

Senator HICKENLOOPER. Let them run the municipality's activities and let the Commission run its factory over there free from these municipal worries.

Mr. TYLER. I think we are approaching that, sir, in this manner. I think it is better to have three-fourths or nine-tenths of this autonomy than none at all, with the idea that the rest of it will come when and as the security requirements of the Commission will permit it. I think the community feels the same way. They are definitely studying the methods of doing it.

They have not arrived at the methods yet. There is a charter commission working, people in Washington are working and we are working and everybody is trying to arrive at a good, sound solution which will give the most autonomy that can be accomplished without presently prejudicing the requirement of the Commission to maintain security.

The CHAIRMAN. If there are no further questions, we will excuse you.

Senator HICKENLOOPER. I just want to ask Mr. Fisher what the program is, or what the intention of the Commission is on the question of personal-property taxes, the maintenance of facilities, waterworks, and the like; what is their intention on those things when they get this autonomy?

Mr. TYLER. Those are all going to have to drop for this reason: We are now subject to State personal-property taxes under the Buck Act, and they are paid. So far as real estate, and so forth, is concerned, all real estate, all roads, all waterworks, and so forth, are owned by the United States Government. The people do not own them and cannot own them.

Senator CONNALLY. Just a minute, sir, I cannot hear you.

Mr. TYLER. Excuse me, sir.

All the real estate in the whole area is the property of the Government. The homes are the property of the Government; the roads are the property of the Government; the waterworks, the power plant, and so forth, are all Government property at the present time. They will probably remain as Government property until, as I say, we are able to move the technical part of the town to another mesa, and then we may have to get special legislation to permit us to dispose of this property to private citizens.

Senator HICKENLOOPER. And at the present time the Government owns all of the real estate, furnishes all of the facilities, water to houses, the electricity, the police protection, the pavement, the garbage disposal, the fire protection, schools and recreational facilities—that is all paid for by the Government and is included in the rental?

Mr. TYLER. That is correct.

Senator HICKENLOOPER. That is, that goes into the rental of the house paid by the occupant?

Mr. TYLER. That is correct, sir. However, particularly in regard to the schools—to indicate our attempt to get autonomy for the people—we have a school board which is elected by the people and which determines the policies for the schools. As long as they are spending Government money—in other words, they submit a budget and it has to be approved by the Government because it is our money—as long as that is ours, we permit them to determine school policy and leave them alone.

Senator HICKENLOOPER. But that school board operates at the sufferance of the Commission?

Mr. TYLER. Yes, sir, it does; there is no question about it.

Senator HICKENLOOPER. Is it your policy—that is, as manager in conjunction with the Commission's policies—to eventually set up a system whereby taxes will be levied and administered for these public services, such as are levied in ordinary communities and municipalities?

Mr. TYLER. I think, sir, that to some extent taxes will be levied as progress goes on. However, there are restrictive rules in the State of New Mexico which do not permit communities to levy unusual taxes. School taxes, for instance, in New Mexico are paid through a State-wide sales tax which is devoted wholly to schools.

It would be improper to levy a special tax in Los Alamos for those schools.

Senator HICKENLOOPER. Will you collect a State sales tax on the facilities such as stores and other facilities operated in the Los Alamos area?

Mr. TYLER. We have discussed this with the State authorities and the State school authorities. When and as this jurisdiction is retroceded, we may have a claim on our share of the State school tax. At the present time we do not touch it.

Senator HICKENLOOPER. Do you collect a sales tax in the stores?

Mr. TYLER. Yes, sir.

Senator HICKENLOOPER. On the mesa?

Mr. TYLER. Yes, sir.

Senator HICKENLOOPER. And that is turned over to the State?

Mr. TYLER. Yes, sir, that is turned over to the State for the State schools.

Senator HICKENLOOPER. Does the State of New Mexico return any of that tax back to the Government to be used for schools maintained by the Government?

Mr. TYLER. At the present time they do not; no, sir. We have never required it. Since we were on Federal land, and so forth, it was one of those confusing things which neither the State nor ourselves knew just exactly how to approach until we get this jurisdiction straightened out.

Senator HICKENLOOPER. Do you believe if this act is passed as it is now that the Atomic Energy Commission will have a definite right to demand and secure from the State of New Mexico its proportionate share of the sales tax collected?

Mr. TYLER. Yes, sir.

Mr. ELSTON. I would like to ask a question.

The CHAIRMAN. Mr. Elston.

Mr. ELSTON. Would the schools be under any jurisdiction of the State at all?

Mr. TYLER. No, sir; they would not. You see, the cost of the schools in relation to our small share of the school tax is rather high. They would have the status, as we understand it from the State school authorities, they would have the status of private schools within the State of New Mexico, to which the State will contribute from their sales tax a certain sum. They will have some authority to advise us as to how that money may be spent. Its relation to our whole school cost is so low that we can easily spend it for school

salaries which they feel is proper, without any hampering of our school system whatsoever.

Mr. ELSTON. They would be under no legal obligation at all to give you any part of the tax?

Mr. TYLER. Yes, they would be, according to the laws of the State of New Mexico. We could claim it on the ground that we had so many students in school. The community deserves its share of the school tax.

The tax is distributed by counties and by cities, in accordance with the number of students they have at school. If they can show evidence that they have so many students in school the tax is then distributed to the city or to the city and county, or to the city-county, as the case may be. They then run and operate their own schools, usually adding money to it.

Mr. ELSTON. But for all other purposes the schools would be under the jurisdiction of the Atomic Energy Commission?

Mr. TYLER. Yes, sir.

Mr. ELSTON. They could indicate the courses of study?

Mr. TYLER. Yes, sir.

Mr. ELSTON. And fix any other requirements they saw fit?

Mr. TYLER. Yes, sir. That is the understanding with the State school authorities with whom we have discussed this at some length. I mean, we have discussed it to see whether that was possible and correct and they have agreed that that is correct.

There is no agreement that they will let us do it or that we have the right to do it.

(Additional statement of Carroll L. Tyler concerning school financing in New Mexico is marked "Exhibit No. 3," and will be found in the appendix at p. 107.)

Mr. ELSTON. Does the Atomic Energy Commission provide the police, the housing, the fire protection and everything else in this city?

Mr. TYLER. We do; yes, sir. The fire protection is a natural thing for us. We own all the real estate and it is up to us to make sure it does not burn down. It is insurance, in effect. As you know, the Government does not pay insurance. It insures itself by providing adequate protection for its property.

Mr. ELSTON. Is there any other city in the United States that operates in that fashion?

Mr. TYLER. Not to my knowledge; no, sir, other than Government installations. I am aware of two Government installations, with which I have been connected which operate in that fashion, the town of Indian Head in Maryland, under Senator Tydings jurisdiction—I was on duty there—owns its own property and provides its own property protection and its own police.

Mr. ELSTON. Well, the Atomic Energy Commission could indicate the form of government the city would have, whether it would have the managerial form or whether it would elect a mayor and council, or just what form they would have.

Mr. TYLER. Possibly it could; yes, sir, but it is not the desire of the Commission to do that. It is the desire of the Commission, insofar as possible, to let people run their own political and social lives, without having this heavy hand of the Government hanging over them all the time. Insofar as that is possible and does not interfere with the objectives of the Commission, which is, after all, the development of atomic

energy and not running towns—insofar as it does not interfere with the objectives of the Commission it is the desire of the Commission that they live as nearly a normal life as possible under Government supervision.

Mr. ELSTON. Provided they do not do anything to cross the Commission.

Mr. TYLER. That is correct, sir.

It is a rather unique situation which has a lot of knots in it that we are trying to work out. I do not think there is any precedent for it.

Mr. ELSTON. I do not know just how you are going to straighten it out with the State because the State has certain laws with respect to cities.

Mr. TYLER. That is correct, sir.

Mr. ELSTON. And with respect to schools.

Mr. TYLER. Yes, sir.

Mr. ELSTON. And the like, which would certainly seem to be in conflict with the plan that you have outlined.

Mr. TYLER. Well, there are definitely knots in this thing. We are working with the State authorities and have had complete cooperation from the State legislature, the Governor, and from the State authorities, as well as the county authorities. They are all working toward a solution of this.

It is going to be difficult to come by, but I think it is not impossible. It certainly is going to keep the people busy and interested in trying to work out their own salvation.

Mr. ELSTON. I do not know of anything in the Atomic Energy Act that permits the Commission to set up a municipal government.

Mr. TYLER. No, sir.

Mr. ELSTON. Do you know of any authority in the act which permits that?

Mr. TYLER. No, sir. The Commission would not set up a government. It could designate what the government would be on its own property but it could not set up, that is by itself, a municipal government, as I understand the act.

Mr. ELSTON. Well, it could because it could indicate the form of government, it could indicate the territory they would occupy, it could indicate the amount of Federal assistance that would be given, it could indicate everything.

Mr. TYLER. Well, I agree with you, sir, it could.

Mr. ELSTON. So, therefore, the Atomic Energy Commission would be setting up a municipal government.

Mr. TYLER. They could also say that there will be no government. They could say, "We will run it."

Mr. ELSTON. Of course, that is true, there is no government unless they set it up. I am not concerned with what they cannot do, I am concerned with what they are going to do.

Mr. TYLER. They are charged with the administration of the communities which come under their jurisdiction, insofar as is necessary to properly conduct their program.

Mr. ELSTON. What size city would this be?

Mr. TYLER. This would be a city, I imagine, in about 2 years, of around 12,000. It is something over 8,000 now.

The CHAIRMAN. Any other questions?

Senator HICKENLOOPER. Well, a few minutes ago it was developed that probably the authority of the Atomic Energy Commission for certain law enforcement and process-serving jurisdiction over this area that is restricted, comes from the act itself, which gives them the power to regulate security and take care of it.

I am interested in the question Mr. Elston just asked. I am not at all convinced that there is any authority in the Federal Government outside of the activities that may be absolutely necessary to safeguard vital installations, to operate and dictate the operation of municipalities by independent citizens in the State of New Mexico, except when they are actually engaged in the areas or territories where vital activities are being carried out.

In other words, I seriously wonder whether the Atomic Energy Commission has any right, once this act is passed, to prevent those people from setting up their own type of municipal government under the law of New Mexico, in accordance with the municipal laws of New Mexico. I wonder if we would have any right to prevent them from levying taxes or building buildings on land they might incorporate outside of Government-owned lands, or anything of that kind.

I seriously question the authority of the Commission to go into such regulations in municipalities.

Mr. TYLER. Well, Senator, along with Senator Anderson I am not a member of the bar. I have not studied law and these are points that sometimes get beyond me as to whether this is legal or that is legal, or not. I would ask Mr. Fisher to assist in answering that question.

But that again is in line with the request—and I asked for the committee's indulgence on this. That condition, although it exists in 95 percent of that territory, by adding 5 percent to it you have not changed the situation one way or the other.

Senator HICKENLOOPER. That is right, Mr. Tyler. This exact area of jurisdiction has been the subject for considerable inquiry between you and the Commission and the Legal Department back and forth for some time.

Mr. TYLER. Yes, sir.

Senator HICKENLOOPER. It has been a matter that has bothered you and the Commission, just as a matter of fact. It has been, I believe, a very troublesome problem.

My only interest is to try to stimulate some final and reliable definition of authority as to where these people will, what their authority is, what type of government they will have, and where we are going.

These Government installations under the Atomic Energy Commission are new. It is a novel operation by the Federal Government. I am not necessarily trying to be critical because a lot of these new problems have not been finally solved. But I am bound to say that I think too much time has gone by without finding the solution to them, and without clarifying the thing so that there is a well-defined area, and so that we know where we are going. I sincerely hope we can become certain before too long as to what the areas of authority are, what the rights of these people are, and what the jurisdiction of the Federal Government and of the local agencies may be. That is the whole purpose of my discussion.

I merely want to emphasize the seriousness of this thing, the real need for some final and authoritative determination in these matters.

Mr. ELSTON. Will the Senator yield?

Senator HICKENLOOPER. Yes, Congressman.

Mr. ELSTON. Would it not seem to follow that if the Atomic Energy Commission no longer needs territory they should give it up? When a place is used as a city and is no longer used in connection with the development of atomic energy, it would seem to be no longer necessary to the operation of the Atomic Energy Commission.

Now, if they could just go out and buy an unlimited amount of land, and there is not one bit of limitation in the law at the present time, they can go out and buy a whole State if they want to—if they have money enough to do it. They can set up schools, cities, they can set up anything they see fit.

Now, it seems to me that Congress never had any idea the Atomic Energy Commission should branch out to that extent.

Mr. DURHAM. Will the gentleman yield?

Mr. ELSTON. Yes.

Mr. DURHAM. The problem was not here, probably, when the act came along. The problem first appeared when we went out there and sat down at Los Alamos. It is just something recent which came about since the end of the war. All of these problems face us because of what we did during the emergency. We could not go out there and throw it away. There was too much of an investment to give it away or throw it away. It was too important from the national standpoint.

Mr. TYLER. In accordance with your other remarks, sir, I agree with the Senator.

I think I did not extend far enough my own earlier remark. When and as we can pull the fence down, open the gate and let the people freely circulate through that town, which will be when and as we have moved our vital installations to another mesa—which, as I say, is in the process and may take us 5 or 6 years to do it—when that happens and the town becomes an open town, then I will concede your point, sir, I will agree with you, that probably the Atomic Energy Commission should get out of the town business in that particular community.

However, in order to do that we may have to come to the Congress and obtain special legislation which will permit us to turn over this town installation of roads, and sewers, and disposal plants, and so forth, to a town government, if one exists. We cannot just walk out and leave it.

Furthermore, we have to have a town. There is no town in that vicinity. When the laboratory was built the town grew up with it. Without the town there would not be any laboratory there either. So it is one of the absolute necessities. It is just as if you went out on an island and decided to build a rubber factory. You would have to build a town to go with it, because there is nothing else there.

Mr. ELSTON. I grant that is true, but now you are getting to the place where the Atomic Energy Commission is going to set up a municipality and participate in municipal government and direct municipal government, indicate the type of government they shall have, the type of instruction in the schools, the extent to which the State shall control the schools, and in fact have final word about the operation of the entire city, a city of 12,000 people. It may increase. If they can do it with a city of 12,000, they can do it with a city of

50,000 or 100,000, and there certainly should be some limitation somewhere on the activities of the Atomic Energy Commisison when they go that far.

Certainly Congress never intended that they should go that far.

Mr. TYLER. Yes, sir. That is a general question, however, and does not affect either this fact nor does it affect the setting up of the charter, the municipal government, or anything in that line. As a matter of fact, that of course, is under study and we do not know what it is going to do.

But at the present time we are running the town arbitrarily. In fact, we are complete authority in the town, and that is bad. We are trying our best to give the town back to the people as much as we can, and we are shooting in that direction.

Mr. DURHAM. That is the objective of this Commission?

Mr. TYLER. That is our objective; yes, sir.

Senator HICKENLOOPER. But after this legislation is passed you will still be running the town arbitrarily.

Mr. TYLER. To a limited extent; yes, sir. We still have the final word. If we want to, we can put the hammer down and say, "That is it."

Senator HICKENLOOPER. Of course there is a limit on that, if you still have the final word. There is no limitation. You still run the town.

Mr. TYLER. In effect, yes, sir.

Senator HICKENLOOPER. In the same way as you were running it before?

Mr. TYLER. Yes, sir.

Senator HICKENLOOPER. In effect, what you are doing by this legislation is giving the people the right to get married, to get divorced, and to get a hunting license?

Mr. TYLER. Yes, sir. In other words, we are trying to solve this thing piece by piece, but we cannot let go of it as long as we have this security problem.

Senator HICKENLOOPER. Again I am not in sympathy with your objectives for investing certain authority, but when we get all down to it after this legislation is passed the Atomic Energy Commission will still be dictating to the people how to run their town and what they can do and what they cannot do.

Mr. TYLER. That is right.

Senator HICKENLOOPER. And we will be letting the people get married and divorced and hunting licenses.

Mr. TYLER. Yes, sir. I have appreciated for some time your interest in this problem. I know you have been aware of it and have taken considerable interest in it. I certainly cannot disagree with you.

Senator HICKENLOOPER. I just want to make it clear that this is not the millennium for the people on the mesa out there, and that in a way it is only a minor step in a few particulars that may eventually contribute to the solution of this problem. But the major problem is still in existence.

Mr. TYLER. Yes, sir.

Senator HICKENLOOPER. As far as the Federal Government is concerned.

Mr. TYLER. Yes, sir.

The CHAIRMAN. Mr. Tyler, who manages that town for you?

Mr. TYLER. The town council is an elected town council. They do the government end of the town, such as it is. They enact or pass such ordinances as seem to be necessary.

The CHAIRMAN. Don't you have a contractor?

Mr. TYLER. We have a contractor there for maintenance and operation.

The CHAIRMAN. That is what I meant.

Mr. TYLER. Yes, sir.

The CHAIRMAN. How much is he getting?

Mr. TYLER. He gets \$17,000 a month.

The CHAIRMAN. Is that a management fee alone?

Mr. TYLER. That is for the whole operation. That is his fee for the contract, which includes operation and management of the town, but also the maintenance and operation and management of all of the physical facilities in the laboratory area, and the maintenance of all our facilities and our surrounding 65,000 acres.

The CHAIRMAN. What does he do, does he collect the garbage?

Mr. TYLER. He collects the garbage. He runs the water system, he pumps the water from down in the Rio Grande Valley, runs the water system. He runs all the power plants, both for the town and for the laboratory. He collects the garbage. He runs the schools, he runs the hospitals.

The CHAIRMAN. Does he select the school teachers?

Mr. TYLER. The school teachers are under contract to him, but subject to my approval.

The CHAIRMAN. What is the name of this contractor?

Mr. TYLER. It is known as the Zia Corp.

The CHAIRMAN. Who are they?

Mr. TYLER. The Zia Corp. is an artificial corporation. It was set up at the request of the then Manhattan District. When the Manhattan District saw that they were going out of business——

The CHAIRMAN. Did they get their contract by bid?

Mr. TYLER. No, sir.

The CHAIRMAN. Was it a negotiated contract?

Mr. TYLER. It was a negotiated contract.

The CHAIRMAN. Had you invited any bids on that?

Mr. TYLER. No, sir; we have not. I would not know where to send another bid. I do not know of any comparable company.

The CHAIRMAN. Are they the only ones in the United States that are in that business?

Mr. TYLER. No, Roane-Anderson is in the business at Oak Ridge.

The CHAIRMAN. Well, who is Zia?

Mr. TYLER. Zia, as I say, was an artificial set-up, made at the request of the then Army engineers at Los Alamos. When they saw they were going to move out and stop doing all this work and that there had to be a civilian organization to do it, as I understand it, sir, they cast around trying to find an organization which existed. None existed. It is not a thing which anybody sits around and does for a living, I mean, as a group.

The CHAIRMAN. Well, \$17,000 a month is a considerable sum.

Mr. TYLER. Yes, it is very reasonable.

Mr. ELSTON. Is it a corporation for profit?

Mr. TYLER. The corporation is for profit, yes, sir.

Mr. ELSTON. Organized under the laws of what State?

Mr. TYLER. Under the laws of New Mexico. They have stock and pass out dividends.

Senator HICKENLOOPER. Mr. Chairman, I think the operations of the Zia Corp. will furnish an interesting field for inquiry at some time. I am not prepared to go into the matter today. I did not know we were going into operation of management activities at Los Alamos, but I will suggest to the committee that in my opinion we can very profitably look into the Zia Corp. and its management operations.

May I just ask Mr. Tyler one question?

The CHAIRMAN. Surely.

Senator HICKENLOOPER. The McKee Co. has done most or practically all of the construction at Los Alamos up until recently, is that true?

Mr. TYLER. They did practically all the construction up until, I would say, the middle of 1947.

Senator HICKENLOOPER. Yes. Since that time some other group has done it?

Mr. TYLER. Since that time all construction has been on lump sum bids.

Now, instead of one contractor up there I believe we have 26 prime contractors in that area.

Senator HICKENLOOPER. Yes, sir, I think we can inquire about that at a later date.

Now, the Zia Corp. is really a subsidiary of the McKee group, is it not?

Mr. TYLER. Well, it is, in effect. Legally it is not.

Senator HICKENLOOPER. But the stock ownership in the McKee Corp. is very much interlocked with stock ownership in the Zia Corp., which is the operating company?

Mr. TYLER. Well, there is no stock in McKee. McKee is a one-man company, and he owns the majority of stock in the Zia Corp.

Senator HICKENLOOPER. Yes, that is what I wanted to find out.

Mr. TYLER. The corporation was set up by McKee at the request of the Manhattan District.

Senator HICKENLOOPER. So McKee has built most of the installations out there, and his corporation, the Zia Corp., has had the contract for the operation?

Mr. TYLER. For the operation; yes.

Senator HICKENLOOPER. And the installation?

Mr. TYLER. That is correct.

Senator HICKENLOOPER. I think, Mr. Chairman, that the committee would be interested in going into that at some time when we have more time.

## ATOMIC ENERGY COMMISSION CONTRACT POLICY

The CHAIRMAN. I thoroughly agree with you. I think we should go into these management contracts.

Are you through, Senator?

Senator HICKENLOOPER. Yes.

The CHAIRMAN. Gentlemen, I had in mind that this sort of leads into a general subject, but I thought we might inquire into it generally. I do not think we have gone into it, at least publicly, and it seems to me that we should.

The Commission in the budget has a request for \$427,000,000 for the fiscal year 1950. There are several questions which occurred to me as to how they negotiated their contracts, and the nature of those contracts, so far as they can be discussed at this time within security restrictions.

So I have asked Mr. Wilson to come up here, as General Manager of the Commission, and tell us about your contract procedure.

Before you start, Mr. Wilson, I would like to ask you this question: In the manual of the Commission I find there are certain limitations, certain authorizations to the managers of your branch installations, of certain amounts which they cannot exceed.

As I have it, the Hanford office in its operations, the director there, can make a \$5,000,000 contract without reference to the Commission or to you as General Manager, except that it would be in the nature of a new type of contract.

In other words, am I correct in understanding that the director at Hanford could buy \$5,000,000 worth of houses without reference to the Commission, for the Commission to pass on it?

MR. WILSON. No, Mr. Chairman. The authority to execute contracts, which, as you state, has a \$5,000,000 delegation to the manager at Hanford, is authority for him to execute a contract to carry out a project approved by the Commission, in terms of its scope, its magnitude in dollars, its other characteristics.

In other words, the Commission in developing its budget takes the various programs of work to be done under production, weapons, and the like. These are broken down into subprojects and estimates made of the cost of each of these subprojects.

This is the program of the Commission for a year when approved by Congress, and the money appropriated for it.

Let us take up Hanford. This provides for certain projects authorized by the Commission. The authority and the manager at Hanford is to execute contracts for carrying out that work, in the conduct of that project, within the terms and scope and funds authorized. He is required to refer to Washington new or different forms and types of contracts, whatever their amounts.

Is that distinction made clear?

The CHAIRMAN. Somewhat. But I would like to ask you this: How many houses are you building at Hanford now?

MR. WILSON. How many houses are we building at Hanford now?

The CHAIRMAN. Yes.

MR. WILSON. I would like Mr. Schlemmer, the manager at Hanford, to answer that directly, if I may.

#### **STATEMENT OF FRED C. SCHLEMMER, MANAGER, HANFORD OPERATIONS OFFICE, ATOMIC ENERGY COMMISSION**

MR. SCHLEMMER. Mr. Chairman, we are now completing the construction of a thousand houses.

The CHAIRMAN. Did you make a contract for those houses?

MR. SCHLEMMER. The contract was made, as Mr. Wilson has indicated, on the authority of the Commission.

The CHAIRMAN. I assume you would not sign a contract without the authority of the Commission. Did you sign the contract?

MR. SCHLEMMER. I did not happen to, personally, because I was not then the manager.

The CHAIRMAN. That was your predecessor?

Mr. SCHLEMMER. However, the actual contract was approved by the manager at that time.

The CHAIRMAN. Now, the type of houses that were to be built, the type of home, was that determined by your predecessor?

Mr. SCHLEMMER. In general; yes, sir.

The CHAIRMAN. That was not referred to the Commission to pass upon it?

Mr. SCHLEMMER. Well, the Commission staff at the Washington office participated with the field office staff at Hanford.

The CHAIRMAN. How much is that contract for, for those thousand houses?

Mr. SCHLEMMER. That contract is approximately \$9,000,000, I believe, if my memory serves me correctly.

The CHAIRMAN. Was that put out to bid?

Mr. SCHLEMMER. Yes, sir, that was put out to bid. Perhaps I can give you—

The CHAIRMAN. Is that contract between the Commission and the builder, or is that General Electric?

Mr. SCHLEMMER. No, sir, that is a prime contract through the General Electric.

The CHAIRMAN. Did they select the successful bidder?

Mr. SCHLEMMER. They selected the successful bidder, with the approval of the Commission, that is right.

The CHAIRMAN. While they are looking for that, Mr. Wilson, what type of contract do you have with General Electric?

Mr. WILSON. Pardon me, Mr. Chairman, Mr. Schlemmer has it.

Mr. SCHLEMMER. I have it now, Mr. Chairman. There were invitations sent to 21 bidders in connection with that particular contract. The contract was awarded to the successful bidder at a lump-sum price of \$9,792,350.

The CHAIRMAN. That was a flat bid?

Mr. SCHLEMMER. Yes, sir; a lump-sum competitive bid.

The CHAIRMAN. What is in those houses? Are they completely ready for furniture, and utilities?

Mr. SCHLEMMER. Yes, sir; they are ordinary houses in the sense that they are equipped with a varying number of bedrooms, some having three and some having four bedrooms. They are what is known as a ranch-type house. They are equipped and ready for occupancy, exclusive, of course, of household furniture and the like.

The CHAIRMAN. The plumbing is in?

Mr. SCHLEMMER. Yes, sir.

The CHAIRMAN. And the sidewalks are in front of the houses?

Mr. SCHLEMMER. Yes, sir.

The CHAIRMAN. Is that included in the contract, the sidewalks?

Mr. SCHLEMMER. No sir; that is not included in the contract, to the best of my knowledge.

The CHAIRMAN. Is refrigeration included?

Mr. SCHLEMMER. That is correct.

The CHAIRMAN. What kind of cooking facilities do they have?

Mr. SCHLEMMER. The cooking is electric cooking.

The CHAIRMAN. That is \$9,000 a unit, is it not?

Mr. SCHLEMMER. Approximately, yes, sir.

Mr. HINSHAW. \$9,792.

The CHAIRMAN. That is without sidewalks, without connections to the sewers, simply the house with refrigeration and cooking facilities?

Mr. SCHLEMMER. That is correct.

The CHAIRMAN. Is it of permanent construction?

Mr. SCHLEMMER. It is permanent construction, yes, sir.

Mr. DURHAM. Is there any limitation, at the present time, placed on you by any act of Congress, as to the amount you may spend for housing, that is, the cost per unit?

Mr. SCHLEMMER. Not that I am aware of, sir.

Mr. DURHAM. If it exists, it must be with another agency.

Mr. SCHLEMMER. I am aware of nothing of that sort, sir.

The CHAIRMAN. Would you give us the floor space, the number of square feet?

Mr. SCHLEMMER. There are two types of those houses. Nine hundred and fifty of them have three bedrooms, have coal-fire heat, consist of a floor area of 1,182 square feet. Fifty of them are four bedrooms, one-story, coal heating, with a floor area of 1,332 square feet.

The CHAIRMAN. You had 22 bids?

Mr. SCHLEMMER. I believe it was 21 bids. I beg [your pardon. There were 21 invitations to bid.

The CHAIRMAN. And how many bid?

Mr. SCHLEMMER. There were 10 bids.

The CHAIRMAN. What was the high bid, please?

Mr. SCHLEMMER. The high was \$12,504,208.

The CHAIRMAN. Who was the successful bidder?

Mr. SCHLEMMER. The successful bidder was the Nettleton-Baldwin-Anderson, Inc., and Sound Construction & Engineering Co.

The CHAIRMAN. Was this a concern put together just to bid on this job?

Mr. SCHLEMMER. That I could not say, sir.

The CHAIRMAN. It sounds that way.

Mr. PRICE. Located where?

The CHAIRMAN. Where are they located?

Mr. SCHLEMMER. My records do not indicate that, sir. I believe that the offices of some portion of this organization, at least, are in San Francisco. However, I could not be certain of that.

Mr. WILSON. We could submit that.

The CHAIRMAN. How many more houses are you going to build?

Mr. SCHLEMMER. That completes the authorized construction for the present. However, due to an urgent need we anticipate seeking authority for the construction of additional housing, probably in the form of apartment houses.

The CHAIRMAN. Do you have that request in this budget?

Mr. SCHLEMMER. A portion of that is in this budget.

The CHAIRMAN. Apartment houses?

Mr. SCHLEMMER. Yes, sir.

The CHAIRMAN. Not steel construction?

Mr. SCHLEMMER. Oh, no, we mean units, combination units, perhaps six units in a block.

The CHAIRMAN. Multiple-family houses?

Mr. SCHLEMMER. Multiple-family houses, of the possible single- or two-story type.

The CHAIRMAN. You only have one-story houses erected?

Mr. SCHLEMMER. Well, all of those presently required are so erected; yes, sir.

Senator HICKENLOOPER. Well, you are in the process of completing, or you have completed some apartment units there, have you not?

Mr. SCHLEMMER. We have completed some apartment units; yes, sir. We have 64 apartment units which have been completed and have been occupied for some time.

Senator HICKENLOOPER. How many apartments would those 64 contain?

Mr. SCHLEMMER. I believe, sir, those are in eight-apartment units.

Senator HICKENLOOPER. Excuse me, I did not mean to interrupt.

The CHAIRMAN. That is perfectly all right.

Senator HICKENLOOPER. Mr. Schlemmer, this figure of \$9,792 per house, which I understand is the average, that is, for the three- and four-bedroom houses—

Mr. SCHLEMMER. Yes, sir.

Senator HICKENLOOPER. That includes the house completed in all its particulars, that is, painting, plastering, plumbing, a stove in the house for cooking, and all of your plumbing installations in the house ready for occupancy when you hook up the water and the electricity; is that true?

Mr. SCHLEMMER. That is correct. More specifically, I think perhaps we might say it includes the house and the land on which the house is constructed, to the 5-foot line, that is, 5 feet outside the extremity of the house.

Senator HICKENLOOPER. Well, you do not include the price of the land in this \$9,000, do you?

Mr. SCHLEMMER. No, sir; we do not.

Senator HICKENLOOPER. So whatever the cost of the land is on top of that?

Mr. SCHLEMMER. That is correct; yes, sir.

Senator HICKENLOOPER. Do these houses have basements?

Mr. SCHLEMMER. These particular houses do not have basements; no, sir.

Senator HICKENLOOPER. These thousand houses?

Mr. SCHLEMMER. That is correct.

Senator HICKENLOOPER. Do you have any substantial number of houses at Los Alamos on the hill there that do have basements?

Mr. SCHLEMMER. I believe you mean to refer to Hanford, do you not?

Senator HICKENLOOPER. Oh, we are talking about Hanford?

Mr. SCHLEMMER. Yes, sir.

Mr. TYLER. We have none at Los Alamos that have basements at all, sir.

Mr. SCHLEMMER. Do you wish to have that question answered with respect to Hanford, Senator Hickenlooper?

Senator HICKENLOOPER. Yes.

Mr. SCHLEMMER. I should say we have approximately 2,500 houses at Hanford which do have basements.

Mr. HINSHAW. Mr. Schlemmer, if there are 2,500 with basements, how many houses are there altogether?

Mr. SCHLEMMER. At present there are a total of 5,777.

Mr. HINSHAW. That includes the present contract that has been let?

Mr. SCHLEMMER. That includes the present 1,000 houses now being completed, yes, sir.

Senator HICKENLOOPER. Mr. Schlemmer, what do the three-bedroom houses rent for, these 1,000 you are building?

Mr. SCHLEMMER. The thousand three-bedroom houses at present rent for \$52.50, per month.

Senator HICKENLOOPER. What do the four-bedroom houses rent for?

Mr. SCHLEMMER. The four-bedroom houses rent for \$57.50 per month.

Mr. ELSTON. Does that include gas and electricity?

Mr. SCHLEMMER. That includes electricity and fuel. We have no gas there.

Mr. HINSHAW. By fuel, do you mean coal?

Mr. SCHLEMMER. In this case coal, yes, sir.

Senator HICKENLOOPER. You get \$5 a month more for a four-bedroom house than a three?

Mr. SCHLEMMER. That is true in this case, yes, sir.

Senator HICKENLOOPER. Does that include garage? Are there garages on these properties?

Mr. SCHLEMMER. No, sir, there are no garages in Richland or with any of the houses.

Senator HICKENLOOPER. Do you have any roof construction under which a garage could be set up?

Mr. SCHLEMMER. We do not, sir.

Senator HICKENLOOPER. Now, under this rental the tenant gets his heat furnished—that is, his coal.

Mr. SCHLEMMER. He gets his fuel, yes, sir.

Senator HICKENLOOPER. He gets his electricity?

Mr. SCHLEMMER. That is correct.

Senator HICKENLOOPER. He gets his water?

Mr. SCHLEMMER. That is correct.

Senator HICKENLOOPER. He gets his garbage—

Mr. SCHLEMMER. Yes.

Senator HICKENLOOPER (continuing). Collected? [Laughter.]

Mr. SCHLEMMER. That is correct.

Senator HICKENLOOPER. Then the Commission takes care of all, or the prime contractor takes care of all repairs on the house?

Mr. SCHLEMMER. That is correct, yes, sir.

Senator HICKENLOOPER. And all normal services that go with the house, so that when he pays his rent he has no other obligations which he has to pay for the services of water, heat, light, and municipal services such as trash collection, and garbage collection?

Mr. SCHLEMMER. At present that is correct. However, if I may take a moment to advise the committee of something which it may already know, the Commission has established a definite policy with respect to rental of resident facilities at its Hanford and Oak Ridge communities.

The policy which it has adopted will result in an adjustment of the rental structure, based on evaluation appraisals by private appraisers, and having in mind the elimination from the rental structure those items now furnished within the structure, such as the provision of electricity, the provision of fuel. It will include within the adjusted rental structure the normal amenities provided to an occupant of a house in the average city.

Senator HICKENLOOPER. Would it include water?

Mr. SCHLEMMER. The rental would include water. However, it will be separately identified from the actual amount allocated to shelter rent.

Senator HICKENLOOPER. At the present time do you have electrical meters in the houses?

Mr. SCHLEMMER. We do not, sir; no, sir.

Senator HICKENLOOPER. So there is no check on the amount of electricity that the tenant can use?

Mr. SCHLEMMER. Well, I would not say that completely, sir. There are checks made.

Senator HICKENLOOPER. But there is no restriction on it at the present time?

Mr. SCHLEMMER. That is correct.

Senator HICKENLOOPER. Do you have any water meters in these houses?

Mr. SCHLEMMER. We do not, sir.

Senator HICKENLOOPER. To check on the amount of water used?

Mr. SCHLEMMER. No, sir. With respect to electric meters, if I may advise the committee, Senator, it is our intention to install electric meters within some reasonable period, in order that they will have an adequate means of determining what a fair return for usage may be.

Senator HICKENLOOPER. Now, with respect to the coal supply to each tenant, do you have any rigid limitation on the amount of coal each house burns, or do they just call up and say, "I need a load of coal," and it is delivered?

Mr. SCHLEMMER. Well, as I am sure you can understand, sir, the use of fuel varies with the tenant, in Richland, as it does in any other community in the country. Some tenants are economical in the use of such things, and others are not. Attention is paid to the quantity of fuel used. Those who appear to be using an excessive amount are advised of that, and in fact on occasion instructed with respect to proper methods in the use of fuel, in order to properly conserve it.

Senator HICKENLOOPER. But the fact is that in the installation at Hanford there is actually no specific limitation prescribed for the use of coal for a house of a certain size?

Mr. SCHLEMMER. Well, I think that is a correct statement. However, I think it would have to include, within reasonable limitations—certainly it would not extend to a very extravagant amount. It would be within a certain reasonable quantity.

Senator HICKENLOOPER. Is the total contract of \$9,792,000 for these 1,000 houses, does that include landscaping, and seeding of the property, or is that done by other contract?

Mr. SCHLEMMER. That is a separate item, yes, sir.

Senator HICKENLOOPER. So that is an addition to the \$9,972,000?

Mr. SCHLEMMER. That is correct; yes, sir.

Senator HICKENLOOPER. Do you have the figure on how much it costs to landscape these houses?

Mr. SCHLEMMER. I don't happen to have that, Senator, by reason of the fact that my presence in Washington at this time was not for the purpose of attending this committee session. However, that information can be made available to the committee.

Senator HICKENLOOPER. Is it done by separate contract, landscaping contract, or is it done by the current personnel of the prime contractor, or by whom?

Mr. SCHLEMMER. Heretofore certain portions of landscaping were performed by contract or by contractors, and the balance by the individual tenant. The present policy with respect to seeding—which is a very necessary thing, as I believe you recognize, having been to Hanford—as a result of the high winds, and the like. Seed is furnished to the tenant. The tenant is responsible for its planting, its care, its upkeep, and so forth. Does that answer your question?

Senator HICKENLOOPER. Yes, that is, so far as the method of operation is concerned. But I would still like to know how much it costs on the average to landscape each piece of property. My information is that it adds very materially to the cost of that unit.

The customary method of landscaping after a house is built in Hanford is to bring in dirt from someplace else, put a top soil on, seed it, and try to get some grass to grow there?

Mr. SCHLEMMER. That is correct.

Senator HICKENLOOPER. I think you have been very successful in several places that I have seen there. But it is a little more costly operation than where you have soil which does not have to be brought in from outside?

Mr. SCHLEMMER. That is indeed correct. However, as you indicate, nothing will grow in the desert sands unless the proper type of soil is placed on the surface, and then only if properly irrigated.

Senator HICKENLOOPER. Do you recall at the moment approximately how many kilowatt-hours of electricity the average house or average residence in Hanford burns per month, or per year?

Mr. SCHLEMMER. I do not recall, Senator.

Senator HICKENLOOPER. Do you recall approximately the average number of tons of coal burned by the average house in Hanford during the year?

Mr. SCHLEMMER. I do not recall the figure. However, I believe it is in the neighborhood of approximately five tons per year.

Senator HICKENLOOPER. Five tons per year?

Mr. SCHLEMMER. Yes, sir.

Senator HICKENLOOPER. I do not want to embarrass you on these questions, because I do not think you are prepared to answer them in detail, not coming here knowing that you were going to testify.

Mr. SCHLEMMER. Well, I will be very happy to give you what I can.

Senator HICKENLOOPER. I thought perhaps you might have some of those figures in your mind.

I believe that is all I have.

Mr. DURHAM. What obligation do we assume regarding housing for these contractors brought in there? You have a problem there of their housing. Does that cost the Commission anything or are they required to assume all the expense?

Mr. SCHLEMMER. The prime contractor working in the interest of the Commission does not of himself supply any facilities. The Commission supplies all living facilities in the community, for the operators of the plant.

Mr. DURHAM. At the present time, how many employees are there operating under contract?

Mr. SCHLEMMER. Well, under the prime General Electric contract there are approximately 8,300 employees of the General Electric Co.

Mr. DURHAM. I wish you would separate your contractors who do work for the Commission from the personnel employed there.

Mr. SCHLEMMER. The Commission's staff itself, sir?

Mr. DURHAM. No, the contractors.

Mr. SCHLEMMER. If I may explain our method of activity.

The prime contractor is the General Electric Co.

Mr. DURHAM. Yes, but you have a contractor there at the present time building houses, and things like that. That is what I want to know about.

Mr. SCHLEMMER. That is correct. The housing provision for all construction employees is in a separate community. There are two communities in Hanford. Richland, the permanent community, is for operators of the permanent plant. North Richland, a temporary community, is for construction workers.

Mr. DURHAM. Now, did the contractor build those houses himself?

Mr. SCHLEMMER. He did not, sir.

Mr. DURHAM. At his own expense?

Mr. SCHLEMMER. They were built at the expense of the Atomic Energy Commission, yes, sir.

Mr. DURHAM. That is temporary housing, as I get it?

Mr. SCHLEMMER. That is principally in the form of dormitories for people in single occupancy or in a single state, and in trailer spaces for families. There are at present approximately 2,300 trailer spaces. The individuals supply the trailers themselves.

There is a nominal number of temporary houses for key construction supervisors in North Richland, also supplied by the Commission.

Mr. DURHAM. Do you furnish all the facilities for that, electricity, heat, and everything else?

Mr. SCHLEMMER. That is correct. Not heat, no, sir. The individual trailer owners furnish their own heat.

Mr. DURHAM. You do not get any reimbursement from the contractor back to the Commission for that service?

Mr. SCHLEMMER. We get no reimbursement from the contractor. We do, however, secure rental returns from the occupants of the house and the trailers.

Mr. DURHAM. You do charge rental?

Mr. SCHLEMMER. Oh, yes, sir; yes, indeed.

The CHAIRMAN. Mr. Hinshaw.

Mr. HINSHAW. Mr. Chairman, I think it would be an interesting thing for the committee to learn the cost of preparing the lots for building, including the grading, the streets, the sidewalks, sewers, lights, and utilities, and other things that would go into the cost of making up a subdivision of 1,000 houses. Of, course, the land, I presume, is part of the Federal land, and hence it would not be included in the cost, although an estimate could be made of its value as a going concern. I realize that the gentleman is probably unprepared to present those facts to the committee. But I do think in addition to that the committee should have a statement of, let us call it, the municipal cost, because after all, these people are not assessed any special amount for lights, electricity, coal, water, garbage disposal, trucking, and all the rest of the things that go along with the operation of the city, so that we can find out what the net rent is after deducting the cost of operations that are incidental to the operation of the city.

I presume that material can be gotten together and furnished to the committee, by mail, or otherwise.

The CHAIRMAN. Might I suggest one thing more that we might have, and that would be the comparable cost of military and naval installations. That must be available to you. I would like to see a chart showing how much the Commission has spent, as compared with the branches of the armed services for similar facilities. Wouldn't that be of some interest?

Mr. HINSHAW. I think that would be somewhat fairer as an analogous situation. Except, of course, the military salary. These items are all considered to be a part of the net income of the person.

(A comparison of the costs of housing constructed for the Atomic Energy Commission with costs incurred by the armed services, submitted for the record by the General Manager of the Atomic Energy Commission is marked "Exhibit No. 4," and will be found in the appendix at p. 107.)

The CHAIRMAN. You are talking now about the rent that is charged. I am talking now about the capital expense in a given area for occupancy. I also would like to know who fixed this figure of \$52, and how it was arrived at.

Mr. HINSHAW. Yes.

Then another question I would like to ask, and I think it can be answered here, is: Whose employees live in these houses, the employees of the Commission or the employees of the general contractor?

Mr. SCHLEMMER. Both, Congressman. The houses in the community of Richland are provided principally and essentially for the plant operators. Certain additional personnel required in connection with such operations, also reside there, including certain Commission employees.

I am sure you gentlemen will be interested to know that we have very extensive waiting lists for those houses, indicating a present inadequacy of supply for the requirements of plant operation.

Mr. HINSHAW. Mr. Chairman, I am sure if they had houses of that size at that rent in Washington there would be a waiting list also, especially at \$52 per month.

The CHAIRMAN. I think I would go for one myself.

Mr. HINSHAW. I would, myself.

Mr. SCHLEMMER. That is, however, an isolated locality which requires the provision of reasonable facilities for the people who are paying that rent.

Mr. HINSHAW. Are there other facilities such as stores, picture theaters, and so forth?

Mr. SCHLEMMER. There are.

Mr. HINSHAW. But they are privately owned?

Mr. SCHLEMMER. Which is that, sir?

Mr. HINSHAW. The theaters, store buildings, and so forth.

Mr. SCHLEMMER. Well, originally the structures were Government-owned. Those which now exist, having been built in the original Manhattan Engineer District program, remain so. Income from them to the Commission is on the basis of percentages of gross revenue.

However, it will interest the committee, I am sure, to know that the present policy is in the expansion of commercial facilities within these communities; that the commercial facility operators, who are selected on the basis of competitive bidding, are required to furnish and pay for their own structures on land which the Commission leases to them.

Mr. HINSHAW. Yes, I know of one such concern which was encouraged to build its own structure and equip it there, then found itself out on a limb because the work it was given to understand it was supposed to do was taken over by the general contractor himself, and consequently they have no business at all, after investing \$45,000 in building and equipment.

They have no assurance that they will continue in business, do they?

Mr. SCHLEMMER. I happen to be familiar with that particular situation, Congressman. I might indicate to you, at least, that in a discussion I had within the last month with the principals in that situation, they indicated that they were completely satisfied on the basis of the Commission's intentions with respect to the rental adjustment program, which will make it necessary for tenants to provide their own maintenance and their own repairs, and consequently will carry out their original intention.

The CHAIRMAN. Where did you work prior to coming with the Commission?

Mr. SCHLEMMER. Immediately prior to coming with the Commission I was in private industry.

The CHAIRMAN. What type of industry?

Mr. SCHLEMMER. I was in the textile industry for a 2-year period.

The CHAIRMAN. And prior to that?

Mr. SCHLEMMER. Prior to that my experience over a period of 30 years was in major construction activity, both governmental, as well as private.

The CHAIRMAN. What did you do in the textile business?

Mr. SCHLEMMER. I was general manager of one of the large textile companies in the South.

The CHAIRMAN. Whereabouts?

Mr. SCHLEMMER. At Rossville, Ga.

The CHAIRMAN. What is your salary now?

Mr. SCHLEMMER. My salary is \$18,000 a year.

The CHAIRMAN. What was your salary in the textile business?

Mr. SCHLEMMER. My salary was \$25,000 a year.

The CHAIRMAN. Are there any other questions?

Senator HICKENLOOPER. Mr. Chairman, would you like to pursue that just one more moment?

The CHAIRMAN. I would like to recess at 4:30. I think we would open up another subject that is going to take a good deal of the time of the committee. It is the Chairman's intention, with the consent of the committee, to pretty well go through these contracts and examine these contracts and the reason for using a lot of money. In the public interest we have got to have a record for the public, as much as we can, within the reasonable bounds of security.

Mr. HINSHAW. My question, Mr. Chairman, related to the question I was asking before, namely, in relation to coal. I assume coal is the customary fuel used in the vicinity of Richland, is it?

Mr. SCHLEMMER. Coal and oil are both used. However, oil has been under restriction, recently removed.

The particular houses we have been speaking of were initially designed for the use of oil fuel. As a result of the restriction they had to be redesigned in order to permit the use of coal as a fuel.

Mr. HINSHAW. I presume the coal comes from Colorado and Utah?

Mr. SCHLEMMER. That is correct.

Mr. HINSHAW. It has to be shipped in and then trucked to the house?

Mr. SCHLEMMER. Yes, sir.

Mr. HINSHAW. And a part of the municipal cost is in the trucking cost?

Mr. SCHLEMMER. That is correct.

Mr. HINSHAW. And the rest of it is in the coal itself, the price of delivery, plus the delivery charges?

Mr. SCHLEMMER. That is correct.

Mr. HINSHAW. That would be included in the municipal budget?

Mr. SCHLEMMER. That is correct.

Mr. HINSHAW. That is all.

Senator HICKENLOOPER. Mr. Chairman.

The CHAIRMAN. Senator Hickenlooper.

Senator HICKENLOOPER. Before you were with the textile industry, where were you employed, Mr. Schlemmer?

Mr. SCHLEMMER. I was employed by the Tennessee Valley Authority for a period of 13 years.

Senator HICKENLOOPER. What was your salary when you left there?

Mr. SCHLEMMER. My salary when I left there was approximately \$9,500.

Senator HICKENLOOPER. With the TVA, what was your responsibility?

Mr. SCHLEMMER. I was the project manager of numerous of its major construction projects, notably Norris Dam, Chickamauga Dam, Fontana Dam, and others. As you know, the statutory salary limitation of a TVA employee was \$10,000 a year.

Senator HICKENLOOPER. Yes, but I understood you to say you were in private industry. It was my information you had been with TVA, and I wanted to find out whether it was before your TVA connection that you were with private industry.

Mr. SCHLEMMER. That is correct.

The CHAIRMAN. Just to refresh my recollection, you appeared I believe, in connection with the hearings on the confirmation of these Commissioners, did you not?

Mr. SCHLEMMER. That is correct, sir.

The CHAIRMAN. And at that time this textile concern was brought in?

Mr. SCHLEMMER. That is correct.

The CHAIRMAN. Your face is vaguely familiar.

Mr. Wilson, I intended to get a lot further. I am sure the other gentlemen have many more questions to ask about the contract procedures, such as the cost-plus contracts, how you determine fees, and so on. But we have a lot of work back in our offices to do, unfortunately, and I suppose you have some. So we are going to have to postpone it until the next meeting of the committee, of which you will be advised. I presume it will be around the first of the week.

Mr. WILSON. Mr. Chairman, I had prepared a brief statement which I intended to present to the committee at the beginning of this discussion of our contract procedure. With your permission I would like to submit it for the record.

The CHAIRMAN. Yes; you may do that. That is perfectly all right. We would like to have it. I dare say that would be a fine thing to do,

and then we could examine you on that at the next meeting of the committee.

(The statement of Mr. Wilson is as follows:)

STATEMENT SUBMITTED BY CARROLL L. WILSON, GENERAL MANAGER, ATOMIC ENERGY COMMISSION

The joint committee has requested that a part of this afternoon's hearing be devoted to a discussion of the Commission's contract procedures and practices. The Commission welcomes this opportunity for such a discussion. As you know, we have from time to time, in our reports to the Congress as well as in other published statements, referred to the central role which contractors occupy in the atomic energy program. We believe that it is important for the public generally and for American business to know and to understand the policies which we are following.

It will be helpful, I think, to begin by stating in somewhat general terms the Commission's views on the manner in which a major part of its business should be conducted.

The Atomic Energy Act of 1946 left it to the Commission to determine, in the light of experience and prevailing circumstances in each case, whether its installations should be directly operated by the Commission or whether they should be operated by private contractors or organizations in accordance with the practice which had been initiated by the Manhattan District.

The Commission has been of the view—and we believe this view is amply supported by our 2 years of experience since we succeeded to the responsibility of the atomic energy enterprise—that we should develop as fully as possible the method of operating through contractual relations with private organizations. We have recognized that the high relative significance of weapon production and the necessary secrecy of large parts of the atomic energy program involve the danger that only limited scientific, technical, and managerial resource will be available to this most urgent new atomic energy enterprise. Such handicaps must be minimized and overcome if this country's rapid progress in the field of atomic energy is to be assured. Accordingly the Commission has looked to the basic policy of contractor operation as a means of developing wide and alert participation in the program by a growing number of private organizations, both academic and industrial.

By pursuing a basic policy of obtaining contractor-operators the Commission has been able to draw upon the technical and administrative talents of a broad sector of the American economy. Operation of our plants and laboratories through established independent contractors not only gives to the atomic energy program substantial benefits from accumulated experience and established facilities; it also enlists the interest and the support of industry and universities for future private development. It has been our conviction that if atomic energy is to become a generic part of the American scene it should have its roots deep in the institutions which are so productive a part of American progress in science and technology.

To make full use of this industrial and university talent and know-how and to encourage the wide participation which is so necessary, the Commission believes that it must give the contractors a real job to do, and keep an appropriate balance with respect to such activities of the Government as are necessary to assure proper accountability and results.

These are general objectives of the Commission's program.

The identities of the contractor-operators at the Commission's major facilities are of course well known to the members of the joint committee. At Oak Ridge the production and the laboratory facilities are operated by the Carbide & Chemicals Corp., while the Roane-Anderson Co. is the principal contractor for town operations. Up on Long Island, the contractor-operator for the Brookhaven National Laboratory is Associated Universities, Inc., a nonprofit corporation organized by nine of the leading universities in northeastern United States. In Chicago area the Argonne National Laboratory, operated under contract by the University of Chicago, is made up of 30 participating universities from the Middle West. At Hanford and at Schenectady, critical production and research operations are carried on pursuant to a contract with the General Electric Co. At Los Alamos our contractor for the laboratory and its weapon work is the University of California, while a number of town and services functions are performed by Zia Co. The Mound Laboratory at Miamisburg, Ohio, is operated by Monsanto Chemical Co. You will recall that many of the activities carried on at these

major installations are described in some detail in the unclassified fifth semiannual report which the Commission made to the whole Congress on January 31.

The contracts covering each of these operations are cost-type contracts under which the Government reimburses the contractor for its actual costs and expenses of operations, plus in some cases a fixed fee. Because of the complexities of the operations, and the many uncertainties as to what the actual costs will turn out to be over an annual period no matter how carefully plans are made in advance, it has not been feasible for the work to be done except under a cost-type contract. Contracts provide for programs of work established by the Commission pursuant to its general budgetary programs. These work programs are reviewed by the Commission from time to time, and altered and changed in the light of changing circumstances, by the Commission at specified intervals, so that the work to be done by the contractor can be mapped out and planned in advance. Subject to controls, such as in the fields of costs and security, it is the desire and intention of the Commission to give encouragement to the exercise by the contractor of its own initiative and ingenuity, so that the atomic energy program will really have the full benefits of high caliber management and know-how.

For the successful conduct of the plant operations carried on at the Commission's major installations, there is required a very large amount of supporting contract activity, both through prime contracts and subcontracts. Continued conduct of research programs must be assured. Necessary raw materials must be obtained for both research and production purposes. Plants and laboratories must be built. Machinery must be installed, some of it of a high order of complexity. Supplies and materials (off-the-shelf items, as well as items especially adapted to the atomic energy program) must be procured. Public utility services, such as gas and electricity, and rail, truck, and air transportation, must be contracted for. Necessary community and housing facilities must be provided.

Day-by-day supervision and guidance of these activities is essentially the responsibility of the field offices of the Commission. The Commission has felt that the atomic energy enterprise requires broad delegation of responsibilities and authority to the managers of its field offices, who work closely with the organizations carrying on important work and who are responsive to the every-day realities of the operation. Five offices of operations have been established. One is at New York, which has as its primary function the preparation of feed materials for the plants, but in addition administers other types of contracts, including the contract with Associated Universities, Inc., for operation of the Brookhaven National Laboratory. The second office is at Hanford, where the major task is the production of plutonium. The third office was set up at Los Alamos, which, as you know, is the center of weapons work. The fourth is at Chicago to administer the contract for the Argonne National Laboratory and to serve likewise for the research activities at Ames, Iowa, and Berkeley, Calif. The fifth is Oak Ridge.

Each of these five offices has become a fully integrated organization, with considerable self-sufficiency for handling the extensive business operations, and for providing technical supervision of the activities in its area. Under our reorganization placed in effect last September, each of these five field offices reports directly to the director of one of the program divisions in Washington. The basic programs are developed and reviewed by the program divisions in Washington, subject to the review of the Commission. Within the scope of the approved programs it is the job of the field offices to enter into the contracts necessary to give these programs effective implementation. The extent of the contractual authority delegated to the five field managers varies because of differing situations; it is \$2,000,000 for New York and Chicago, \$3,000,000 for Los Alamos, and \$5,000,000 for Hanford and Oak Ridge. Naturally, the local manager is required to bring to the attention of Washington for review and approval all new or unusual types of contractual transactions. Moreover, in actual experience there is a broad and very wholesome practice of consultation and interchange of views between the staff in Washington and the staffs in the field offices on problems which arise in connection with the execution and administration of contracts.

In addition to determining the general scope of the programs, it is our objective to provide from Washington the standards and the policies, and in some cases the procedures, which will form the bases for action to be taken by the field offices. For example, we have recently adopted a contract manual to cover the letting of contracts for engineering and construction services. A copy of this manual has previously been furnished to the joint committee, and our director of production, Mr. Walter J. Williams, will later discuss in more detail its objectives and its provisions. I mention it now because it is illustrative of the kind of guidance which, on the basis of experience, we think the Washington office of the Commission can properly furnish to the field offices.

A large proportion of the Commission's prime contracts, especially those relating to the procurement of supplies and special materials, are executed and administered by our New York office. To the extent that it is practicable and is consistent with security requirements, such contracts are let by competitive bidding on a lump-sum or unit-price basis. At the same time, as I am sure you will understand, there are situations where it is necessary for the contract to be entered into on some other basis. Mr. Wilbur E. Kelley, the manager of New York operations, will describe for you in some detail the contract practices and procedures followed in that office. In many ways these practices and procedures will be illustrative of those followed at our other field offices.

It will also be helpful, I think to have a description of our procedures and practices with respect to research contracts. You will recall that by the Atomic Energy Act the Commission is directed to exercise its powers in such manner as to assure the continued conduct of research and development activities of private or public institutions or persons, and also to assist in the acquisition of an ever expanding fund of theoretical and practical knowledge in such fields. Our research program, both in the physical sciences and biology and medicine, is on a country-wide basis. Some of the fundamental research is carried out through contracts supported jointly by the Commission and the office of Naval Research. Our Deputy Director of Research, Dr. Ralph P. Johnson, is prepared to describe to you the methods of selection of research projects and the objectives which the Commission hopes to attain through its contract-research program.

In connection with our research program, I should like to stress the fact that at our three national laboratories—Argonne, Brookhaven, and Oak Ridge—we have made arrangements which assure a very broad degree of regional participation by the institutions located in the areas. Moreover, in the case of the Knolls Atomic Power Laboratory, now under construction at Schenectady, our contract with the General Electric Co. contains provisions which will permit other industrial participation at the laboratory when it is completed.

Indeed, as I indicated at the outset, much of our planning is directed to broadening the basis of participation of industrial and educational institutions in the atomic energy program. The Commission is convinced that the vigorous progress of the program depends on the sustained interest, the participation and the contributions of the large number of persons, corporations, and institutions whose joint effort has in the past given America her scientific and industrial strength. It was for that reason that the Commission, in October 1947, appointed the Industrial Advisory Group, from which we requested advice on the most effective means of increasing the extent to which American industry might participate in atomic energy development. The report of the Industrial Advisory Group, you will recall, was submitted to the Commission in December 1948. It contained many helpful suggestions, and exemplified the extraordinary cooperation which the Commission is receiving from groups of leaders and experts in a variety of fields who are anxious to help in making possible the speedy progress of the Nation's atomic energy program.

It has been a source of great encouragement to note that in recent months more firms have entered atomic energy work on a straight investment and risk basis. This is true in several fields—first, the manufacture of compounds containing radioisotopes for use in research and processing work; second, the mining, milling, and processing of uranium ores into high-grade concentrates; and third, the manufacture of instruments for detecting radiation.

The Du Pont company, which performed the great feat of the wartime construction and operation of the Hanford installation, has recently undertaken to make a complete survey of chemical-process problems involved in plutonium manufacture—a field in which there will already be found working several major industrial concerns, such as Blaw-Knox, Dow Chemical, General Electric, Kellogg, Monsanto, and Standard Oil Development Corp. Also, within the past 2 months, the Westinghouse Electric Corp. has undertaken the construction of test models on reactors for driving ships.

As the atomic energy program expands, we are utilizing an increased number of organizations, both large and small. The number of our prime contractors is in the hundreds, and the Commission is making every effort to make industrial and scientific participation on as widespread a basis as possible.

The CHAIRMAN. Now, gentlemen, what is your pleasure on this Los Alamos bill?

Mr. PRICE. Mr. Chairman, that is the bill that passed the House this morning?

The CHAIRMAN. Yes; it is.

Mr. PRICE. I just wondered.

The CHAIRMAN. It is the same bill. So we could report it to the Senate immediately.

If that is satisfactory, will all those in favor say "Aye."

(Chorus of "ayes.")

The CHAIRMAN. Opposed, "No".

(There were no "noes.")

Senator HICKENLOOPER. May I ask just one question as long as Mr. Schlemmer is here, Mr. Chairman?

The CHAIRMAN. Yes, certainly.

Senator HICKENLOOPER. How many businesses are now being operated under private investment, under this private investment philosophy at Hanford—that is, as compared to the businesses that have been operated under a rental proposition where the contractor rents the facilities to an operator? Do I make myself clear?

Mr. SCHLEMMER. I think so, sir.

Senator HICKENLOOPER. Where private capital comes in and invests its own money in the construction of the property, and the operation of the business.

Mr. SCHLEMMER. On the basis of competitive bidding in the development of the commercial area known as the North Commercial area, we have consummated 67—I believe that is the figure—contracts. I would like to have the opportunity of checking that figure for its accuracy, but I think it is 67 contracts under which operators will provide structures at their own expense.

Senator HICKENLOOPER. They will build their own buildings?

Mr. SCHLEMMER. That is correct.

Senator HICKENLOOPER. And do they buy the land?

Mr. SCHLEMMER. No, sir. The Government owns the land and leases it.

Senator HICKENLOOPER. What control does the Government have over the continuity of the operation of that business after it has built its own structures?

Mr. SCHLEMMER. Well, that is a monetary control inasmuch as revenue is concerned, which is a part of the bid.

Senator HICKENLOOPER. Do you mean he cannot sell his goods over a certain competitive price?

Mr. SCHLEMMER. No; I did not mean that. However, the contractor agrees to sell his goods at reasonable prices comparable to those existing in the area.

Senator HICKENLOOPER. You charge him a flat rent, or a percentage of his profit, or a percentage of his gross?

Mr. SCHLEMMER. We charge a percentage of his gross; that is correct.

Senator HICKENLOOPER. For how long do you make those leases, customarily?

Mr. SCHLEMMER. Those leases vary. I believe most of them are for 25 years. I do not want to indicate that as being a fully accurate statement.

Senator HICKENLOOPER. Will you be here next week, Mr. Schlemmer?

Mr. SCHLEMMER. I do not expect to.

Senator HICKENLOOPER. That is the only reason I want to ask you these things at the present moment, unless there will be somebody else here from the Commission who knows the answer to these things.

Do you know, Mr. Wilson?

Mr. WILSON. We know some of them. Mr. Schlemmer knows more than we do, obviously.

Senator HICKENLOOPER. Under what conditions can you deprive a man, or discontinue his operations, short of the period for which he contracts to operate, say, a 25-year period, or 15-year period, or whatever the contract period is? Under what conditions can you stop him from operating?

Mr. SCHLEMMER. I am unable to answer that question, Senator. I just do not have the answer in my mind.

Senator HICKENLOOPER. Next week, when we go into this, can we get the answer to that?

Mr. SCHLEMMER. I am sure we can; yes, sir.

Senator HICKENLOOPER. In other words, I am trying to find out what sort of risk a private operator has to take when he goes in to invest his money there in an enterprise.

Mr. SCHLEMMER. Yes, sir.

Senator HICKENLOOPER. Now, does the Commission—or is it the policy of Hanford to restrict the number of good competitive businesses of a particular type; that is, do you say there shall only be so many barber shops, or there shall only be so many grocery stores, or that there shall only be so many clothing stores or theaters, or anything of that kind, or do you say that anybody who wants to come in and risk his capital shall have the right to do so?

Mr. SCHLEMMER. It is not only not merely a policy of not restricting the number of commercial entities which may come into Richland if they so desire, but, contrariwise, it is a policy of the Commission—and, consequently, one of the Hanford field office—to encourage the development of that community to the highest possible state of normalcy, comparable with other American communities, as conditions will permit.

Now, there are many difficulties attendant on that, most of which we recognize and some of which will probably crop up because they are not now evident.

But our objective is to bring the highest possible degree of normalcy to the community.

Senator HICKENLOOPER. In other words, if a grocery store was operating under this private-enterprise system, and you, as the manager—I mean, assuming your authority as the manager—believe that was adequately serving the community, and somebody wanted to put up a competitive grocery store across the street where the land was available and he was willing to put his own money into it for a period of time, is it your policy to say, no, we have adequate service here in this particular field, and we do not need the additional facilities?

Mr. SCHLEMMER. At present, it is not our policy to do that, sir. However, as you will of course recognize, we must approach the situation, the objective, from the standpoint of trying to provide first things first at this particular stage.

Senator HICKENLOOPER. Yes.

Mr. SCHLEMMER. Therefore, we are encouraging the development of merchandise stores, food stores, various forms of recreational services, motion-picture houses, and things of that particular nature.

Senator HICKENLOOPER. Now, there is one other field that you may not be prepared to discuss at this moment, but I merely mention it because I would like to pursue it at a later date. You have a newspaper operating out there; do you not? In other words, it is paid for by the Government?

Mr. SCHLEMMER. Oh, indeed not, sir; no, sir.

Senator HICKENLOOPER. Isn't there a newspaper operated by the general contractor there, or through subsidy of one kind or another?

Mr. SCHLEMMER. Do you refer to the Villager?

Senator HICKENLOOPER. Yes.

Mr. SCHLEMMER. A weekly newspaper?

Senator HICKENLOOPER. Yes.

Mr. SCHLEMMER. No, sir; that is not operated by the contractor, nor by the Commission.

Senator HICKENLOOPER. Is that completely operated by private capital?

Mr. SCHLEMMER. It is operated by non-Commission or noncontractor capital. It is operated by an organization known as Villagers, Inc., which is a group of citizens. It originally developed into this organization for the purpose of developing funds through which certain forms of recreation and the like would become available to the total community.

Senator HICKENLOOPER. Is there any subsidy paid directly or indirectly by the contractor or reimbursed to the Government?

Mr. SCHLEMMER. There is no such.

Senator HICKENLOOPER. Has there been in the past that you know of?

Mr. SCHLEMMER. The only thing I know of in the past, Senator, is—I cannot identify the date, but it is a considerable period back—at which time there was no opportunity for this so-called altruistic organization to secure newsprint. Some was secured—the amount of which I am unable to say at the moment; I just do not recall—through the Federal Bureau of Supply. That covered, I believe, only a period of a few months.

Subsequent to that, the officers of the General Electric Co. were called upon by Villagers, Inc., to assist in the procurement of the necessary paper stock. The records of the contractor and those of the Commission indicate that the Villagers, Inc., paid for that newsprint.

Senator HICKENLOOPER. The paper was distributed free; was it not?

Mr. SCHLEMMER. It may have been initially. It has not been since I have been there. It is distributed on a subscription basis.

Senator HICKENLOOPER. I do not know about this, so I am not making any positive assertions; but I understand that those they collect from they collect from, but otherwise it is distributed free.

Mr. SCHLEMMER. I do not think that is the correct impression, sir.

Senator HICKENLOOPER. As I say, I cannot verify that one way or the other. It is contemplated that that paper will become a daily paper soon?

Mr. SCHLEMMER. It is not, sir; no, sir.

Senator HICKENLOOPER. Do you know anything about the accusation that in one way or another, through whatever means may be used,

this paper was able to secure newsprint on the basis of—what would it be, \$90 a ton, or something of that kind—whereas the competitive newspapers that would like to operate in that area are having to buy newsprint on the black market at, say, \$180 or \$210 a ton?

Mr. SCHLEMMER. I am aware of that accusation; yes, sir. However, whether it is a correct one or not, I do not know.

Senator HICKENLOOPER. Have there been some efforts made for competing newspapers to come into that area?

Mr. SCHLEMMER. It was decided by the Commission representatives at Hanford at the time that at such time as the need for a daily newspaper within the Richland community itself became evident, invitations to submit bids would be made to all interested parties. That is the policy of the present management at Hanford.

Senator HICKENLOOPER. But in this case the question of newspaper competition—the Commission does have the right to say whether there is need in the community for it, and does not leave it up to the hazards of free competition if somebody wants to invest his money?

Mr. SCHLEMMER. I do not know that I can answer that question specifically, Senator. A business entity is the basis on which we generally view that situation at the moment. There seems to have been over a period of time a considerable interest on the part of numerous newspapers to establish a daily newspaper in Richland. Therefore, a choice by the contractor or by the Commission of anyone would certainly not seem to be the correct approach.

If that is true, therefore, the proper approach would be to permit open competition in the choice of daily newspapers.

Senator HICKENLOOPER. I do not think this is a positive statement, because I am merely repeating what has been said to me. It may not have any basis in fact.

But it has been repeatedly told to me, both from people in Richland, in Hanford, and otherwise, that the Villager is in the nature of a house organ, and it is the fair-haired boy or the fair-haired child of the operation; and that great discouragement is placed in the way of anyone who wants to come in there and start an independent daily newspaper.

Now, again let me make clear, I am not saying that is the case. I am merely saying that is what has been told to me on several occasions.

I have also been told this: As long as we are taking our hair down we might as well talk about it.

Mr. SCHLEMMER. Surely.

Senator HICKENLOOPER. That any other newspaper that attempts to get news items in the operational area in Hanford, finds almost a closed door, but the Villager seems to be able to get news items with great freedom and very voluminously. In other words, indicating, according to these reports or statements to me, that the Villager occupies the favored position and that there is very little free and open competition in the collection of news at Hanford. I know nothing about it. I have had no personal experience with it, and I do not assert that that is true at all, but as I say, as long as we are taking our hair down, those are the things that have been told to me about the newspaper situation out there.

Mr. SCHLEMMER. Yes, sir.

Senator HICKENLOOPER. And that it is practically a closed corporation.

Mr. SCHLEMMER. The same facts have been told to me, Senator, from a single source. To the best of my knowledge and belief, as a result of careful inquiry into the situation on my part, I do not consider them to be factual. That is based on the information available to me up to this time.

Senator HICKENLOOPER. I have no independent judgment on it at all.

The CHAIRMAN. We will have that gone into later.

Senator HICKENLOOPER. Except that it has come to me more than one time from more than one source.

Mr. SCHLEMMER. Yes, sir.

The CHAIRMAN. I think this all indicates the need for a further meeting.

Mr. WILSON. Mr. Chairman, can you give us any idea when this further meeting may be?

The CHAIRMAN. The first of the week.

The committee will now adjourn.

(Whereupon, at 5 p. m., the committee adjourned.)

# ATOMIC ENERGY COMMISSION CONTRACT POLICY

MONDAY, FEBRUARY 21, 1949

CONGRESS OF THE UNITED STATES,  
JOINT COMMITTEE ON ATOMIC ENERGY,  
*Washington, D. C.*

The committee met at 10:30 a. m., pursuant to call, in room 457, Senate Office Building, Senator Brien McMahon (chairman), presiding.

Present: Senator McMahon (chairman), and Representatives Durham (vice chairman), and Holifield.

Also present: Lewis L. Strauss, Commissioner; Carroll L. Wilson, General Manager; Walter J. Williams, Director, Division of Production, Atomic Energy Commission, and Wilbur E. Kelley, Manager, New York Operations Office, Atomic Energy Commission.

The CHAIRMAN. The committee will come to order. Mr. Wilson, I think you were to give us a general description when we adjourned.

**STATEMENTS OF CARROLL L. WILSON, GENERAL MANAGER, LEWIS L. STRAUSS, COMMISSIONER, WALTER J. WILLIAMS, DIRECTOR, DIVISION OF PRODUCTION, AND WILBUR E. KELLEY, MANAGER, NEW YORK OPERATIONS OFFICE, ATOMIC ENERGY COMMISSION**

Mr. WILSON. Mr. Chairman, on last Thursday when the first discussion of our contract procedure occurred before this committee, we discussed largely the Richland operations. I indicated at that time that I had a general statement to submit for the record which described our contracting policy and the general policy of the Commission in connection with the conduct of its research, development, production, operations through contractors.

This statement I think we submitted at that time and you indicated that this might be useful because the committee, on the basis of this, might raise certain questions at this hearing. I wonder what you would like to do; shall we proceed from that point?

The CHAIRMAN. Why don't you do that?

Mr. WILSON. Shall I read this statement, then, of our general contracting policy? The Commission welcomes this opportunity for such a discussion. As you know, we have from time to time in our reports to the Congress as well as in other published statements referred to the central role which contractors occupy in the atomic

energy program. We believe that it is important for the public generally and for American business to know and to understand the policies which we are following.

The Atomic Energy Act of 1946 left it to the Commission to determine, in the light of experience and prevailing circumstances in each case, whether its installations should be directly operated by the Commission or whether they should be operated by private contractors or organizations in accordance with the practice which had been initiated by the Manhattan District.

The Commission has been of the view—and we believe this view is amply supported by our 2 years of experience since we succeeded to the responsibility of the atomic energy enterprise—that we should develop as fully as possible the method of operating through contractual relations with private organizations. We have recognized that the high relative significance of weapon production and the necessary secrecy of large parts of the atomic energy program involve the danger that only limited scientific, technical, and managerial resources will be available to this most urgent new atomic energy enterprise. Such handicaps must be minimized and overcome if this country's rapid progress in the field of atomic energy is to be assured. Accordingly the Commission has looked to the basic policy of contractor operation as a means of developing wide and alert participation in the program by a growing number of private organizations, both academic and industrial.

By pursuing a basic policy of obtaining contractor operators the Commission has been able to draw upon the technical and administrative talents of a broad sector of the American economy. Operation of our plants and laboratories through established independent contractors not only gives to the atomic energy program substantial benefits from accumulated experience and established facilities; it also enlists the interest and the support of industry and universities for future private development. It has been our conviction that if atomic energy is to become a generic part of the American scene it should have its roots deep in the institutions which are so productive a part of American progress in science and technology.

To make full use of this industrial and university talent and know-how and to encourage the wide participation which is so necessary, the Commission believes that it must give the contractors a real job to do, and keep an appropriate balance with respect to such activities of the Government as are necessary to assure proper accountability and results.

These are general objectives of the Commission's program.

The identities of the contractor operators at the Commission's major facilities are of course well known to the members of the joint committee. At Oak Ridge the production and the laboratory facilities are operated by the Carbide & Chemicals Corp., while the Roane-Anderson Co. is the principal contractor for town operations. Up on Long Island, the contractor operator for the Brookhaven National Laboratory is Associated Universities, Inc., a nonprofit corporation organized by nine of the leading universities in northeastern United States. In the Chicago area the Argonne National Laboratory, operated under contract by the University of Chicago, is made up of 30 participating universities from the Middle West. At Hanford and at Schenectady, critical production and research operations are

carried on pursuant to a contract with the General Electric Co. At Los Alamos our contractor for the laboratory and its weapon work is the University of California, while a number of town and services functions are performed by Zia Co. The Mound Laboratory at Miamisburg, Ohio, is operated by Monsanto Chemical Co. You will recall that many of the activities carried on at these major installations are described in some detail in the unclassified fifth semi-annual report which the Commission made to the whole Congress on January 31.

The contracts covering each of these operations are cost-type contracts under which the Government reimburses the contractor for its actual costs and expenses of operations, plus, in some cases, a fixed fee. Because of the complexities of the operations, and the many uncertainties as to what the actual costs will turn out to be over an annual period no matter how carefully plans are made in advance, it has not been feasible for the work to be done except under a cost-type contract. Contracts provide for programs of work established by the Commission pursuant to its general budgetary programs. These work programs are reviewed by the Commission from time to time, and altered and changed in the light of changing circumstances, so that the work to be done by the contractor can be mapped out and planned in advance. Subject to controls, such as in the fields of costs and security, it is the desire and intention of the Commission to give encouragement to the exercise by the contractor of its own initiative and ingenuity, so that the atomic energy program will really have the full benefits of high-caliber management and know-how.

For the successful conduct of the plant operations carried on at the Commission's major installations, there is required a very large amount of supporting contract activity, both through prime contracts and subcontracts. Continued conduct of research programs must be assured. Necessary raw materials must be obtained for both research and production purposes. Plants and laboratories must be built. Machinery must be installed, some of it of a high order of complexity. Supplies and materials (off-the-shelf items, as well as items especially adapted to the atomic energy program) must be procured. Public utility services, such as gas and electricity, and rail, truck and air transportation, must be contracted for. Necessary community and housing facilities must be provided.

Day-by-day supervision and guidance of these activities is essentially the responsibility of the field offices of the Commission. The Commission has felt that the atomic energy enterprise requires broad delegation of responsibilities and authority to the managers of its field offices, who work closely with the organizations carrying on important work and who are responsive to the everyday realities of the operation. Five offices of operations have been established. One is at New York, which has as its primary function the preparation of feed materials for the plants, but in addition administers other types of contracts, including the contract with Associated Universities, Inc., for operation of the Brookhaven National Laboratory. The second office is at Hanford, where the major task is the production of plutonium. The third office was set up at Los Alamos, which, as you know, is the center of weapons work. The fourth is at Chicago to administer the contract for the Argonne National Laboratory and to serve likewise for the research activities at Ames, Iowa, and Berkeley, Calif. The fifth is Oak Ridge.

Each of these five offices has become a fully integrated organization, with considerable self-sufficiency for handling the extensive business operations, and for providing technical supervision of the activities in its area. Under our reorganization placed in effect last September, each of these five field offices reports directly to the director of one of the program divisions in Washington. The basic programs are developed and reviewed by the program divisions in Washington, subject to the review of the Commission. Within the scope of the approved programs it is the job of the field offices to enter into the contracts necessary to give these programs effective implementation. The extent of the contractual authority delegated to the five field managers varies because of differing situations; it is \$2,000,000 for New York and Chicago, \$3,000,000 for Los Alamos, and \$5,000,000 for Hanford and Oak Ridge.

The CHAIRMAN. Will you define what you mean by those limitations?

Mr. WILSON. As I stated, the programs, the activities to be undertaken, are reviewed and approved by the Commission following the preparation of these plans by these divisions, program divisions, in Washington.

In carrying out the work called for in executing the actual contract instruments under which the work is to be performed, the delegations of authority to the managers of operations are in the amounts I have indicated.

That is to say, the manager at Los Alamos in carrying out work approved by the Commission for which funds have been established and its scope defined in some detail, the manager at Los Alamos is delegated authority to enter into contracts, no one of which can exceed in amount of \$3,000,000 without full review by Washington. Many smaller contracts than this are submitted to the Washington office for review where they involve new and different provisions from those contracts we have used before.

The CHAIRMAN. In other words, if you wanted to build \$3,000,000 worth of houses, he would select the contractor, but the specifications would be written where?

Mr. WILSON. The initial preparation of the specifications would be at Los Alamos. The general project for the building of, let us say, 500 houses and the estimated cost of that and the utilities and site development necessary would be prepared as a part of the proposed budget for Los Alamos for the coming year.

This would be submitted to the Director of Military Applications in Washington first for his review, for review by the construction group of Mr. Walter Williams as to the nature of the houses, the degree of economy shown in the plans, et cetera.

Then, the project as such would be approved subject to the availability of funds. When the budget has been defended and the appropriation made and amount allocated for this purpose, it is then the responsibility of the manager of operations to, in this case, advertise or send out invitations to bid on the construction of these X-hundred houses. These bids are then opened in the procedure which Mr. Williams can describe in detail, the contract is awarded on the basis of the lowest bid, and on this type of job we would certainly expect a lump-sum contract.

The CHAIRMAN. In other words, not a cost plus?

Mr. WILSON. Not cost plus.

Mr. DURHAM. Mr. Wilson, why did you select this figure of \$3,000,000? Did you have any reason for selecting that as the top level?

Mr. WILSON. I think it is inevitably somewhat arbitrary, but it is based on the scale and character of the operations at Los Alamos.

Mr. DURHAM. Do you know of any other Government agency at the present time operating on a limit like that?

Mr. WILSON. No.

Mr. DURHAM. As I recall, we don't have any such contractual operation by any other department in the Federal Government. I think I am correct.

Mr. WILSON. I could not say as to whether others do. I think it is correct to say that the pattern of operation through these five field managers is novel in terms of a Government organization, and we have felt that it was appropriate, and our experience thus far, we believe, bears it out that authority to actually execute these contracts in these amounts—

Mr. DURHAM. Is the reason a saving of funds or is it some other reason? The Army or Navy doesn't do that.

Mr. WILSON. It is for the purpose of placing responsibility on the manager of operations for the full review and evaluation and determination as to how a given part of the program is carried out.

Mr. DURHAM. The manager of the operation has to direct it to you?

Mr. WILSON. The managers of operations at New York, Oak Ridge, and Hanford report to Mr. Williams, the Director of Production. The manager of production at Los Alamos reports to General McCormack. The manager at Chicago reports to Dr. Hafstad.

Mr. DURHAM. You have had that in operation how long, that procedure? It has been a year and a half or two years?

Mr. WILSON. It was about a year and a half since it was made fully effective. I think the last operations office was set up as an integrated business operation, set up in September 1947.

Mr. DURHAM. Do you feel that by now you can evaluate it as to whether it is saving the Federal Government or not?

It is a little bit different contract procedure from anything else we have run into.

Mr. WILSON. We believe that the results of this manner of conducting our major contracting business are very satisfactory. As to savings, I think it is hard to show a direct comparison of what the cost might have been if all of these contracts and the details and the responsibility had come into Washington for review and approval as contrasted with holding the manager of operations responsible for doing these things; but I am sure that considerable time has been saved; I am sure that there has been better supervision and decision on the award of these contracts, because the responsibility was in the hands of the manager, who was thoroughly familiar with the local situation.

Mr. DURHAM. If you give a contract for \$3,000,000 and another contract for \$3,000,000, and probably you have given him authority to contract for a billion dollars on such a procedure, because the contracts are different.

If he contracted for \$3,000,000 worth of houses, \$3,000,000 worth of something else, that would be a separate contract, and he wouldn't be limited by anything but the \$3,000,000.

Mr. WILSON. There is an over-all limitation in terms of dollars that are laid down and approved for carrying out these programs. There are so many dollars allowed for the building of houses, a project for X-hundred houses. His authority is to send out the invitations for bids, carry out the review procedure on the receipt of those bids, to determine the contractor, the lowest bidder to be awarded the job and the authority for the \$3,000,000 contract is for him to execute the contract instrument with the successful bidder.

Mr. DURHAM. You understand, I am not criticizing, I just wanted to get it clear.

Mr. WILSON. We believe that the fact the manager is responsible for this insures first a better organization in the field, because the responsibility is there, and the most careful kind of consideration there of the elements that go into a given contract.

It certainly minimizes the tendency, which often characterizes field establishments who do not have authority of passing all of the tough and major decisions up the line to Washington. We think that we get a better job, and we believe that it is more economical, although that is hard to demonstrate in quantitative terms.

The CHAIRMAN. Now, is it \$5,000,000 in the case of Oak Ridge and New York?

Mr. WILSON. Hanford.

The CHAIRMAN. Oak Ridge and Hanford? Do you know of any industrial concern in the country that gives its branch managers a \$5,000,000 authority, to select contractors up to \$5,000,000? United States Steel or General Motors or any of the larger corporations in the country.

Commissioner STRAUSS. Might I answer that?

The CHAIRMAN. Yes.

Commissioner STRAUSS. It is fair to say there is an analogy between these branch managers and, let us say, the president of Chevrolet or the president of Buick in the General Motors organization. There is certainly that authority, and it is at a higher figure. I think that is the nearest that you can come to an analogy here.

The CHAIRMAN. I think that is a good observation, but it is, however, as Mr. Durham pointed out, a Government innovation; is it not?

Commissioner STRAUSS. Yes, it is an innovation, and, as the General Manager testified a moment ago, when he mentioned the fact that an important element was the fact that these contracts could be entered into and completed more quickly, expedition is one of our major aims for reasons with which the joint committee is well acquainted.

The CHAIRMAN. Does the branch manager fix the amount of the fee that is paid?

Mr. WILSON. Where it is a cost-plus-fixed-fee, contract he negotiates that fee within general limits, which are provided to him by the Washington headquarters. There is a curve of fees and the factors which go into making up these fees, which is provided by Washington, and that is his guide as to the ceiling.

Now, we do not make this schedule of fees public, it is confidential for our managers, for the reason that in general if the limits were published, there wouldn't be much room for negotiation.

The CHAIRMAN. I appreciate that. Now, I won't ask you publicly what your limitation is, but I would like to ask you what factors you consider in making that.

Mr. WILSON. The actual fee curve is in the manual which I think has been sent to your office. Might I ask Mr. Williams to describe the factors which go into the determination of the fee? Mr. Williams is Director of the Division of Production.

The CHAIRMAN. I would also like to have the amount of fees that are being paid to the major contractors.

Mr. WILLIAMS. I don't know if I have the answer to the last question here, but we can furnish it. The manual, which we have sent the chairman, describes the fixed-fee contracts and the method of selecting the contractors and the items that go to make up the fee.

Now, first, we have to consider the job to be done, whether it is a complex job or whether it is an ordinary run-of-the-mine job. If it is a job like building a cantonment or building an ordinary warehouse building where there is no complexity, that would call for one factor in the fee.

The CHAIRMAN. I thought those kinds of contracts were on a lump-sum basis where there wasn't any complexity.

Mr. WILLIAMS. I would say in some instances we have to let an over-all contract in which this type of work is a very small factor but is included in the over-all contract. Where we have specific jobs consisting of houses or warehouses where we can separate it, then we treat it as lump sum, but if in connection with the over-all operation as at Hanford there is a powerhouse or small operating building, that is lumped in and we separate those items to determine what portion of the over-all that amounts to and make a deduction.

If the process is very complicated, like a complicated chemical process, then we give them the whole fee. Ranging from the most complicated down to the buildings I have just described we make certain deductions from the fee curve we have determined.

We also consider other factors of the contract. That is, how much we have to pay personnel, are they furnishing to us a top executive, maybe a corporate member of the firm, to supervise the work? If they are and that is not included in the reimbursable cost, and as a rule we don't permit it to be included, then that is considered in the fee.

The number of such people that might be furnished on a given job would be considered. One, two, and three might be giving part time to the job.

We also consider the items going to make up the labor relations part of the contract as to what is the custom of the contractor for paying people who have to be moved on the job, that is, per diem for a certain length of time. If those charges run high, the fee, of course, will get some reduction. If it is normal, we don't deduct.

The amount of equipment that the contractor will furnish on the job is also considered. The amount of subcontracting that the contractor will do. If we does all the work himself and furnishes the key people, then he will get a given fee. If he subcontracts 20 or 30 percent of it, his fee is reduced because that means that we will be paying a profit somewhere else for that work.

All these items go to make up the fee.

The CHAIRMAN. How do you determine the overhead allowances?

Mr. WILLIAMS. Overhead allowances on construction, which I have been discussing here, we just haven't allowed. To my knowledge, we do not permit them.

On operating contracts where an operation is such that there is a considerable effort required from the main office—that is, we might require a certain amount of work by the top labor-relations personnel or by some of the vice presidents in charge of research or design or something like that—and where there is a considerable amount of paper work that might go on in the head office due to the nature of the work, we have tried before the negotiation and during the negotiation to have our auditors to actually check into the claims of the contractor as to what these services would amount to and arrive at a formula so we could give a lump sum which would cover, not completely but equitably, the charge which they claim will have to be made for that type service.

We don't take their word for it. We make a check. We have our auditors make a check, and sometimes some of the legal department will go over their books and records to see what it has been costing for the type of work which they claim they will be doing in their office, and we arrive at the lump sum usually on that basis.

Mr. WILSON. I might say that the sum which is set up is a portion of the audited contract. This is an estimate in advance of what, let us say, the overhead of the home office on an operation away from the headquarters of the home office may be.

This is subject to audit and an actual determination of what the overhead was, so that I think, Mr. Chairman, you asked the other day, or you referred to the General Electric contract—I might mention that very briefly here because it illustrates a type of contract which we have very recently discussed with the General Electric and believe that we can and should work out a more satisfactory way of accounting for both fee and overhead.

You will recall that the Du Pont Co. designed, built, and operated the Hanford works, and after the war they indicated that they would like to exercise the provision in their contract which would allow them to get out after the war was over.

The Manhattan District, we understand, then looked around for a contractor-operator for the Hanford works and decided that the General Electric Co. would be qualified and negotiated a contract with them whereby they took over the operation of the Hanford works, and also undertook to build the Knolls Laboratory in Schenectady.

There was one contract with GE for the total job it did operating the plants at Hanford, operating and managing the community at Hanford, at Richland, supervising the construction of new plant at Hanford; design, construction, and operation of the laboratory and reactor at Schenectady. This was one total contract which was a cost reimbursable contract with a fixed fee of purely nominal amount, \$1, but with an overhead allowance of \$200,000 a month toward their home-office overhead on this total job.

The contract provided that at the termination of this contract the overhead allowance and the items chargeable against that would be audited by an independent firm of auditors and according to what was sound accounting practice in terms of charges against overhead with

a provision that the remainder in excess of what actually turned out to be correct overhead charges would be returnable to the Government.

On the other hand, if the amount charged had exceeded that, then there was no claim against the Government. We feel that, first of all, it is desirable to try to work out an arrangement whereby the several parts of the job which the General Electric Co. is doing be made the subject of separate contracts, to be sure, with common provisions in many respects, but the operation of the plant at Hanford is a quite different type of thing from the design, construction, and operation of a laboratory in Schenectady.

We had a meeting with the General Electric officers on Saturday, this past Saturday, and have a meeting set for March 18, at which we are going to review this whole contractual arrangement and at the same time consider what would be appropriate or more appropriate as a fee and overhead arrangements. We believe for certain types of operations it is appropriate and right to pay the contractor a definite fee, not a nominal fee.

Mr. DURHAM. Suppose you let a contract and, of course, you have some form of binding contract, and it is drawn up. When the General Manager thinks there should be some change in it, does the General Manager have authority to change that contract?

Mr. WILSON. No. First of all, any changes or amendments in the contract must be approved by the man who executed the contract at the outset, and that is, in the case of the GE contract, myself; and in the case of contracts not in excess of the limit we have discussed, it would be the manager of operations.

Mr. DURMAN. That has happened in contracts for service, that you have had to change them from time to time?

Mr. WILSON. Yes; we have had to amend them.

Mr. DURHAM. That is done by the Commission?

Mr. WILSON. That is right.

Mr. HOLIFIELD. Mr. Wilson, what authority does Mr. Williams have over these managers of the different projects? Maybe I should say what responsibility, also, does he have?

Mr. WILSON. Mr. Williams, as Director of the Division of Production, has responsibility for supervising the managers of raw materials. He happens to be in Washington; the New York office, that is Mr. Kelley; Oak Ridge, Mr. Franklin; and Hanford, Mr. Schlemmer. And they report to him. His delegation to them is broad, but he is responsible for the programs carried out at each establishment, for the budget of funds, for the general supervision of the financial operations and accounts at each establishment, and for review and approval of changes in those plans and programs.

Mr. HOLIFIELD. Of course, he consults with you on the progress of the work and such changes as may be desired?

Mr. WILSON. Yes.

Mr. HOLIFIELD. In other words, although this authority is given to the manager up to \$3,000,000, \$5,000,000, in such as Mr. Williams you have a constant supervision at the site and a constant report to the Commission on the progress and on any necessary changes.

Mr. WILSON. Mr. Williams is on my staff in Washington; and Mr. Kelley and Mr. Franklin at Oak Ridge, and Mr. Schlemmer, they are the managers of operations in the field, reporting to Mr. Williams.

So, there is constant supervision from Washington and daily consultation between Mr. Williams and Mr. Shugg, the Deputy Manager, and myself.

Mr. HOLIFIELD. Are those persons you mention at the different sites authorized to sit in with the resident manager on his negotiation of contracts?

Mr. WILSON. Oh, yes.

Mr. HOLIFIELD. There is the constant knowledge of the procedure involved in negotiating contracts?

Mr. WILSON. That is correct.

Mr. HOLIFIELD. On the part of the actions of the manager?

Mr. WILSON. Yes; I think it is certainly true; whereas, no contract for any substantial project is signed which hasn't informally at least been discussed with various people in the Washington office and does not conform to the funds and scope of the job which has been approved in the Commission's program and budget.

Mr. HOLIFIELD. There is no danger of the local manager arriving at independent decisions which are out of line with the general approved budget limitations, then?

Mr. WILSON. No; I think there is not. I think it is correct to say that in delegating responsibility to the manager of operations, he does not do everything precisely as Mr. Williams would do it or as I would do it, but he certainly has the guide lines of policy, of program, and of the budget and the very considerable fabric of contract provisions and policies which guide his action.

It might be of some interest to the committee for Mr. Kelley, whose office has the largest number of contracts of any office of operations, to describe how he actually handles the selection of the contractors, the negotiation of contracts, and assures the conformance of what he does to the budget and to the policy of the Commission.

Mr. Chairman, I was inquiring whether it might be of interest to the committee if Mr. Kelley, whose office handles the largest number of contracts of any operations office, were to describe, as a manager of operations, the manner in which contractors are selected, contracts negotiated and executed, and how conformance to the policies and budgets and programs of the Commission is assured by these actions.

The CHAIRMAN. It would be, but I have several questions, Mr. Wilson. I note in your statement there is mention that the AEC is staffed for technical supervision of the work. In regard to the technical staffs of the contract organizations, does that lead to duplication?

Mr. WILSON. I think not. Technical supervision on the staff of the manager of operations varies considerably from one office to another.

Let's take the Chicago office. I believe the manager there has two technical people on his staff who, in a sense, service and handle reports and serve liaison between the Divisions of Research and Biology and Reactor Development in Washington and the contractor.

Take another example. On the staff of Mr. Kelley in New York he has a group of people experienced and knowledgeable in the field of production of feed materials, because, as you remember, the actual production of feed materials is carried on at a number of different places between New York and the Middle West, and his people in that case provide technical production supervision of the operations at various places in terms of coordinating them, seeing that production of one plant meets the specifications of the next plant.

The technical staffs at the offices of the managers of operations are very small and I think in no sense duplicate the work of the contractors.

The CHAIRMAN. How does your set-up compare with the ones employed by the Navy and the Air Corps with plane manufacturers and shipbuilders? Did you refer to the procedures of the Navy and Air Force before you went into this decentralization program?

Of course, I realize they are contracting for billions of dollars' worth of material and a good deal of research, too. They have something of a comparable operation. I wonder how closely you coincide with their operation.

Mr. WILSON. I think that I am familiar with certain parts of the Navy and Air Force contracting procedure and authority delegated to their field establishments like Wright Field and other places. I think other members of my organization are perhaps more familiar than I am.

I believe that the plan which the Commission has worked out for these offices of operations involves much greater delegation of authority to the field than exists in either the Air Force or the Navy. I think perhaps in part this is illustrated by the relative size of the personnel in these various operations. There are in total somewhat less than 700 people in the Washington headquarters. Now, there are in some cases considerably larger numbers of people at some of the Commission's offices, at Oak Ridge and Los Alamos.

The CHAIRMAN. Larger number, did you say?

Mr. WILSON. There is a larger number at Oak Ridge than there is in Washington. As to the total personnel of the Commission, about 80 percent are not in Washington. This is, I think, quite different from the ratio of personnel in either the Air Force or the Navy contracting procedures. I believe that Commissioner Strauss knows very much more than I do about how the Navy contracting procedure is handled, particularly through the Bureau of Ordnance and the shipyards and navy yards.

The CHAIRMAN. Seven hundred in Washington? Does that include the security force?

Mr. WILSON. It includes our own directly employed security forces, but not the Public Building Administration guards, which we obtain on a reimbursable basis from PBA.

The CHAIRMAN. There was a report from the industrial advisory group in which it seems they made some criticism of the fact that the Commission wasn't getting out enough industrial information. Are you familiar with that report, Mr. Wilson?

Mr. WILSON. Yes, I am, Mr. Chairman.

The CHAIRMAN. Have you done anything about it?

Mr. WILSON. I can describe several things which we have under study at the present time designed, we hope, in part to build upon the very good recommendations in many respects which are contained in the report you refer to. I think it is true that in the information which has been declassified the preponderance of that information is basic scientific information, as compared with information of an industrial technological kind.

In the past we have done some things which have not been very fruitful thus far. Last year we invited a number of the technical editors of the engineering and industrial trade journals and professional

society journals to visit Oak Ridge and to examine some of the work there, which was largely unclassified.

It seems to us now that there is merit in an idea which we are presently considering of inviting the engineering and professional and technical journals to designate certain of their membership to be cleared by us to review the classified and unclassified information in our general technical library at Oak Ridge to determine what items would be of particular value in various industries.

We feel that the editors and people who are closely associated with the technical journals like *Metals Progress* and the *Electrical Engineering Journal* and metallurgical journals will be aware of the items of technology in our volume of information which would be useful to industry at this time. The first need is to identify those items. We can then consider whether they can be declassified at this time, and we would hope in this way to provide for review of information on industrial technology, which has not been declassified, which might be very useful to industry if we knew that fact and which, knowing of its value to industry, we could then have something more to weigh in the balance of whether it can be declassified.

We have also been studying proposals in regard to industrial advisory committees or liaison groups with certain industries under which we would invite groups to visit our production plants and laboratories and perhaps provide training courses for people there so that they would have a fairly deep understanding of what the nature of this operation is and could advise and suggest ways in which further bonds with industry could be built up.

We also think that perhaps one of the most valuable ways of broadening industrial participation is through actual doing and a step in that direction which has been announced recently was bringing in the Westinghouse Co. in the engineering, design, and construction of this Navy-type reactor power plant.

The CHAIRMAN. Have you published the size of that contract?

Mr. WILSON. I don't think we have.

The CHAIRMAN. That is all right.

Mr. DURHAM. You are subject to the General Procurement Act?

Mr. WILSON. Yes, sir. As far as the AEC is concerned; and our prime contractors make a number of purchases, and they are subject to the general policies which we provide for them, but AEC purchases are generally subject to the Federal Procurement Act.

The CHAIRMAN. You mention that private enterprise is beginning to come into the field and risk some of its own capital. Can you give me an idea as to how extensive that is and give specific examples?

Mr. WILSON. There are three areas. This is very small. It is a hopeful beginning but it is not large in money yet.

One area is in the production of radiation instruments, radiation detection instruments. There are now over 40 companies in the country which make radiation detection instruments of various kinds, and their market is users of isotopes throughout the country, our various laboratories and plants, and this has grown from a very small group of companies whose development work was in large measure financed during the war by the Manhattan District into this group of 40 pretty self-sufficient, highly competitive industrial concerns.

The CHAIRMAN. They manufacture Geiger counters?

Mr. WILSON. Geiger counters, scalars—the whole gamut of modifications and variations of those two fundamental instruments.

Perhaps Mr. Williams knows the size of the investment this represents. Do you have any figures, or the size of the business they do?

Mr. WILLIAMS. We have been purchasing from two to four million dollars of these instruments. Now, the contractors, on the other hand, purchase in addition to that, and I don't know the figures on that, but there are a number of small units. In some cases they were scientific personnel who worked in developing original meters and then started in one room with their own business. They have produced very fine instruments, have grown to small companies now, and are continuing the work.

We have tried by centralizing the control of the radiation detection instruments in the beginning to develop industries throughout the country to do this type of work and also try to coordinate with the Army and Navy and Air Force, et cetera, to see that we were not in competition with each other and that developments which the Atomic Energy Commission, for instance, had made were available to the other agencies, and vice versa.

This we have done, but at the present time we feel that we have developed enough companies now, small though they are, to decentralize this procurement and a certain amount of the development to our various area offices and let them carry it on, still having a central office that receives the orders which they place, a copy of those orders, sufficiently in advance to be able to advise the office making the purchase if there is already a contract for that type of instrument that might be more favorable.

Mr. DURHAM. Do you know whether or not they are meeting the over-all demand at the present time?

Mr. WILLIAMS. So far as we are concerned, they are meeting the demand.

Mr. DURHAM. Have the armed forces asked you to standardize this equipment?

Mr. WILLIAMS. After a committee composed of representatives from the armed forces and AEC that met frequently to discuss and go over designs and developments in this field, in some cases we have done some work for the Navy. I believe in the future that they are going to coordinate their development and design very closely with us, but they will probably go out more than they have in the past in letting their own orders.

Mr. DURHAM. Are they making them in the Army plants at the present time?

Mr. WILLIAMS. I could not answer that offhand. The radiation detection instrument is something you can make one or two of in any corner if you have someone that knows the principle, and I would suspect they are doing that.

Mr. DURHAM. This is an important instrument to national defense. Do you feel like we have reached a point in this where we can standardize it?

Mr. WILLIAMS. We have reached the point where we can standardize on certain types of instruments, but we have not reached the point in the over-all problem of atomic energy where we can say that we don't need any additional instruments, because every day, you might say, we are learning of additional requirements.

Mr. DURHAM. I understand that, but what about detection instruments?

Mr. WILLIAMS. For detection we do have standards. The citizens feel that we have reached the point where we have standardized for commercial purposes.

Mr. WILSON. May I comment on that, Mr. Durham? I feel that a good deal of progress has been made in developing fairly simple, rugged, reliable instruments. I think that there is work yet to do in developing an instrument which is capable of very large mass production and usable by a relatively untrained person.

This is an important project. We have some work on it, and more must be done, because we must, in terms of the civil-defense picture, have instruments of this type designed and developed so that they can be procured in large quantities and made widely available to various parts of the country and used by people who will not have a physics degree.

Mr. DURHAM. Do you require all these universities that ship this fission material to you to have these instruments?

Mr. WILSON. Yes, sir.

Mr. DURHAM. That is a requirement?

Mr. WILSON. That is a requirement. No one can purchase isotopes, for example, unless he has the necessary instruments for measuring the level and handling them safely.

Mr. HOLIFIELD. Mr. Wilson, is there any educational program being developed on the part of the Atomic Energy Commission to acquaint the civilians in potential target areas as to how to use these radiation detection instruments?

Mr. WILSON. I do not know that I can answer that specific question. Mr. Williams?

Mr. WILLIAMS. We have been working on a plan which has not been placed in operation yet, because there is some question as to the responsibility of the armed services for some of this work. But we have been working on a plan whereby there would be at each area operations office—that is, each office like Oak Ridge, Hanford, Chicago, Los Alamos—gathered together a stock pile of instruments which could be rushed to a danger area very readily, and we have been drawing up a plan whereby we would have approximately 100 people, a good force at each installation, thoroughly trained in the handling of these instruments and in the interpretation of the reading that they might get on the instrument, so that they could be rushed to an area that might need them. That would be the first start.

We have conferred with the National Military Establishment on this, and I am quite certain they will want to take some part in it also. But this plan is being worked up at the present time.

We do have, at Oak Ridge, a certain stock pile of various types of instruments. I could not tell you offhand how many of each. But we do have a stock pile that can be distributed immediately in case they were needed.

Mr. HOLIFIELD. We have certain strategic defense installations in this country which might be the target of an enemy attack, such as the Norfolk Naval-Hampton Roads installation. In case a bomb should be exploded in the Hampton Roads Naval District are there any protective plans at this time for the civilians in that area to offset such an attack?

Mr. WILSON. Mr. Holifield, I believe in the report which Mr. Hopley made to the Secretary of National Defense and which was issued late last fall, there is reference to some of the measures of civil defense in relation to atomic warfare which should be observed when the pattern of how civil defense is going to be organized in this country is set up.

I believe as far as the Commission has participated, or is aware, there is no plan in existence today, other than one that may have been developed by the Navy Department in relation to that Hampton Roads area which would provide the kind of local instruction and education as to what can be done in the event of an atomic bombing attack.

We are collaborating with the National Military Establishment now in the preparation of a handbook, so-called, on the radiological and blast effects of weapons, which represents the kind of data in regard to radiation levels and blast and the like, and effects on structures, which is necessary information for local planning to deal with the consequences of atomic attack.

This is in preparation now. Perhaps Mr. Lilienthal mentioned it at the time of our hearing a couple of weeks ago. It will probably take 3 or 4 months before it is completed and ready for issue.

Mr. HOLIFIELD. I am glad to hear that you are taking some steps to transfer some knowledge of how to protect civilian populations to the people themselves. I would like to know what type of distribution you plan on this information.

Mr. WILSON. This is planned as a published report. Presumably it will be printed by the Government Printing Office. It will be a publication jointly by the Atomic Energy Commission and the National Military Establishment.

It is the kind of a document which, in our judgment, if it turns out as we hope it will, is information which almost every community should have in studying its own local problem, because we hope that it will contain sufficient factual information rather than conclusions or prescriptions as to what to do, so that local study and action can be taken.

Mr. HOLIFIELD. I am glad you are thinking about this problem because many of us who have had an opportunity to see these bombs exploded at Bikini are somewhat concerned at the lack of information on the part of the general public and the lack of awareness of the danger that might be involved in an atomic bomb attack.

We think that the taxpayers who are going to pay half a billion dollars a year to develop atomic energy weapons should know something about the extent of their destructive capacity, and also something about how they can protect themselves, if they can protect themselves.

I think it is an important educational feature, and I hope your Commission is proceeding along the line of really giving some serious attention to this.

Mr. WILSON. We are. As I stated, it is the purpose of this report, which I described, to provide the factual information which will allow judgments to be made by medical people and structural engineers and other people in various localities as to the effects and the usefulness of various measures of protection or diminishing their vulnerability.

Mr. DURHAM. It should be in every community in the United States.

The CHAIRMAN. On the other hand, it will tell the other people how to protect themselves; will it not?

Mr. WILSON. That is true, Mr. Chairman. And the review of this document from the standpoint of determining the right balance between the disclosure of information not disclosed hitherto, which would be useful to other nations, and the disclosure of information to our own people so that they will at least have the knowledge as to what to prepare for, will take some time and will not be easy.

The CHAIRMAN. In other words, the difficulty is to give enough information to protect yourself without giving too much information so the other fellow can protect himself. Is that it?

Mr. WILSON. That is true, Mr. Chairman.

The CHAIRMAN. That is a most difficult task.

Mr. WILSON. It is a question that comes up in connection with the declassification of any item of information. It is particularly tough here.

Mr. STRAUSS. As an aside, the best protection will still be to be somewhere else when the bomb goes off.

The CHAIRMAN. That is prevention.

Mr. HOLIFIELD. I do not think the Commission will take the position that if there are protective measures that can be taken they will deny the knowledge of those protective measures to the American people just in order to protect our country from disseminating that information to some potential enemy.

Mr. WILSON. I believe there is, fortunately, a general mandate in the Atomic Energy Act which instructs us in relation to the control of information and other matters to so handle things as to serve the paramount consideration of the common defense and security.

It seems to me clear that the preservation of this country, the development of abilities to meet and cope with, in the light of knowledge rather than hysteria or mystery, attacks on this country, is of the essence in serving the common defense and security. This is not going to be an easy judgment, but what you state certainly has great force in weighing the judgments that have to be weighed here.

Mr. HOLIFIELD. As a matter of fact, referring to the comment that Admiral Strauss just made, the amount of protective information that you have at this time in relation to the destructiveness of the bomb, is so infinitesimal that you would not be revealing many secrets, would you?

Mr. WILSON. Not very many.

The CHAIRMAN. To go back to a more mundane matter: It has been testified to time and time again here that these operations are very unusual. I am talking about town operations. We have many company towns in this country, such as the Hershey town, in Pennsylvania; one at Climax, Colo.; one of the zinc company's towns at Palmerton, Pa.; the Reclamation Bureau, at Boulder City, Colo.; and the Pure Oil Co., in Venezuela; also the American Oil Co. in Arabia.

It seems to me that there ought to be some precedent to be useful for the Commission to look into the operations of these towns. I can see that the need for security in some of these towns at least is great. But I wonder whether the Commission has made any inquiry into other company towns to find out procedures and methods. Have they done so?

Mr. WILSON. We have had the advice of several consultants in city management and have reviewed the experience of certain other Government agencies which have towns. For example, Inyokern, Calif., is a Government owned, built, and operated town.

The CHAIRMAN. Which agency is that?

Mr. WILSON. That is the Naval Ordnance Department.

We have obtained some information—I think perhaps there is more information that we might obtain—from some of the industrial concerns which have operated company towns. I am sure you recognize that we are not in the business of operating towns because we like to. Unhappily it is one of the things that we inherited along with the rest of the operation, and the continued operation of plants and laboratories at Oak Ridge, Hanford, and Los Alamos is dependent upon the existence and continuity of the community, which is the housing, stores, schools, and the rest of it.

Our objective in relation to these communities has been first of all to develop an accounting system which would identify the charges, the costs, which were normal municipal costs, those which were the costs of real-estate management, and those that were county costs, and the remainder of which are properly chargeable against the plants.

Such an accounting system, an identical one, was set up and put into operation in each of the communities last July 1. We are beginning to get useful information from it. This has enabled us to identify the nature of the cost to the United States Government of these various parts of the operation. Our general objective is to try to move in the direction of making these communities less abnormal, more financially responsible, and, along with that, more responsible in terms of providing their own self-government.

The CHAIRMAN. Why have you not put up a management contract for building? There are many large real-estate management contractors in the country, such as Zia and Roane-Anderson, which have a monopoly on this thing. They have no opposition for management contracts; is that true?

Mr. WILSON. That is true. They were selected, as you know, at the end of the war to provide all sorts of services. These services have been gradually reduced.

At the present time at Oak Ridge, for example, we have taken steps so that the organization in our staff and in Roane-Anderson is divided along these lines of the normal municipal services, and the real estate management services, and the county services.

We have not, at the present time, considered seeking other contractors for these functions because we believe that the step to which we should go is to diminish the element of subsidy. In this connection we have made studies at Oak Ridge and Richland of rentals and have recently considered the results of this and the Commission has approved increasing the rentals fairly substantially to a level which will still be somewhat below the prevailing area rentals.

This will get the real estate in a form where it can perhaps be less of a drain, certainly less of a net loss at the end of the year.

As to the other things that Zia and Roane-Anderson and General Electric now do, we think that some of them can perhaps be better done directly by the Atomic Energy Commission when we know more about their costs and what the alternatives are.

At Richland, for example, we believe it is desirable to separate the operation of the plant from the operation of the town, and have discussed this with the General Electric Co. and are seeking to work out a plan there for dividing the town from the plant.

As to how it is best to handle the town there seem to be several alternatives. One would be merely to try to find another contractor to do all that General Electric is doing. We do not think that is the answer. Rather, we believe that an alternative which looks somewhat more attractive would be to take the municipal functions—which some day it is hoped the town, through its own government, will provide—do those directly by the Atomic Energy Commission, take the real estate management functions and consider whether those can better be done by hiring a real estate management firm.

We are working at this, Mr. Chairman. I do not claim we have gotten the best solution, or that we have gone perhaps as fast as we should. But our objective is to arrive at a point where, as nearly as possible—and this will still be only an approximation—these communities, at least I speak of Oak Ridge, Richland, and Los Alamos for a long time will be in a different category—but at least for Oak Ridge and Richland they will be reasonably comparable with communities in their region in terms of their own government, in terms of their financial responsibility, and in terms of their cost to the Federal Government.

The CHAIRMAN. I have been invited to go down to Oak Ridge on the 19th of March to participate in a ceremony marking the opening of the town. What are you going to do down there that day?

Mr. WILSON. I am glad you raised that, Mr. Chairman, because it relates to what I was just talking about. At Richland, when the place was originally built, the fence went around the plant, and the town of Richland had no fence around it.

The CHAIRMAN. You are talking about Richland?

Mr. WILSON. Richland, Wash. There was no fence around the town. At Oak Ridge a fence was put around the whole reservation, town and plants, all together. Obviously there were fences around the individual plants. But once within the town, or within the county area, people drove around on the various roads and there was relatively free movement.

In reviewing the security aspects of this, as well as the prospects of getting private investment in the town, it seemed to us at Oak Ridge that security would better be served by having a fence around the plant area in total, and not around the plant area and town as well. We have therefore arranged, or rearranged the fences, and on the 19th of March we will open the gates so that it will not require any pass or special privilege to get into the town, which will then be fenced from the plant area.

This, we think, will serve the security as well, and we also believe it is an essential first step in getting the town into something like normal.

First of all get the fence off; then people will consider making investments of private capital in commercial facilities.

At Richland, for example—I think Mr. Schlemmer mentioned this the other day—there are 64 organizations that are coming in with their own capital to build everything from gas stations to furniture stores.

We believe the same thing will occur at Oak Ridge and there are signs of it. But the first need is to get the fence off.

The CHAIRMAN. Will you, Mr. Wilson, give us a list of the major contracts, together with the management fees that have been paid in the last year? I am interested in the 64 that have come in there with their own capital. Who made the deals? How have they been made? What percentage of rents? And just what is the situation?

Mr. WILSON. Yes, sir. I will furnish that.

(The information to be furnished by Mr. Wilson is marked "Exhibit No. 5," and will be found in the appendix on p. 111.)

The CHAIRMAN. We will have to adjourn now, because we have a session. We will meet at the call of the Chair.

(Thereupon, at 12 noon, the committee adjourned, subject to the call of the Chair.)



# ATOMIC ENERGY COMMISSION CONTRACT POLICY

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THURSDAY, FEBRUARY 24, 1949

CONGRESS OF THE UNITED STATES,  
JOINT COMMITTEE ON ATOMIC ENERGY,  
*Washington, D. C.*

The committee met at 10:30 a. m., pursuant to call, in room 457, Senate Office Building, Senator Brien McMahon (chairman) presiding.

Present: Senators McMahon (chairman) and Hickenlooper; Representatives Durham (vice chairman) and Price.

Also present: Sumner T. Pike, Commissioner; Carroll L. Wilson, General Manager; Walter J. Williams, Director, Division of Production, Atomic Energy Commission; and Wilbur E. Kelley, Manager, New York Operations Office, Atomic Energy Commission.

The CHAIRMAN. The committee will come to order.

I believe we are to hear from Mr. Kelley in regard to Brookhaven and the kinds of contract arrangements the New York Operations Office has for operation of that project.

## STATEMENTS OF CARROLL L. WILSON, GENERAL MANAGER, AND WILBUR E. KELLEY, MANAGER, NEW YORK OPERATIONS OFFICE, OF THE ATOMIC ENERGY COMMISSION

Mr. WILSON. Mr. Chairman, may I make a request before you begin? With reference to some remarks that Mr. Williams and I made on Monday concerning the position of the Atomic Energy Commission in relation to measures or facts concerning defense of civilian population against atomic attack, may I make a very brief statement which I think will clear up the misunderstanding?

The CHAIRMAN. Of course.

Mr. WILSON. I think under three brief headings, I can make clear the position of the Commission in relation to this subject.

First the Commission has a responsibility for making publicly available the facts about the effects of atomic weapons which can be made available with due regard to national security. Such knowledge is essential for making sound plans and carrying on effective operations in case of attack with atomic weapons. As we stated on Monday, we are gathering such information together in a Weapon Effects Handbook, and whatever parts of it may be generally issued without harm to security will be issued.

Second, the Commission is responsible for making plans for protection of people and property at the atomic energy installations in case of attack with atomic weapons. We have radiation detection instruments, and we have people trained to use them at these establishments. Of course, at the present time such instruments and people might be

able to give help to nearby communities. At a later time, a more extensive program now under study might be undertaken.

Third, the Commission is giving assistance to the civilian defense planning groups set up within the National Military Establishment last year to study the problems of civil defense and frame recommendations for organizing and operating civil defense programs. The Commission will assist the permanent civil defense agency in every possible way when it is established.

Thank you. That is all.

The CHAIRMAN. If I recollect what you said previously, this statement here doesn't contradict anything you said.

Mr. WILSON. I believe that is correct, but I believe there was perhaps some misunderstanding as to the extent of the responsibility of the Commission for general civil defense against atomic attack, and I thought perhaps this statement might clear that up.

The CHAIRMAN. I didn't so understand, when Mr. Holifield asked you that question, but that implication might be possible. I do not think anybody familiar with the subject believes the Commission is charged with the duty of actually carrying on the defense.

That, of course, is for the Military Establishment, the National Defense Establishment.

Mr. WILSON. That is correct. Thank you, Mr. Chairman. I just wanted to put this in the record.

The CHAIRMAN. It is probably just as well to be in the record. Do you have anything else?

Mr. WILSON. No; I have nothing else.

Mr. KELLEY. Mr. Chairman, I had not intended to restrict my comments to Brookhaven, since that is only one of the 250 contracts that we handle from the New York office, but I will be glad to start on Brookhaven.

The CHAIRMAN. I don't intend to restrict my inquiries to Brookhaven, either; but I assumed that is the largest contract you have, at least in the continental United States.

Mr. KELLEY. Dollarwise, that is correct, Mr. Chairman.

The CHAIRMAN. Yes.

Mr. KELLEY. As you know, at the end of the war, although 75 percent of the people trained in nuclear science were in the Northeast, there was no laboratory available for them, and, therefore, we couldn't take advantage of their special talents. For that reason the Brookhaven Laboratory was conceived and started.

We are using the site of the old Camp Upton, the Army camp out on Long Island. We have converted a lot of the buildings from their original purpose into chemical laboratories and metallurgical laboratories, et cetera.

The contract is an arrangement between the Atomic Energy Commission and a corporation that was formed especially for the purpose of operating that laboratory. The corporation is composed of nine of the large eastern universities: Harvard, Johns Hopkins, Columbia, Cornell, Massachusetts Institute of Technology, Princeton, Pennsylvania, Rochester, and Yale.

They formed a nonprofit corporation for the sole purpose of operating that laboratory. Since the formation of that corporation they have been engaged in the staffing of the laboratory and the planning of the operation.

As a part of the planning they have devised the major unit that we are installing out there. We are building a nuclear reactor, using normal materials similar to those we used at Oak Ridge during the war. This will give to us in the Northeast area a piece of research equipment that would not be available in any other way.

First of all, it is too expensive for any of these universities, which are among the largest, or any other university, to build, but we will make it available to all universities in the country really, but especially those in the Northeast that might have problems that they can solve only by the use of one of these nuclear reactors.

In addition to the reactor, we are building several pieces of auxiliary equipment. In years past they would have been special projects in themselves, but they are now auxiliaries to this principal unit. We are building a 60-inch cyclotron, a Van de Graff machine, which is another type of accelerator, and we hope within the next couple of years to complete the design and construction on what we are calling a cosmotron. That is our own name for a very large cyclotron type of instrument.

Those are the major instruments we are building.

Along with that, we are staffing——

Senator HICKENLOOPER. Is there a cosmotron being built at the University of California, at Berkeley?

Mr. KELLEY. Yes, sir; there is a similar device but in an entirely different energy range. We do not overlap in our energy output. The device at Brookhaven will be designed to reach an energy of approximately  $3\frac{1}{2}$  billion electron volts and the device at Berkeley will go up to 10 billion. They will be complementary, but will not duplicate in their fields of activity.

The staff of the laboratory at present is approximately 1,500 people. That is made up of about 1,100 administrative people or service people, and the remainder are scientists.

We are working in the fields of physics, electronics, chemistry, biology, medicine, but all in the nuclear field with specific application in these other general fields.

Our operating budget is approximately \$10,000,000 per year. That covers the salaries and equipment required for these scientists. We are trying a new, and I think a very interesting plan in insisting that the staff of the laboratory be made up of both visiting and permanent members. We want to avoid the pitfall of having a stagnant staff, and by insisting on the division of the staff between on-leave people from universities, we hope to work into the laboratory new ideas and new thoughts on a continuing basis.

The CHAIRMAN. Do the universities participate equally?

Mr. KELLEY. Yes, sir; there is no limit to the participation, and I should say with emphasis that we are not limiting the participation to these nine big schools that form the corporation. They did that to help us, really. It is a nonprofit arrangement. Their administrative people and their top scientists have devoted a lot of time.

The CHAIRMAN. How does another college in the area participate?

Mr. KELLEY. We have approached all of the schools in the Northeast, both by letter and by visit, and have invited them to take part. We asked them to send scientists to Brookhaven for training. We have invited them to send people there for periods of 2 to 3 years, if they can do it.

The CHAIRMAN. What kind of response have you gotten from that invitation?

Mr. KELLEY. Very good. We are at somewhat of a disadvantage because we have not completed these tools that the scientists will need. I am sure that when those tools are available we will have a waiting list. Even now, for our open conferences, we have had a very fine response. During the summer, last year, we held several open meetings, one devoted exclusively to biology, and there were several hundred that came to the laboratory and spent, I believe, 2 weeks discussing among themselves and learning this new subject. Part of it is new; the nuclear part is new.

I feel that this is a particularly good investment in that it is from such places as Brookhaven that we will get advances in fundamental science.

The CHAIRMAN. Basic research?

Mr. KELLEY. Basic research. Although we will carry out some directed research at Brookhaven, our emphasis will certainly be on basic research, and, as you know, during the war that is the part of our science that suffered most. We neglected it, because we had certain specific jobs to do. We directed our research toward the solution of specific problems, so there was little time for the kind of basic thought that is really needed to make real progress.

Now, we have recruited a good staff. The senior men are outstanding in their fields. The junior staff is enthusiastic, and I think they will pay off with a few years of training.

We are also making the laboratory available to graduate students.

The CHAIRMAN. What salaries do you pay your scientists?

Mr. KELLEY. Well, they are comparable to the university salaries in the area. That is the way we determined them. The universities making up the corporation discussed the salary scales among themselves, with our participation, and we arrived at a salary scale that is comparable to the university scale. It is not as high as industry would pay, but it is equal to the salaries that would be paid to comparable people in universities.

The CHAIRMAN. What do your top scientists get?

Mr. KELLEY. The Director's salary is \$14,000 a year, and the other staff salaries range downward from that. Senior scientists would get from \$6,000 to \$8,000, depending upon their responsibilities.

We, of course, have numbers of assistants in the laboratories that are skilled in one trade or another. We have sheet-metal workers, electronics men, machinists, tinsmiths, glassblowers, and those salaries are set in keeping with the prevailing wage in the area.

Senator HICKENLOOPER. Mr. Chairman, may I ask Mr. Kelley this: Does the Government furnish the housing there for rental to these people at Brookhaven?

Mr. KELLEY. We are not building housing on the area. We do not intend to get into the headaches of operating a town. We have encouraged the purchase of houses by the staff in the surrounding small towns. So far, we have been very lucky.

Senator HICKENLOOPER. Do you have any housing facilities at Brookhaven?

Mr. KELLEY. Yes, sir. I think we have 70 apartments that were built by modification of existing barracks buildings on the site. Those apartments, though, are for transient use only. They are not for permanent staff.

Senator HICKENLOOPER. The point is you are not going into a housing or town program at Brookhaven; is that right?

Mr. KELLEY. No, sir. We have contemplated the construction of a few houses off the area for transient scientists, but we do not expect to get into any kind of town operation. We have not constructed any facilities on the area for that purpose.

Senator HICKENLOOPER. You say "on the area." You haven't constructed any facilities any place else for that purpose, have you?

Mr. KELLEY. I wanted to explain more in detail these houses we proposed off the area. At present we have planned, and they will soon be under construction, 25 houses at Bellport, Long Island. Those houses will be for the use of scientists that are stationed at the laboratory, but in a leave status.

We didn't think it fair to insist that a scientist that knew he was to be there only 2 years should buy a house, so we will rent him one. This will not be a large operation, though.

Senator HICKENLOOPER. Those will be Government-owned?

Mr. KELLEY. Well, through Associated Universities, the corporation that is operating the laboratories.

Senator HICKENLOOPER. The Government pays for building the houses?

Mr. KELLEY. We pay the ultimate bill.

Senator HICKENLOOPER. It doesn't make much difference whose hands it goes through; does it?

Mr. KELLEY. Associated Universities will collect the rents and see that the houses are maintained.

Senator HICKENLOOPER. Where will the title of those houses be? In Associated Universities or in the Commission?

Mr. KELLEY. I am not a lawyer, but I believe the ultimate title is certainly ours, the Government's.

Senator HICKENLOOPER. These converted barracks apartments, how many did you say you had?

Mr. KELLEY. Seventy.

Senator HICKENLOOPER. Seventy apartments?

Mr. KELLEY. Yes, sir.

Senator HICKENLOOPER. Thank you.

The CHAIRMAN. How many did you say you had in mind?

Mr. KELLEY. We have these 70 apartments on the area.

The CHAIRMAN. I understand that.

Mr. KELLEY. Twenty-five houses off the area.

The CHAIRMAN. Are they in this budget?

Mr. KELLEY. They were in the 1949 budget.

The CHAIRMAN. The contract has not been let for them?

Mr. KELLEY. It is being let this week, I believe.

The CHAIRMAN. What kind of houses are they?

Mr. KELLEY. They will be three-bedroom houses and built as cheaply as we can build them. I don't believe the bids have been received yet.

The construction work on the main units is progressing well. We expect to have the nuclear reactor in operation in the spring. That is our major unit.

I would like, Mr. Chairman, if you are interested, to describe some of the other contract work we do in New York.

The CHAIRMAN. Let me ask you this: Mr. Kelley, what did you do before you became Manager there?

Mr. KELLEY. I was with the Manhattan District as one of General Groves' assistants. I was assigned to the Manhattan District in 1942 from the Panama Canal.

The CHAIRMAN. You were Regular Army?

Mr. KELLEY. No, sir; I was a Reserve officer.

The CHAIRMAN. How many people do you have in your New York office?

Mr. KELLEY. About 500.

The CHAIRMAN. That is the largest establishment outside of Washington, is it not?

Mr. KELLEY. No, sir. I think the staffs at Oak Ridge and Richland and Los Alamos are larger.

The CHAIRMAN. That is right.

Mr. KELLEY. Besides the Brookhaven contract we have 250 other contracts handled from the New York office. We are used as a procurement office by the other offices of the Commission. We handle the processing of the feed materials for Oak Ridge and Richland and some special procurement for the laboratories at Los Alamos and Sandia.

It has been our mission to get for the project any new material or new equipment that was not available on the open market, and this work in dollar value runs approximately \$100,000,000 a year. We have numerous purchase orders which we process in the normal way. I have some statistics here that might interest you.

We handled about 315 requisitions per month for other offices of the Commission, and then adding in our own, that amounts to about 360. Of those, we are able to handle 97 percent by normal procurement methods. That is under the rules of section 3709.

The CHAIRMAN. When you say \$100,000,000 a year, are you the contracting officer for that \$100,000,000?

Mr. KELLEY. Yes, sir.

The CHAIRMAN. What is the largest contract you personally—I am not asking you who it is—what is the largest contract in dollar amount?

Mr. KELLEY. I think the Associated Universities contract is the largest in dollar amount.

The CHAIRMAN. That is \$10,000,000?

Mr. KELLEY. \$10,000,000 in operating costs. The construction costs have totaled about \$25,000,000 to date.

The CHAIRMAN. Have you referred these contracts to the—

Mr. KELLEY. I would like to explain how I operate under that authority of \$2,000,000, discussed by Mr. Wilson the other day.

The CHAIRMAN. \$2,000,000, or \$5,000,000?

Mr. KELLEY. Mine is \$2,000,000.

The CHAIRMAN. You are just a little fellow.

Mr. KELLEY. That is right. As Mr. Wilson explained, we, in the field, do not take this delegation of authority as blanket permission to go out and make contracts. We limit ourselves first of all to the program that has been discussed and approved by the staff here in Washington and we also discuss on a day-to-day basis the details of our operation. I report to Mr. Williams. I try to keep him informed of what we propose to do in the future, tell him what we plan to do next week, and that gives him an opportunity to question me on just how I plan to do it, and gives me a chance to explain why we are doing things.

By the time the contract document is completed and ready for signature, the Washington staff is well informed on what is in it, and when I forward it to Washington for their approval they are already familiar with the terms, so that I have not operated over in a void in making this contract but have kept up a day-to-day contact with the people here.

Now, there is a very good reason, though, for me to have the authority to sign the bulk of the contracts. First of all, it short circuits a lot of unnecessary paper work. I say unnecessary, so long as they are informed on what is going on.

It notifies the contractor that the man with whom he should deal in asking questions and in getting advice is me, the contracting officer, and I am the nearest person to him. I know what the problems are, and I can work with him in solving them.

The CHAIRMAN. How many are negotiated contracts and how many of your 250 are put out for bid?

Mr. KELLEY. Well, sir, of the 250, 151 involve classified work, and, of course, all of those are negotiated. They are not negotiated, though, without competition. We can select a representative group from an industry or if it is a development job we want to place with a university, we might talk with several before making final arrangements.

Senator HICKENLOOPER. What is your habit? Do you talk to them?

Mr. KELLEY. We do, definitely, sir. I could give as an example the method of placing the contract with the H. K. Ferguson Co. at Brookhaven for the construction work. I worked with Associated Universities in meeting with several companies. We talked to the Austin Co., Stone & Webster, Sanderson & Porter, Walsh Construction Co., H. K. Ferguson, and others.

Senator HICKENLOOPER. In your classified contracts, the contracts in classified areas, what you do practically is that you select a certain number of people that you believe can do the work and whose backgrounds ought to be all right, and who are trustworthy, and among those you attempt to negotiate a contract?

Mr. KELLEY. Yes, sir; that is correct, and we do not make that determination alone. We ask for advice on whom we might contact. We ask the Engineering Society, say, if it is a research job. We might ask the construction magazine services to give us lists of people that have handled comparable jobs from a money point of view, or in accordance with the type.

The CHAIRMAN. Where is Ferguson from?

Mr. KELLEY. Cleveland, Ohio, is their home office.

The CHAIRMAN. Have they done other work for you?

Mr. KELLEY. During the war they constructed one of the plants at Oak Ridge, but this is a new type of job for them at Brookhaven.

The CHAIRMAN. That is classified work?

Mr. KELLEY. Yes, sir.

The CHAIRMAN. How about these 99 contracts that are unclassified? Were they let out to bid?

Mr. KELLEY. Many of them were. I have some figures here I think would explain how we handled the remainder. Of those not involving classified work, 28 of them were with public utilities and consultants and nonprofit institutions, and other Government agencies.

Then, of the remainder still there, we advertised 30. Now, that covers most of our construction work.

The CHAIRMAN. That covers 58 of your contracts. That leaves 41 unclassified contracts that were not put out to bid. Why didn't you put those 41 out to bid?

Mr. KELLEY. Here are some of the reasons. Often it is necessary to place unclassified work that relates to classified work, and we are forced to go to the firm handling the related part. For instance, on some of the work that I do for Los Alamos and Sandia we can separate from a piece of equipment a small piece that we could handle on an unclassified basis, but if that has to fit into the classified device——

The CHAIRMAN. It seems to me then it really is classified.

Mr. KELLEY. It cannot be advertised. We cannot handle it that way. Sometimes we are asked to procure things by brand name for test purposes. It is often necessary in development and research work in looking for a device that will do a specific thing to canvass the market and get all of these devices in the laboratory and test them under the severe conditions that we have to meet. So I could not advertise all of that kind of procurement.

The CHAIRMAN. You do try to advertise what you feel you can and give everybody a chance?

Mr. KELLEY. We certainly do. And I think that in the near future we will be able to expand the participation by industry in some of this work.

The CHAIRMAN. Certainly there shouldn't be any negotiated contracts for housing.

Mr. KELLEY. We don't intend to do any such thing as that. Wherever we know what we want and can reduce it to some explanation and specifications, we advertise.

The CHAIRMAN. How many people are actually at your establishment at Brookhaven? You told me you had 1,500 people on the pay roll.

Mr. KELLEY. That is on the Associated Universities' pay roll. My own staff there is 35, I believe. If I could just have a moment, I will check that—35 is a good figure, Mr. Chairman.

The CHAIRMAN. Is it necessary to have that many people to check up on the execution of your contracts with these universities?

Mr. KELLEY. There are five of those people involved in security work.

The CHAIRMAN. You do handle the security?

Mr. KELLEY. Yes, sir; our office in New York is responsible for the physical security of some 400 locations.

The CHAIRMAN. Now, there has been some mention made of a picture of the establishment that is in the fifth semiannual report.

Mr. KELLEY. Yes, sir.

The CHAIRMAN. Did you forward that picture to the Commission for inclusion?

Mr. KELLEY. I am not sure of the mechanics as to how it reached the report, but in our opinion it certainly did not disclose any classified information. It merely shows the barracks and other buildings that were there when the place was an open Army camp.

The CHAIRMAN. Would it have been possible to keep secret the existence of this project?

Mr. KELLEY. In peacetime I do not think it would have been possible, Mr. Chairman. We have to buy so many things, we have to have so many people come in the area to help us such as carpenters, plumbers, pipefitters. I think it would have been almost impossible to have kept the existence of the laboratory secret, and, of course, our primary purpose in establishing it was to make it an open establishment so we could get scientists to come there and work, so we had to advertise it among the universities.

The CHAIRMAN. But you do have security there?

Mr. KELLEY. We have a restricted area within the general area, and the persons going into that restricted area are cleared in the same fashion they would be cleared to go into the plant at Oak Ridge.

The CHAIRMAN. Is there any picture of the restricted area in the report?

Mr. KELLEY. No, sir; there is not.

The CHAIRMAN. What is your opinion, Mr. Wilson? Could the existence of this have been kept secret?

Mr. WILSON. Mr. Chairman, I don't see how it could have been. The existence of Camp Upton was known widely as an establishment covering several thousand acres on Long Island. The proposal to convert it into a laboratory was discussed long ago, and the purpose of this laboratory is one for basic research primarily, as you state.

Within the total establishment there are certain restricted areas, as Mr. Kelley pointed out, but much of it is unrestricted, and inasmuch as there are 1,500 people working there in total, they live in various parts of Long Island and Long Island is traversed by air lines, and so on, it seems to me it would have been impossible to conceal the existence of the laboratory, and our effort, therefore, has been devoted to walling off and keeping separate those parts of the project on the area which involve restricted data and providing adequate measures so that only people who are cleared can enter those or have access to the information in them.

Senator HICKENLOOPER. The fact of the matter is, is it not, Mr. Wilson, that this matter was pretty generally discussed and announced when the Army had control of this thing, the Brookhaven situation and the proposal to use the grounds of Camp Upton as a place to build this experimental laboratory?

Mr. WILSON. That is correct.

Senator HICKENLOOPER. And your basic intention is to leave this as pretty much an open experimental laboratory with a minimum of classified work going on there as compared to some other installations?

Mr. WILSON. That is correct; a minimum. The bulk of it is unclassified.

The CHAIRMAN. You are confident of your security measures for the classified work?

Mr. WILSON. Yes; we are.

The CHAIRMAN. I am interested. Senator Hickenlooper's recollection is better than mine; he refreshes my recollection, and I now remember that was started in the Manhattan Engineer days. When did it get under operation?

Mr. WILSON. Mr. Kelley can describe when it really took form. I believe Associated Universities was formed in the latter part of 1946.

Mr. KELLEY. That is correct, 1946. The Manhattan District took the camp from the Army in the fall of 1945, shortly after the war.

It was declared surplus by the Army, and we looked at several available sites and finally selected Upton as being the best equipped.

We believe that we have saved about \$30,000,000 of construction cost by taking this surplus Army site, and I am sure that we have saved a year in construction time by having the utilities, the roads, and sewage-treatment plant, and so forth, available.

Senator HICKENLOOPER. So, as a matter of fact, the Brookhaven installation is a continuation of the program laid out by the Manhattan District and announced shortly after the close of the war as a laboratory area for these purposes?

Mr. KELLEY. The general purpose was announced; yes, sir.

The CHAIRMAN. You came over from the Manhattan Engineer District?

Mr. KELLEY. Yes, sir.

The CHAIRMAN. Were you engaged in security for the Manhattan Engineer District?

Mr. KELLEY. No, sir; I was what was called a unit chief. General Groves divided the job into four principal parts. One was the operation at Richland; there were two at Oak Ridge and one at Los Alamos, and I was one of the four unit chiefs. My principal assignment was the electromagnetic plant at Oak Ridge.

The CHAIRMAN. Now, you have looked at this picture; have you not?

Mr. KELLEY. Yes, sir; I have it in front of me. The picture does not show the restricted area. The restricted area is off the picture to the top.

The CHAIRMAN. Is that the one that shows the chimney?

Mr. KELLEY. This chimney is not the chimney connected with the restricted area but is the chimney for the main heating plant.

Senator HICKENLOOPER. It would seem to me that if there is anything desirable about not giving information, you have just told where the restricted area is with reference to that picture.

Mr. KELLEY. Well, sir, I have certainly not described it in detail or given any other advice beyond what can be seen by any person flying over the area.

The CHAIRMAN. Is that restricted at all for air travel?

Mr. KELLEY. No, sir; and this device shown on page 73 is not a classified device.

The CHAIRMAN. Who declassified it?

Mr. KELLEY. We have defined certain areas of research as being unclassified, and work on particle accelerators is not classified. This is a particle accelerator.

The CHAIRMAN. Thank you. I think it should be emphasized that this whole project is one which you classify, as I get it, Mr. Wilson; one where you feel you must have the greatest freedom, shall we say, the least classified material, and it is so designed?

Mr. WILSON. That is correct, Mr. Chairman.

The CHAIRMAN. This is not a place where you manufacture materials?

Mr. WILSON. No, sir.

The CHAIRMAN. This is an experimental laboratory for basic research?

Mr. WILSON. That is correct.

Mr. KELLEY. Mr. Chairman, would you be interested in our manner of administration on these contracts?

The CHAIRMAN. Definitely.

Mr. KELLEY. Once the contract is made and consummated it is our routine in the office—first, during the negotiation we assign a number to the contract. Then, a technical representative on the staff is selected and made responsible for this particular contract.

If it is in the field of chemistry, naturally we select one of our chemists or chemical engineers to handle it. He is the principal contact between the Atomic Energy Commission and the contractor; regardless of the subject, if the contractor has a question to ask about security, he calls his contact man, who is the technical representative and the technical representative then has available to him specialists in security, and they will work as a group in solving the problem. We maintain a current list of all contracts. Naturally, with 250 active ones, aside from the procurement orders, we have to have some red tape. We try to get by with a minimum amount, but there must be some. We maintain this list, and on the list there will be shown the name of the technical representative, the name of the principal property representative for the Commission, the contracting officer, the classification of the contract, whether it is unclassified or secret, the principal finance man responsible for that contract.

That means that we can have some order within our own office in handling the problems that come up every day on a contract. We have control over subcontracting under our prime contracts. We write into our prime contracts limits on the authority of the subcontractor.

We review the subcontractors to determine whether the subcontracting of the work is in the best interests of the Commission. It might be wiser for us to go out and make another prime contract.

Senator HICKENLOOPER. How many of these contracts are cost-plus-fixed-fee?

Mr. KELLEY. I have the number here. I think the number is six, but could I take the time to verify that?

Senator HICKENLOOPER. Yes; and the total amount of the contracts in that category in dollars, if you have it there.

Mr. KELLEY. I think it would save the committee's time, Senator Hickenlooper, if I could turn that in for the record. I don't have it tabulated.

Senator HICKENLOOPER. Can you give us an estimate?

Mr. KELLEY. My number of six, I think, is good. That would amount, in dollars, to current value of about \$35,000,000. That includes the largest contract, which is the Ferguson construction job at Brookhaven.

Senator HICKENLOOPER. What is your fixed fee on those contracts?

Mr. KELLEY. The Ferguson contract is approximately \$21,000,000, and the fixed fee is \$500,000. That is a negotiated fee.

The CHAIRMAN. Isn't that a little high?

Mr. KELLEY. No, sir. This is an extremely complicated job. It required the translation of an idea by a scientist into a nuclear reactor. I think it involved some of the most difficult mechanical and electrical design that we could throw at any contractor. I approved this fee. I thought it was reasonable for the work.

The CHAIRMAN. Twenty-five percent?

Mr. KELLEY. Two and one-half percent.

The CHAIRMAN. Yes; that is right. My decimal point was off.

Senator HICKENLOOPER. Under that contract, the Commission reimburses all costs and adds 2½ percent fixed fee?

Mr. KELLEY. Yes, sir.

The CHAIRMAN. I was wrong on my comment about it being pretty high.

Mr. KELLEY. Frankly, I tried to negotiate a lower one and was unsuccessful.

The CHAIRMAN. I can see that.

Senator HICKENLOOPER. Did you attempt it with any other company besides the Ferguson Co?

Mr. KELLEY. Yes, sir; I named several, Senator Hickenlooper. We discussed this job with the Stone & Webster Co., Austin Co., Walsh Construction Co., and Sanderson & Porter. None of the others had the qualified staff available at that time. We selected Ferguson on the basis of the availability of a high-caliber staff for immediate construction.

Senator HICKENLOOPER. How do your other fixed-fee contracts run, the other \$14,000,000?

Mr. KELLEY. All of these are classified.

Senator HICKENLOOPER. Dollars are not classified, are they?

Mr. KELLEY. No; the dollars are not, but the description of the work should be.

Senator HICKENLOOPER. I am asking about the cost; not for a description of the work.

Mr. KELLEY. We have a contract with the firm of Singmaster & Breyer. They are consulting design engineers in New York. That is for a new structure to be built at St. Louis.

Senator HICKENLOOPER. I am not particularly concerned at the moment with the name of the company.

Mr. KELLEY. You are more concerned in the dollar value?

Senator HICKENLOOPER. I am more interested in the contract and how much is the contract and the amount of the fixed fee. I don't think it is necessary, at least for my purposes at the moment. I would just as soon not have you name the contractor.

Mr. KELLEY. The contract value is \$2,650,000. The fixed fee is \$100,000.

Senator HICKENLOOPER. The fee is \$100,000?

Mr. KELLEY. Yes, sir. That involves first design, engineering, supervision of construction, and some procurement. I might add that the type of plant being designed is entirely new.

I have another one for the design, engineering, and supervision of construction of another building, value of \$900,000; fee of \$17,000.

I have another one for research, development, and planning of construction for \$8,600,000 with a fee of \$598,000. That again is in new field of endeavor. It involves a lot of development work and the most intricate kind of design for handling highly radioactive materials.

I gave you the Ferguson job.

I have another one that was placed as a subcontract under Associated Universities. It provides for the design, manufacture, testing, and supervision of installation of one of these particle accelerators. The cost was estimated at \$379,000; the fee \$22,000.

(Supplementary statement by Mr. Wilbur E. Kelley, Manager, New York Operations Office, regarding fixed-fee contracts being administered by the New York Operations Office:)

In reviewing the transcript of the hearings before the Joint Committee on Atomic Energy on February 24, 1949, I find that I omitted mention of two additional fixed-fee contracts being administered by the Office of New York Operations. These contracts with Union Carbide and Carbon Chemicals Corp. and Linde Air Products Co., are both for the processing of feed material. They are of a different character than the ones given at the hearing, being operating contracts rather than contracts for construction and engineering work. Pertinent data regarding these contracts are: 1. Union Carbide, estimated obligations, fiscal year 1949; \$640,000 (including fee); annual fee (\$120,000). 2. Linde Air Products, estimated obligations, fiscal year 1949; \$986,000 (including fee); annual fee (\$120,000).

Mr. KELLEY. Those are the ones on which I have detailed information here.

Senator HICKENLOOPER. On your contract with Associated Universities for the operation of Brookhaven, is there any fixed fee over and above that?

Mr. KELLEY. There is no fee involved, and we audit all of the overhead accounts.

Senator HICKENLOOPER. In other words, they are operating contractors, and you audit their costs and then reimburse them or pay them for the cost of operation as your audit verifies their claim?

Mr. KELLEY. Yes, sir; but there is no fee for these universities for operating the job.

Senator HICKENLOOPER. Those five contracts you have referred to—

Mr. KELLEY. They all involve classified work except the last one I gave you, Senator.

Senator HICKENLOOPER. They don't quite add up to \$35,000,000. Is there another? I get about \$31,000,000 or \$32,000,000.

Mr. KELLEY. I was going by memory when I gave the \$35,000,000.

Senator HICKENLOOPER. I wasn't questioning that, except if there is something missing I would like to have it.

Mr. KELLEY. No, sir; I think that is all.

Senator HICKENLOOPER. Then, those five are the list of that particular type of contract. They constitute the cost-plus-fixed-fee contracts?

Mr. KELLEY. Yes, sir.

Senator HICKENLOOPER. Those are under your office?

Mr. KELLEY. Yes, sir; with the exception of the one for the design of the particle accelerator, they are prime contracts with my office; work not connected with Brookhaven.

Senator HICKENLOOPER. What other man of the AEC has responsibility for other contracts of that nature at Brookhaven?

You said that was all under your office. I didn't know whether there were others or not.

Mr. KELLEY. Other offices of the Commission would have other fee contracts that I would have no connection with.

Senator HICKENLOOPER. At Brookhaven?

Mr. KELLEY. No, sir.

Senator HICKENLOOPER. I am talking about Brookhaven. I understand that. Thank you. That is all I have.

The CHAIRMAN. All right, Mr. Kelley.

Mr. KELLEY. We have under our general supervision other field offices than Brookhaven, too. We have an office in St. Louis connected with our preparation of feed materials for Oak Ridge and Hanford.

We have a small office in Cleveland, Ohio. We have a small office at Tonawanda, N. Y.

These are to handle local contracts in that area. All classified work.

Senator HICKENLOOPER. Do any of those involve cost-plus-fixed-fee?

Mr. KELLEY. No, sir; they do not make contracts independently.

Senator HICKENLOOPER. These five contracts that you referred to in this 30-million-odd-dollars, are those all of the contracts under your office that are cost-plus-fixed-fee?

Mr. KELLEY. Unless I made a mistake in reading them off, Senator, that is correct. There is an additional subcontract—Excuse me, sir. There is an additional sub-subcontract under the Ferguson Co. that I did not give. That is for electrical work at Brookhaven. \$1,200,000 estimated cost, fixed fee, \$60,000. That should be the sixth.

Senator HICKENLOOPER. All right.

Mr. KELLEY. We also handle development work from our office in New York connected with some of the special equipment required at Los Alamos and Sandia. That I could not describe in detail.

The CHAIRMAN. What type of labor-relations clauses do you have in your contracts?

Mr. KELLEY. On the fee contracts, we require the submission of a complete wage and salary schedule for our approval.

As to the handling of labor relations during the life of the contract we feel very strongly that is the responsibility of the contractor, that it is his business to deal with unions.

The CHAIRMAN. Mr. Wilson, the President's Commission appointed to study labor problems in atomic energy plants is about ready to make a report, isn't it?

Mr. WILSON. The Commission appointed by the President, headed by Mr. Davis, has just about completed its studies and visits to the various installations, and we understand they will presently make their report to the President.

The CHAIRMAN. That report does go to the President?

Mr. WILSON. That report goes to the President, and we understand it will be made shortly.

The CHAIRMAN. That is a very important report.

What provisions do you make in your contracts to cover liability in the event of a disaster or latent physical injury to workers which is not discovered until after they leave the industry?

Mr. KELLEY. On a few of the contracts that involve the processing of radioactive materials, we have inserted a clause at the request of the contractor that he be held harmless from costs incurred as a result of personal injury of that kind.

At the moment we are engaged in renegotiating those clauses. We are, first of all, working with the association of insurance carriers in an attempt to work out an arrangement for insurance to cover this hazard rather than have us, as the Government, try to cover it by contract provision.

The CHAIRMAN. You mean to say that you are going to enter into another contract with an insurance company to cover this hazard?

Mr. KELLEY. No, the more desirable arrangement would be to have the contractor enter into an arrangement with the insurance company for this purpose. That is, if it appears economical to do so. We are discussing the possibility. We haven't received quotations.

Senator HICKENLOOPER. How are you going to get a quotation from the insurance company?

Will you let them go into the classified areas and learn about the hazard involved?

Mr. KELLEY. We have cleared representatives from the insurance industry, and we will disclose to them the minimum amount of information that they might need to make an evaluation. We certainly don't expect to disclose all of the weapons, manufacturing technique or anything of that kind. We certainly would be fair with them, though, in giving them access to all the pertinent data.

Senator HICKENLOOPER. Hasn't that been one of the paramount difficulties in establishing a proper insurance rate, the difficulty of insurance companies being able to, with any degree of accuracy, evaluate the hazards?

Mr. KELLEY. Yes, sir, that is correct, and we are exploring the possibilities, though. We do not think it should be neglected. A more desirable solution might be some kind of Federal insurance. We don't know.

Senator HICKENLOOPER. You haven't come to any conclusions on that score yet?

Mr. KELLEY. No, sir, we have not.

The CHAIRMAN. Have you had many claims?

Mr. KELLEY. Not under my supervision, no. I don't know of a single claim for radiation injury.

The CHAIRMAN. You said "the insurance industry." Are you dealing with an association of insurance companies?

Mr. KELLEY. Association of insurance carriers, rather than try to deal with individual companies. They have agreed among themselves to appoint representatives.

The CHAIRMAN. Are they handling it on a cooperative basis?

Mr. KELLEY. Yes, sir, but the placement of the insurance would be handled on an individual basis.

Senator HICKENLOOPER. As long as we have opened up that insurance subject, suppose somebody makes a claim, how are you going to try a law suit involving the hazard involved and the effects of this stuff and what it does without disclosing some classified information on occasions? Have you given consideration to that?

Mr. KELLEY. Yes, sir. As you know, we are carrying on a lot of research into the problem of injury to persons by radiation, and more and more of that may be declassified. In the event it is declassified, we would be able to present it in court, and we think that sometime in the future certainly we have enough information to be intelligent in court on the subject.

Senator HICKENLOOPER. It involves the question of whether the Government should undertake the responsibility for settling those things for the protection of classified information or whether insurance policies covering those things can be available, which, by the very nature of the insurance contract, would throw any dispute into a public hearing.

Mr. KELLEY. Well, sir, we are not unaware of those things but we feel that this may develop into a major problem sometime in the distant future and we should know as much about it as possible.

Senator HICKENLOOPER. It is not a major problem because you haven't had too much trouble, but it is a potential problem at all times.

Mr. KELLEY. We don't think it will ever develop into a serious problem because of the steps we take in operating our plants. We protect the workers so they won't be injured.

Senator HICKENLOOPER. That is all.

The CHAIRMAN. Would you care to tell us, Mr. Wilson, how many claims you have had for injury?

Mr. WILSON. Radiation injury throughout the Commission's operations, I don't think I have such information right with me now.

The CHAIRMAN. Is it classified?

Mr. WILSON. I don't believe so. We can furnish it to the committee.

The CHAIRMAN. How do you handle the claim? Do you evaluate it at the Commission?

Mr. WILSON. We do have a provision in some of our contracts with major contractors such as at Oak Ridge, at Hanford, and at Los Alamos, a plan which provides for payments as a result of death or disability from special hazards—that is, radiation hazards peculiar to our business. This provides for an arrangement whereby the contractor, if it is established that the death or disability is one which results from the definition of special hazards in the contract, the contractor shall determine and the AEC review for approval, that the nature of the disability, whether temporary or permanent and payments in amount not to exceed \$10,000 in a given case may be made.

This is a self-insurance scheme, if you will, for hazards, the special hazards, and this is in addition to any payments which may be made from workmen's compensation provisions in a given State.

The CHAIRMAN. Ten thousand dollars, if a man loses his eyes?

Mr. WILSON. That is the limit. If it is permanent or total disability or death.

Senator HICKENLOOPER. Have you paid any of those claims, Mr. Wilson?

Mr. WILSON. Yes, we have paid several. The details I would have to get.

I might mention, Mr. Chairman, that on pages 136 and 137 of the Commission's last semiannual report, there is a description of the insurance and benefits plans which the Commission had with various of its contractors. I think it is perhaps stated there as well as I can state it.

The CHAIRMAN. I see that the contractors have set up a fund of \$25,750,000, according to this report, as collateral which the Government has advanced securing the liability to claimants imposed by law.

Mr. WILSON. That is right. Part of that derives from the arrangement set up during the war with the contractors with the Manhattan District funds some of which are gradually reduced in amount as time goes by and probability of claims diminishes. This is true of the General Electric contract. There is a time base. That is also a fund set up in connection with the du Pont contract, which was established at the time the du Pont Co. built the Hanford Works, and this, I believe, carries on for a period of 10 years.

Senator HICKENLOOPER. In that paragraph that you referred to there on page 136, the last two or three sentences of the paragraph are as follows:

Normally, policies issued under this plan carry an upper limit on the amount of premiums payable, so that the risk of severe losses is borne by the insurance

company. Where special arrangements have been necessitated by the nature of the operations, however, this upper limit on premiums has been removed. Thus, the contractor has become obligated to reimburse the insurance company (and the Commission in turn to reimburse the contractor) for all claims payments, without limit, in addition to the charge for services of the insurance company in the administration and settlement of claims.

If the contractor is going to reimburse the insurance company for those special claims and the Commission in turn is to reimburse the contractor, what is the use of using the insurance company? If full and complete liability rests ultimately on the Atomic Energy Commission, that is.

Mr. WILSON. I believe these derive from the arrangement set up during the war. At that time, and I think it is still true, one cannot find an insurance company which will insure beyond a given amount, because of the uncertainty and lack of experience record in terms of hazards of this kind.

The arrangements described here reflect that kind of situation which exists at several installations where the insurance company has agreed to meet claims up to a given amount, but not without limit.

Senator HICKENLOOPER. This doesn't say that. This says for all claims payments of certain categories. These are not reinsurance contracts.

Mr. WILSON. May I ask Mr. Kelley to comment on one point there?

Senator HICKENLOOPER. Yes I want to get it cleared up.

Mr. KELLEY. Your question as to why we use the insurance company at all—

Senator HICKENLOOPER. I didn't say "at all." I said, in these cases, instances where the contractor, according to this statement, fully reimburses the insurance company for all losses and the AEC reimburses the contractor for all losses and also to reimburse the insurance company or the contractor for the charge for the services of the insurance company in the administration and settlement of the claims.

Mr. KELLEY. It is for that service and administration that we pay. We are not skilled in adjusting insurance claims.

Senator HICKENLOOPER. That is only part of it. The main thing you pay is the full claim.

Mr. KELLEY. We haven't been able to find an insurance carrier that would be willing to pay that for this particular type of hazard. It is beyond their experience.

Senator HICKENLOOPER. You say these arrangements were made under the Manhattan District probably. Are you still operating under Manhattan District contracts?

Mr. WILSON. A number of contracts are extensions and supplements to contracts entered into during the Manhattan District period.

Senator HICKENLOOPER. And with the same general provisions?

Mr. WILSON. Some provisions, with the same contractors.

Senator HICKENLOOPER. So that in effect there has been a time in most of these cases where the AEC could have, if the contractor was willing and the AEC was willing, the provisions could have been changed; is that right?

Mr. WILSON. That is correct. We have raised this question, that it is not easy to negotiate a change in the arrangements described here with contractors who recognize the uncertainty of the risks involved.

The CHAIRMAN. I asked you, Mr. Wilson, how many individuals had been paid and you stated you didn't have it.

Now, I note on page 138 of the report the statement that to date payments have been made under the terms of the plan to 5 individuals and not more than 14 additional potential claims are known to exist. Funds aggregating 16½ million were established by the Commission's predecessor, the Manhattan District, with contractors covering benefits that might be paid by the contractor during the period of the contract or in the ensuing 10 years.

Of course, we have got a lot of time to hear from some of those.

Mr. WILSON. Additional potential claims are those we have some knowledge of at the present time. These figures are the figures——

The CHAIRMAN. Ones where the claim has been made?

Mr. WILSON. That is right.

The CHAIRMAN. I think it is important that it be pointed out that this is not a high ratio to the number of man-hours that have been worked in the laboratories. We don't want the people of the country to get the idea that they are sure to be injured if they go to work for you. I think that is very important.

I would like to have your comments as to the safety record that this indicates or the lack of safety.

Mr. WILSON. The safety record of this industry since the outset throughout the war period—and we have succeeded in maintaining it—is a most impressive one in terms of any industry. I am not sure whether there is in this report——

Senator HICKENLOOPER. Isn't it a fair statement to say that since the inception of this project, since the establishment of the Manhattan District—I am saying what I believe to be the fact, I don't know, and if I am wrong, correct me—there has been no known provable injury in this project from radiation that was not already an anticipated hazard against which regulations had been issued, and that any injuries which have occurred, have occurred from the violation of existing regulations and from the violation of conduct against an already anticipated hazard.

The margin of safety has been very great, hasn't it; the margin of safety regulations has been very great?

Mr. WILSON. I believe that is a correct statement, Senator.

Senator HICKENLOOPER. That is my impression, that it is the case, and it is a magnificent and almost unique record there. I think there have been some injuries, but they have been injuries resulting when existing regulations have been violated in one way or another.

Mr. WILSON. That is correct.

Senator HICKENLOOPER. I think it is an unusual, and I think it is a unique situation, a unique record both in the Manhattan District and under the AEC in such a new enterprise.

The CHAIRMAN. How about these stories I have read in the press recently about some of the scientists going blind?

Are they included in the 14 potentials?

Mr. WILSON. No, Senator; because none of those, to the best of our knowledge resulted from exposures in connection with either the Manhattan District or AEC establishments.

In other words, the injuries which have been reported publicly resulted from exposure, I believe in all cases, to cyclotron radiation at establishments other than those operated either by the Manhattan District or now by the Commission.

Senator HICKENLOOPER. Resulted in independent research?

Mr. WILSON. Independent research in various universities and scientific institutions.

The CHAIRMAN. And<sup>1</sup> places where they didn't have set up regulations such as you have in your establishments?

Mr. WILSON. I can't say as to the regulations which existed at the time in those cases, but it is correct to say that there have been no comparable injuries known to us at this time from any exposure in either the Manhattan District or Atomic Energy Commission laboratories.

The CHAIRMAN. I shouldn't think from this record that you have here that it would be very difficult to get an insurance company to insure.

Mr. WILSON. The record is very impressive, Senator, and the longer the record goes on the better the basis is for believing that the elements of risk here are certainly not beyond the character of risks taken by insurance companies in other matters.

The CHAIRMAN. I presume, of course, that the Commission could set up some kind of sinking fund so that it could carry this insurance, but I presume that you have acted with the companies in the effort to carry out the free-enterprise idea that underlies the act, with reference to free enterprise, wherever it can be available; is that the underlying philosophy of it?

Mr. WILSON. That is correct, Senator, and the studies which Mr. Kelley described are directly in that line. We have cleared, as he indicated, representatives from this cooperative insurance underwriters group, and we hope it will be possible for them to develop sufficient information so that they can insure against these risks.

I might say, Senator, that this record of safety, particularly against the novel hazards in this business, is, I believe, a very impressive one. It has cost plenty of money. We believe it is money well invested, but the safety precautions, such as film badges and many other measures used to monitor and protect personnel against radiation injury are expensive. We believe it is a good investment, but it costs a lot.

The CHAIRMAN. You have carried out the same philosophy with regard to protecting surrounding areas, have you not, referring particularly to stories that have appeared in the press of people being worried about areas around Brookhaven and those towns around there. There have been stories in the press that they thought they were in some danger. You have obviated any danger that could come from any experiment there, haven't you?

Mr. WILSON. We believe we have taken all the measures we have any reason to believe are valuable at this time. I might say at Brookhaven there has been a particularly good opportunity to observe the atmosphere and the ground water and vegetation, et cetera, in the whole region of Long Island surrounding it before any pile is operated. The meteorological towers which were built there are to observe carefully the nature of the meteorological conditions in the vicinity, so that if any inversions or other unusual conditions should occur which would produce a hazard to the region resulting from the air which goes through the pile to cool, we would have notice of this in advance and will set up the appropriate measures for shutting down the pile or diminishing its power.

We have taken at our other installations numerous measures to diminish the danger to the region of contamination from our plants.

Last month, you will recall we had a meeting here in Washington and issued about a 40-page digest of the results of that meeting. It was a meeting which brought together public health officials, municipal waterworks people, sewerage people, from various parts of the country to review and observe the kind of programs we had under way and the measures we were taking and the nature of the hazards which do exist.

The CHAIRMAN. I have had letters from people down on Long Island protesting the building of any pile, asking why didn't they put it somewhere else. One lady said, "Why didn't you put it in Connecticut?" As far as the danger was concerned, if I had had the opportunity to, I think I would have put it in Connecticut, but I think it is important that the people be reassured against any wild stories that they are living in a danger zone.

Senator HICKENLOOPER. Is it safe to say that while there are always new fields in atomic energy that will be developed which will create new conditions, nevertheless, experience and efforts of the Commission have been devoted to the anticipation of all known or reasonably anticipated hazards and that you are doing everything you can to protect against any possibility of any such hazards occurring and to correct any potential hazards before they become hazards?

Mr. WILSON. That is correct, Senator.

Mr. KELLEY. Mr. Chairman, there was one point on these over-area surveys that might be of interest. We consider this very important to protect the Government from false claims, so that we will build up for as long a period as possible this evidence on the normal radiation background surrounding one of our installations.

The CHAIRMAN. That would seem to me to be a wise thing to do.

It now is a few minutes after 12, and the chairman has a couple of matters which he wishes to discuss in executive session, so we will convene again at the call of the Chair. Thank you very much.

(Whereupon, at 12:05 p. m., the committee adjourned.)

# APPENDIX

## EXHIBIT No. 1

(Copy Filed January 6, 1949)

### IN THE SUPREME COURT OF THE STATE OF NEW MEXICO

Sibyl H. Chaney, plaintiff-appellant, vs. Marion A. Chaney, defendant-appellee.

No. 5145

APPEAL FROM DISTRICT COURT OF SANTA FE COUNTY. CARMODY, JUDGE

O. Russell Jones, Esq., M. P. Gutierrez, Esq., Santa Fe, N. Mex., Attorneys for Appellant.

Robert W. Ward, Esq., Lovington, N. Mex. (amicus curiae).

#### OPINION

LUJAN, J.: Sibyl H. Chaney filed her complaint in the District Court of Santa Fe County against Marion A. Chaney, seeking an absolute divorce from him. She alleged, among other things, that she and the defendant were married at the city of Brownwood, Brown County, State of Texas, on or about December 1, 1940, and that she is and has been a bona fide resident in good faith of the county of Sandoval and State of New Mexico, for more than 1 year next preceding the filing of her complaint. The defendant entered his voluntary appearance, waived any and all questions relating to venue, and consented that the cause be tried in his absence without further notice to him.

The acquisition of the land comprising the Los Alamos project by the United States is related in detail in the case of *Arledge v. Mabry* (52 N. M. —, 197 Pac. 2nd. 844); therefore, we will not repeat it here.

It is not denied that the appellant has continuously lived in Los Alamos, a governmental project, since January 15, 1947, nor that the portion thereof upon which plaintiff resides was procured through condemnation proceedings, and that the Los Alamos project is situated within the boundaries of Sandoval and Santa Fe Counties, N. Mex.

The appellant, plaintiff below, first came to the State of New Mexico with her husband on December 15, 1946, from the State of Texas. They lived in a trailer house in Albuquerque for about 3 days then moved the trailer house to Santa Fe where they lived for a month. On January 15, 1947, they moved to Los Alamos where they lived in the trailer house until March 28, 1948, when she moved into one of the permanent houses located on the condemned land of the project and where she lived at the time she filed this action.

At the time the Los Alamos project was created, many people were employed to work there by the Los Alamos Atomic Energy Commission and private concerns, some of the employees were, and others of whom were not, at the time of their employment, residents of New Mexico. The appellant and her husband were legal residents of the State of Texas at the time they were employed and when they moved into Los Alamos.

At the conclusion of plaintiff's evidence, the district court refused to grant her a divorce because the jurisdictional residence relied upon by her was on condemned land belonging to the United States at the time she instituted her suit, and, in the court's opinion, residence thereon was not sufficient to give the court jurisdiction. Thus, the sole question before us is whether persons living at Los Alamos, on land acquired through condemnation by the United States, are residents of New Mexico, for purposes of maintaining a divorce suit.

The Constitution of the United States, article 1, section 8, clause 17, provides that Congress shall have power "to exercise exclusive Legislation in all cases

whatsoever, over such District (not exceeding 10 miles square) as may, by cession of particular States, and the acceptance of Congress, become the seat of the Government of the United States, and to exercise like authority over all places purchased by the consent of the Legislature of the State in which the same shall be, for the erection of forts, magazines, arsenals, dockyards, and other needful buildings." In discussing this clause of the Constitution, Mr. Justice Sadler, speaking for the court, in *Arledge v. Mabry*, supra, said:

"The New Mexico Statute whereby consent was given to the United States to acquire any land in New Mexico under the clause of the Federal Constitution quoted above for sites for arsenals and other purposes was enacted in 1912 as L. 1912, c. 47. \* \* \*

"Although the United States Constitution, in the clause quoted, mentions acquisition by purchase, it has long been settled that the same consequences attach from a jurisdictional standpoint when land is acquired through *condemnation* proceedings. Indeed, land so acquired is deemed to have been secured by purchase and the same consequences attach. Furthermore, the term 'exclusive legislation' employed in said clause 17 of the Federal Constitution is held to be synonymous with and carry the same meaning as if the term 'exclusive jurisdiction' had been employed. \* \* \* [Emphasis ours.]

The United States having acquired the land in question through condemnation proceedings, it thus obtained exclusive jurisdiction over the same, except to serve therein civil and criminal process of the courts of this State as to offenses and transactions originating outside the condemned area, and such land is not deemed a part of the State of New Mexico. Accordingly, persons living thereon do not thereby acquire legal residence in New Mexico (*Arledge v. Mabry*, supra).

In *Lowe v. Lowe* (150 Md. 592, 133 Atl. 729), the majority opinion said:

"The great weight of authority is to the effect that lands acquired in accordance with the provisions of the Federal Constitution cease to be a part of the State, and become Federal territory, over which the Federal Government has complete and exclusive jurisdiction and power of legislation. It is, therefore, clear that persons residing upon the Government reservation at Perry Point are not residents of the State of Maryland for the purpose of exercising the right of franchise \* \* \* for the reason that they reside upon territory belonging to the United States and not the State of Maryland; and, in our opinion, for the same reason, they are not such residents of the State as would entitle them to file a bill of divorce in any of the courts of the State. It might be said that it is an unfortunate situation, where, by reason of the fact that the Federal Government has failed to make provision for such cases, residents upon such reservation are left without any remedy; but this is a condition wherein the only relief which can be given is by the Federal Congress."

We are not unmindful that in *Tenorio v. Tenorio* (44 N. M. 89, 98 Pac. 2d 834), in discussing the case of *Lowe v. Lowe*, supra, we used language intimating some favor for the persuasive reasoning of Chief Justice Bond in his dissenting opinion in that case. We were holding in *Tenorio v. Tenorio* that one living on Pueblo Indian lands, territorially within New Mexico, could meet the statutory residential requirement for maintaining a divorce suit in the courts of this State. However, in that very case, as later in the case of *Arledge v. Mabry*, supra, we called attention to the fact that there was a difference in the status of Pueblo Indian lands and property acquired by the United States in the constitutional method when considered in relation to a question of "residence" for purposes of a divorce action, adding in the *Arledge* opinion for purpose of clarifying our views, the following:

"The seemingly tentative approval, provisional though it be, given the dissenting views of Chief Justice Bond in *Lowe v. Lowe*, supra, referred to in the quotation next above is, of course, to be qualified by what we today say and hold in the case before us."

The right to apply for or obtain a divorce is not a natural one, but is accorded only by reason of statute, and the State has a right to determine who are entitled to use its courts for that purpose and upon what conditions they may do so. See *Allen v. Allen*, (52 N. M. —, 194 Pac. 2d 270). Section 25-704 Comp., under which this action was brought, provides "The plaintiff in action for the dissolution of the bonds of matrimony must have been an actual resident, in good faith, of the State for 1 year next preceding the filing of his or her complaint. \* \* \*"

We are of the opinion, and so hold, that residence on the condemned area of the Los Alamos project does not suffice to supply the residence required by the fore-

going section of the divorce statutes. It follows that the judgment of the district court is correct and should be affirmed.

It is so ordered.

We concur:

EUGENE D. LUJAN, *Justice*.

CHARLES R. BRICE, *Chief Justice*.

DANIEL K. SADLER, *Justice*.

JAMES B. MCGHEE, *Justice*.

J. C. COMPTON, *Justice*.

## EXHIBIT No. 2

(Filed September 21, 1948)

### IN THE SUPREME COURT OF THE STATE OF NEW MEXICO

R. F. Deacon Arledge, informant, *v.* Thomas J. Mabry, Governor of the State of New Mexico, Charles R. Brice, Chief Justice of the Supreme Court of the State of New Mexico, and Mrs. M. A. Romero, Secretary of State, comprising the State Board of Canvassers of the State of New Mexico, and the State Board of Canvassers, respondents. No. 5144

#### ORIGINAL PROCEEDING IN MANDAMUS

Robert W. Ward, Lovington, N. Mex., A. T. Hannett, H. O. Waggoner, Stanley W. P. Miller, Albuquerque, N. Mex., attorneys for informant.

C. C. McCullough, attorney general, Santa Fe, N. Mex., attorney for respondents.

Adams & Chase, Martin A. Threet, Harry O. Morris, Albuquerque, N. Mex., attorneys for D. A. (Danny) MacPherson, Jr., real party in interest.

D. A. (Danny) MacPherson, pro se, Everett M. Grantham, United States attorney, Santa Fe, N. Mex., amicus curiae.

#### OPINION

SADLER, J.: The primary question for decision is whether that portion of Precinct No. 17 in Sandoval County, acquired by the United States through condemnation proceedings and incorporated into what is popularly known as the Los Alamos project, is "in New Mexico" within the true meaning of article 7, section 1 of the New Mexico constitution defining the qualifications of an elector entitled to vote at all elections for public officers. Incidentally, the right to vote of residents of other portions of the lands comprising the Los Alamos project lying within precinct No. 17, as affected by the fact of acquisition for its use from areas of the public domain, will be discussed and determined. And, finally, but for determination only, in the event of a holding that the portion of said precinct so acquired through condemnation is not "in New Mexico" within contemplation of the constitutional provision mentioned, whether conduct of an election at which all polling places for the precinct are located in the condemned area, invalidates such election.

The questions arise out of a contest between R. F. Deacon Arledge, the informant, and D. A. "Danny" MacPherson, his opponent, rival candidates in the primary election of June 8, 1949, for the Democratic nomination for the office of judge of the district court of the second judicial district, division No. 2. The informant, appearing upon the face of the returns to have received the larger number of votes, was declared to be the nominee by State canvassing board and a certificate of nomination was duly issued to him. Thereafter, both candidates having requested a recount of the ballots in certain designated precincts and voting divisions of the three counties comprising the second judicial district, the vote received by the candidates mentioned, after recount of the votes, was retabulated by the respective boards of county commissioners, acting as county canvassing boards. The result disclosed that informant's previous majority was overcome and a majority of 78 votes accumulated in favor of his opponent.

The corrected result of the primary election for Democratic nomination for the office mentioned having been certified to the State canvassing board composed of the Governor, chief justice, and secretary of state, the officers named were about to meet as the State canvassing board, recanvass the amended returns for the nomination involved, and as informant had good reason to believe, cancel inform-

ant's certificate of nomination and issue another one to his rival candidate. Thereupon, the informant applied to this court for a writ of mandamus against the above-named State officers, composing in an ex officio capacity the State canvassing board, as respondents, commanding them to recanvass the returns in the office of the secretary of state for the nomination mentioned, employing the amended returns resulting from the recount, but omitting and excluding therefrom returns from all voting divisions in precinct No. 17 of Sandoval County. It is agreed that if the returns from said precinct be ignored, the informant is rightfully entitled to the certificate of nomination which he now holds. We authorized issuance of an alternative writ and now the matter is before us on the writ and answer with all facts essential to a decision covered by written stipulation filed herein.

It could only result in confusion to endeavor to detail in this opinion the various steps by which the United States acquired title to the lands embraced in precinct No. 17 of Sandoval County, N. Mex. Hence, only the basic, ultimate facts touching this phase of the case and deemed essential to our decision will be stated. Suffice it to say that the Los Alamos project of the Atomic Energy Commission is a tract of land, located partly in Sandoval County and partly in Santa Fe County, N. Mex., containing approximately 68,991.30 acres. Title to all this land is held by the United States of America with custody and use of the land in United States Atomic Energy Commission, an agency of the Government. Precinct No. 17 (Los Alamos) Sandoval County, N. Mex., is a tract of land within the Los Alamos project of the Atomic Energy Commission. It contains approximately 580.29 acres and lies wholly within Sandoval County, N. Mex. Title to different parcels of this tract was acquired by the Government in two different ways.

Title to an area comprising 172.90 acres within precinct No. 17 was acquired by the United States together with a large additional quantity of land, from Mexico in 1848 under the terms of the Treaty of Guadalupe Hidalgo. It thus became a part of the public domain and enjoyed that character when on January 6, 1912, New Mexico was admitted into the Union as a sovereign State. It came immediately under administration of the Department of the Interior following its acquisition and in 1905 this tract, along with other lands, was established as a forest reserve. Subsequently, in 1905 the administration of forest reserves was transferred by Congress to the Department of Agriculture. This tract remained as a part of the national forest reserves, finally being incorporated into and becoming a part of Santa Fe National Forest. It was such when the custody, use, and occupancy of this and other lands, by agreement between governmental departments passed, first, to Corps of Engineers of United States Army, and finally, by Executive Order No. 9816 of the President, under authority of the Atomic Energy Act of 1946 (Public Law 585, 79th Cong.) into the custody, management, and control of the Atomic Energy Commission. So stood the title, control, and management of said tract of 172.90 acres at all times material to this case.

The United States acquired title to the remaining 407.39 acres of precinct No. 17 on June 18, 1943, through condemnation proceedings instituted against Los Alamos Ranch School, Inc., a corporation, in the United States District Court for the District of New Mexico. These lands, along with others included in the same condemnation proceedings, were acquired by the United States on behalf of the War Department and devoted immediately to the use and assigned to the custody of Manhattan District, Corps of Engineers of the United States Army. Thereafter on December 31, 1946, and by the same Executive Order No. 9816, mentioned above, the President of the United States under authority of Atomic Energy Act of 1946, transferred this 407.39 acres, along with all other property, real or personal, owned or in the possession, custody, or control of the Manhattan Engineer District, War Department, to the Atomic Energy Commission. Such was status of the title, control, and management of said tract of 407.39 acres at all times material to this proceeding.

It having been provided by section 355, Revised Statutes, as amended by the act of February 1, 1944 (54 Stat. 19), and by the act of October 9, 1944 (54 Stat. 1083; 40 U. S. C. 255), in effect, that unless and until the United States has accepted jurisdiction over lands acquired or in which any interest shall have been acquired after February 1, 1940, it shall be conclusively presumed that no such jurisdiction has been accepted, the Secretary of War under date of November 19, 1943, by letter addressed to Hon. John J. Dempsey, then Governor of New Mexico, at Santa Fe, gave notice that the United States was accepting and thereby did accept exclusive jurisdiction over all lands acquired by it for military purposes within the State of New Mexico, title to which had theretofore vested in the United States, and over which exclusive jurisdiction had not theretofore been obtained.

This letter from the Secretary of War further gave notice that "exclusive jurisdiction is also accepted over all lands reserved from the public domain for military purposes, over which such jurisdiction has not heretofore been obtained."

Subsequently, under date of August 21, 1944, the Secretary of War addressed another letter to the Honorable John J. Dempsey, Governor of New Mexico, at Sante Fe, referring to his letter of November 19, 1943, and to another letter of identical language from the Secretary to Governor Dempsey dated August 8, 1944, the letter of August 21 purporting to give a list of all military reservations over which exclusive Federal jurisdiction had been accepted, "comprising lands acquired and/or reserved from the public domain as of August 8, 1944." Included in the list submitted was "Los Alamos demolition range" in Sandoval County, which embraces the lands of precinct No. 17 in said county.

It was later discovered by the Secretary of War that he had made an error in compiling the list of lands over which United States accepted and claimed exclusive jurisdiction. Accordingly, under date of September 7, 1944, he addressed another letter to the Honorable John J. Dempsey, Governor of New Mexico, at Sante Fe, reading:

"Reference is made to my letter of August 21, 1944, furnishing a list of military reservations in the State of New Mexico comprising lands acquired or reserved from the public domain as of August 8, 1944.

"Exclusive jurisdiction has been obtained over all land in the State of New Mexico acquired in fee simple by the United States for military purposes prior to August 8, 1944, by purchase, condemnation, or donation; also over all lands set apart from the public domain for the Fort Wingate Military Reservation and the Fort Bliss target range.

"It has been discovered that in compiling the list furnished with the letter of August 21, 1944, certain military reservations, in addition to Fort Wingate and Fort Bliss target range, were included which consisted entirely of public domain land. Since the laws of the State of New Mexico do not cede exclusive jurisdiction over land reserved from the public domain for military purposes, excepting lands so reserved for Fort Wingate Military Reservation and the Fort Bliss target range, it was not the intention of this Department to include in the list such reservations. Therefore, in order to correct your records, there has been prepared and is enclosed a new list of military reservations in the State of New Mexico which are wholly or in part under the exclusive jurisdiction of the United States.

"It is regretted that the previous list furnished you included lands over which exclusive jurisdiction had not been obtained."

Each of the ballot boxes in use at said primary election on June 8, 1948, in precinct No. 17 of Sandoval County, contained ballots cast by persons who resided within the national forest area (public domain lands) within said precinct. They also contained ballots cast by persons who resided on lands within the condemned area within the precinct, some of whom were residents of New Mexico, residing on land now within such precinct, prior to the time title to the condemned area within such precinct was acquired by the United States and prior to the date that the letters from the Secretary of War to the Governor of New Mexico, above referred to, were written or received.

A portion of the lands contained in the Los Alamos project, including part of precinct No. 17, is devoted exclusively to scientific and technical purposes, being separated from the residential area and other parts of the project. No persons reside on the area so devoted to scientific and technical purposes and none of the voting places in the primary election were located there. All of the polling places employed in the primary election of June 8, 1948, were located within the residential and business areas of the town of Los Alamos, upon lands acquired by condemnation, as aforesaid.

The condemned area within precinct No. 17 was acquired by the United States Government for the United States Army in 1943 at a time when the United States was engaged in war. At the time of said election and at the present time, it is operated by the Atomic Energy Commission for the purpose of providing community and administrative facilities in connection with operation of the project designated as "Los Alamos project," which in turn is operated for one or more of the purposes set forth in chapter 14, title 42, sections 1801 to 1819, inclusive, United States Code, Annotated, and Executive Order No. 9816 signed by the President of the United States of America dated December 31, 1946.

Precinct No. 17 (Los Alamos), Sandoval County, is an unincorporated community of approximately 8,000 inhabitants located partly upon lands acquired by the United States by condemnation from private owners, and partly upon lands

previously within a national forest. Certain community functions frequently performed by municipal corporations, such as fire protection, electric, water, and gas utility service, sewage disposal, garbage collection, and other matters are at present conducted by the Zia Co., a corporation chartered under the laws of New Mexico, having its principal place of business at Los Alamos, and operating under a cost-plus-fixed-fee contract with the United States, executed by and under the administration of the manager's office of Santa Fe Directed Operations, United States Atomic Energy Commission.

This community, known as Los Alamos and as precinct No. 17, Sandoval County, is within a larger area, all of which is guarded by armed guards in uniform employed by the Atomic Energy Commission, and for which passes are required to enter. Within this larger area there are other restricted areas for which an additional pass is required to enter. Passes are granted to persons having business within said precinct, or desiring to visit persons who reside there. The Government does not interfere (except insofar as is necessary for security reasons and is consistent with its position as landowner) with the conduct in the community, either by persons who reside within precinct No. 17 or those who do not, of such matters as the following: Sale of insurance, sale and distribution of newspapers, and the conducting of political campaigns.

Persons residing in precinct No. 17, including those who reside on the condemned area therein and who voted in the Democratic primary election on June 8, 1948, have at all times material hereto paid or borne the incidence of New Mexico income taxes, sales taxes, gasoline and tobacco taxes; they have obtained New Mexico license plates for their private automobiles and resident hunting and fishing licenses. A deputy registrar of the bureau of vital statistics has an office within the precinct and reports births and deaths therein to the New Mexico Bureau of Vital Statistics; they obtain marriage licenses from the county clerk of Sandoval County for marriages conducted in said precinct No. 17. A United States commissioner holds court outside of the precinct in a building located immediately outside of the main gate of the project and tries cases involving Federal offenses committed within the precinct. This commissioner does not attempt to enforce any State laws within the precinct. So far as the parties to this stipulation are informed, there have been no prosecutions by State officials for violations of State laws committed within the precinct, nor do the parties hereto have knowledge of the occurrence of any such violations.

Concessionaires operating various business enterprises within precinct No. 17 and upon the condemned area therein, returned for assessment, and the county assessor of Sandoval County assessed for taxation during the year 1948, their personal property used in connection with said businesses.

With the foregoing facts in mind, we seek first an answer to the primary question propounded at the outset of this opinion, namely, whether that portion of precinct No. 17 in Sandoval County, acquired by the United States through condemnation proceedings and incorporated into the Los Alamos Project, is "in New Mexico" within the meaning of article 7, section 1 of the New Mexico Constitution defining the qualifications of an elector entitled to vote at all elections for public officers. If we could give an affirmative answer to this primary question, answers to the other two which were put along with this one, would follow as a matter of course. However, we may not so easily resolve our labors. Controlling precedents, affording unanimity of judicial opinion seldom encountered, convince us that a negative answer to the primary question submitted is called for.

There are three principal methods by which the United States may acquire land within a State. First, the method known as the constitutional method, as provided by clause 17, section 8, article 1 of the Federal Constitution. Second, by purchase without obtaining the consent of the State. Third, where the land acquired by the Government was the property of the State, such acquisition being by a cession by the State to the Federal Government in the nature of a gift (*Ft. Leavenworth R. R. Co. v. Lowe*, 114 U. S. 525, 29 L. Ed. 264; *Lowe v. Lowe*, 150 Md. 592, 133 Atl. 729, 46 A. L. R. 983). Different consequences follow acquisition under the three means permitted. When acquisition is made in the constitutional method, ordinarily exclusive jurisdiction for all purposes over the lands acquired attaches in favor of the Federal Government, with the single exception of the right in the State to serve civil and criminal process through its officers on such land relating to acts and offenses outside such land. This concurrent right in the State usually is recited in acts of cession passed by the legislature of the State in which the land lies. We have such an act in this State which will be referred to presently.

The constitutional provision mentioned is United States Constitution, article 1, section 8 (17), giving Congress power, among other things, "to exercise exclusive legislation in all cases whatsoever, over such district (not exceeding 10 miles square) as may, by cession of particular states, and the acceptance of congress, become the seat of the government of the United States, and to exercise like authority over all places purchased by the consent of the legislature of the state in which the same shall be, for the erection of forts, magazines, arsenals, dockyards, and other needful buildings."

The New Mexico statute whereby consent was given to the United States to acquire any land in New Mexico under the clause of the Federal Constitution quoted above for sites for arsenals and other purposes was enacted in 1912 as L. 1912, c. 47, the portions thereof material to this controversy, reading:

"The consent of the State of New Mexico is hereby given, in accordance with the seventeenth clause, eighth section, of the first article of the Constitution of the United States to the acquisition by the United States, by purchase, condemnation, or otherwise, of any land in this State required for sites for custom-houses, courthouses, post offices, arsenals, or other public buildings whatever, or for any other purposes of the Government.

"Exclusive jurisdiction in and over any land so acquired by the United States shall be, and the same is hereby, ceded to the United States for all purposes except the service upon such sites of all civil and criminal process of the courts of this State; but the jurisdiction so ceded shall continue no longer than the United States shall own such lands" (1941 Comp., secs. 8-202 and 8-203).

Although the United States Constitution, in the clause quoted, mentions acquisition by purchase, it has long been settled that the same consequences attach from a jurisdictional standpoint where land is acquired through condemnation proceedings. Indeed, land so acquired is deemed to have been secured by purchase and the same consequences attach (*Kohl v. United States*, 91 U. S. 367, 23 L. Ed. 449; *Hanson v. United States*, 261 U. S. 581, 67 L. Ed. 809; *United States v. Bechtold Co.*, 129 F. 2d 473; *United States v. Beaty*, 198 F. 284; *United States v. 2174 Acres of Land*, 32 F. Suppl. 55). Furthermore, the term "exclusive legislation" employed in said clause 17 of the Federal Constitution is held to be synonymous with and to carry the same meaning as if the term "exclusive jurisdiction" had been employed (*Ft. Leavenworth R. R. Co. v. Lowe*, supra; *Surplus Trading Co. v. Cook*, 281 U. S. 647, 74 L. Ed. 1091; *James v. Dravo Contracting Co.*, 302 U. S. 134, 82 L. Ed. 155; *Johnson v. Merrill*, 20 Cal. 2d 446, 126 P. 2d 873).

In a variety of situations, other than that involving the right of residents of ceded land to exercise the elective franchise, both State and Federal courts have held the jurisdiction of the United States to be full and complete, or as the selected word, "exclusive," implies. For instance, in *People v. Hillman* (246 N. Y. 467, 159 N. E. 400), it was held that an accused charged with a robbery alleged to have been committed on a road through the West Point Military Reservation was not subject to prosecution in the State courts. In *Commonwealth v. King* (252 Ky. 699, 68 S. W. 2d 45), a county court was denied jurisdiction to try a bank official charged with making false entries upon the books of a bank operating on the Fort Knox Military Reservation. In *Lowe v. Lowe*, supra, the Supreme Court of Maryland held that the plaintiff in a divorce suit, the only claim to residence being the fact of domicile on a military reservation, could not meet the statutory requirement of residence in the State essential to maintaining his action.

In *Standard Oil Co. v. California* (291 U. S. 242, 78 L. Ed. 775), the court rules that gasoline sold on the Presidio Military Reservation was not subject to tax. The court said:

"A State cannot legislate effectively concerning matters beyond her jurisdiction and within territory subject only to control by the United States."

In the case of *Johnson v. Yellow Cab Co.* (321 U. S. 383, 88 L. Ed. 814), in perhaps the latest expression by the United States Supreme Court on the subject, it was held that seizure at Oklahoma City, Okla., by State enforcement officers of a shipment of liquor en route from East St. Louis, Ill., to Officer's Club, as consignee, at Fort Sill, Okla., was illegal and its return to the carrier was ordered. The basic ground of decision was exclusive jurisdiction in the United States over Fort Sill Military Reservation.

The foregoing citations represent cases where exclusive jurisdiction in the United States over lands acquired in the constitutional method within the borders of States was fully sustained in respect of acts done or attempted not involving exercise of the elective franchise. However, there are several precedents in the books where that issue was involved. Without exception, under circumstances similar to those here present, the courts have denied the claimed right upon the

ground of want of residence within the State by the person asserting it (*Sinsk v. Reese*, 19 Ohio St. 306; *In re Town of Highlands*, 22 N. Y. Supp. 137; *Opinion of the Justices*, 42 Mass. (1. Metc.) 580; *McMahon v. Polk*, 10 S. D. 296, 73 N. W. 77, 47 L. R. A. 830; *State v. Willett*, 117 Tenn. 334, 97 S. W. 299; *Herken v. Glynn*, 151 Kan. 855, 101 P. 2d 946, on this point approved in the late case of *Miller v. Hickory Groves School Board*, 162 Kan. 528, 178 P. 2d 214; *State ex rel. Parker v. Corcoran*, 155 Kan. 714, 128 P. 2d 999).

The status of lands over which the Government of the United States, by cession from a State, had acquired exclusive jurisdiction, except for concurrent right to serve civil and criminal process in relation to offenses and causes of action originating outside such lands, is well stated by the courts in the following cases, to wit: *Collins v. Yosemite Park Co.*, (304 U. S. 518, 82 L. Ed. 1502) and *Yellowstone Park Transportation Co. v. Gallatin County* (31 P. 2d 644). In the *Collins* case, the court said:

"Except as to this reserved jurisdiction, California put that area beyond the field of operation of her laws."

The United States Circuit Court of Appeals for the Ninth Circuit in *Yellowstone Park Transportation Co. v. Gallatin County*, supra, said:

"In other words, after the date of cession, the ceded territory was as much without the jurisdiction of the State making the cession as was any other foreign territory, except insofar as jurisdiction was expressly reserved. For this reason, the taxing laws of the State of Montana are wholly inoperative in that portion of the Yellowstone National Park within the territorial limits of the State." [Emphasis ours.]

And, in *Consolidated Milk Producers v. Parker* (19 Cal. 2d 815, 123 P. 2d 440), where the question was whether State director of agriculture had jurisdiction to regulate milk distribution on the Presidio Military Reservation, the court said:

"California ceded exclusive jurisdiction over the Presidio to the United States by act of March 2, 1897 (Cal. Stats. 1897, p. 51), reserving only the right to execute civil and criminal process therein. [Citations omitted.] The area thus became a Federal territory removed from jurisdiction of the State." [Emphasis ours.]

The same declaration occurs in some of the so-called vote cases since, indeed, all rest their decision on the hypothesis that the land on which residence is claimed is outside the State territorially, within contemplation of law, so far as intended by the constitutional requirement of residence as a condition of the right to vote. In the case of *In re Town of Highlands*, supra, the court said:

"We turn to the question of the right of these people to vote. That has been decided in numerous cases. In the case of *Com. v. Clary* (8 Mass. 72), the Supreme Court of Massachusetts held that the people on the Government property at Springfield had no right to vote, and the question also arose, and was decided in a case reported in 1 Metc. 583 (Supp.) \* \* \*. So, as Judge Field says, there is a uniform current of authority from the beginning of the Government down to the decision of this (Fort Leavenworth) case in 1884,—all to the effect that this territory is not part of the state. [Emphasis ours] \* \* \*."

Counsel for respondents, and more especially Hon. Everett M. Grantham, United States attorney for the district of New Mexico, appearing amicus curiae, would have us believe that the law as declared in the foregoing quotation represents an earlier and strict construction, since abandoned in favor of a new approach, stemming from a more liberal philosophy toward the jurisdictional question involved. We find nothing in the decisions to warrant this conclusion. Indeed, the latest cases on the subject, under similar facts, adhere to the earlier precedents. See *Herken v. Glynn*, supra, decided by the Supreme Court of Kansas in 1940, and the still later case of *Miller v. Hickory Groves School Board*, supra, from the same court in 1942. We may add to these the decision of the United States Supreme Court in *Johnson v. Yellow Cab Co.*, supra, in 1944, where under different facts, the same principles of exclusive jurisdiction in the Federal Government is reaffirmed.

It is argued by counsel, although neither persuasively nor too hopefully, that the condemned area, as a whole, is not a "site" within the meaning of our consent statute; that by use of the words "customhouses, courthouses, post offices, arsenals, or other public buildings whatever," the legislature intended only building sites; and that in adding the phrase "or for any other purpose of the Government," under the doctrine of ejusdem generis, it could only have had reference to other purposes of a similar nature to these previously mentioned.

The argument hardly seems tenable in view of the obvious fact that our consent statute was adopted to afford cooperation on the part of the State with the Federal Government in acquiring lands for necessary governmental functions

and purposes. Indeed, reference appears in the act (1941 Comp., Secs. 8-802, et seq.) to United States Constitution article 1, section 8 (17), which itself does not employ the word "sites," but rather the word "places"—for forts, magazines, arsenals, etc. The second section of our act cedes exclusive jurisdiction over "any land" so acquired, yet in reserving jurisdiction to serve process relates the reservation to "such sites," disclosing that the words "sites" and "land" were to have a synonymous meaning, that meaning to embrace all lands acquired for the purposes stated. Certainly, such has been the meaning given it in all cases brought before the courts and that, too, without seeming question. To give it the narrow, restricted meaning urged by counsel would practically nullify the broad purposes reflected in clause 17, section 8, article 1, of the Federal Constitution and our consent statute enacted in pursuance of same.

Counsel argue at some length over statutes of the condemned lands as an "arsenal." We have no difficulty in classifying them as such in view of their acquisition for the United States Army in 1943 while we were at war and general knowledge on the extent to which, since acquisition, they have been devoted, among other things, to experimentation with fissionable materials and the manufacture and assembly of the most destructive agency the mind of man has ever succeeded in devising—the atom bomb.

We are forced to the conclusion that residence on the condemned area of Los Alamos project will not meet the constitutional requirement of "residence" for voting purposes.

Having reached the conclusion announced as to the condemned area or "deeded land" as a situs of residence for voting purposes in the constitutional sense, we proceed to determine the status of public domain lands within Los Alamos project, 172.90 acres in extent, within the precinct as a situs of residence for such purposes. In this connection, it will be recalled that, although the Secretary of War at one time asserted and claimed "exclusive jurisdiction" on such lands along with condemned lands, nevertheless, by declaration contained in letter of September 7, 1944, he made a correction as to public domain lands, stating:

"Since the laws of the State of New Mexico do not cede exclusive jurisdiction over land reserved from the public domain for military purposes, excepting lands so reserved for the Fort Wingate Military Reservation and the Fort Bliss target range, it was not the intention of this department to include in the list such reservations."

It will be observed, as the Secretary's letter states, that the New Mexico consent statute does not cede exclusive jurisdiction over land reserved from the public domain for military purposes. See, also, 16 U. S. C. A. section 480 recognizing concurrent jurisdiction as to national forest lands. It is not land acquired in the constitutional method as a place "for the erection of forts, magazines, arsenals, dockyards, and other needful buildings." The result is that the United States occupies and uses such lands in a proprietary capacity only (*Fort Leavenworth R. R. Co. v. Lowe*, supra; *Surplus Trading Co. v. Cook*, supra; *Six Cos. v. DeVinney*, 2 F. Supp. 693). The lands remain subject to the jurisdiction of the State in matters not inconsistent with the free and effective use of the lands for the purposes for which it was acquired. (*Johnson v. Morrill*, supra). In *Six Cos. v. DeVinney*, supra, the court said:

"Upon the question of acquisition it is contended by plaintiff that the setting aside of this land out of the public domain and withdrawing the same from public entry 'was an acquisition thereof within the meaning of that statute as fully as if the United States had purchased the land from others.' The fallacy of this contention lies in the fact that after the land had been withdrawn from entry and set apart for the purposes specified, no change had occurred in ownership. All that was done with the land was in exercise of ownership, consisting of the withdrawal of offers for its acquisition by the public and the setting of the same aside for certain uses or purposes of the Government. The United States did not acquire anything it did not already own. (*Surplus Trading Co. v. Cook*, 281 U. S. 647, 50 S. Ct. 455, 74 L. Ed. 1091; *Woodruff v. North Bloomfield Gravel Mining Co.* (C. C.) 18 F. 753)."

We conclude that exclusive jurisdiction has not been ceded to the United States by the State as to so much of the area of Los Alamos project within precinct No. 17 as was carved from the public domain. Bona fide residence for the stated period on such portion of lands within the precinct meets the constitutional requirement in that particular for voting. Hence, so many of the votes cast in said primary election by residents of this portion of lands within the precinct by electors otherwise qualified should have been received and counted, if legally cast.

This brings us to the third and final question, viz, the effect of holding the election on the condemned lands within the precinct. As already shown, this land was under exclusive jurisdiction of the United States, except for the right to serve thereon civil and criminal process from State courts. In legal effect, the case is not different from what it would have been if the polling places had been located and the balloting had occurred in Colorado or some other State. Nor is the position of respondents aided by the enactment of L. 1947, c. 100, 1941 Comp. (1947 Pocket Parts) Sec. 56-101, purporting to make residents upon lands such as the condemned lands here involved residents of New Mexico within the constitutional sense (*Sinks v. Reese*, 19 Oh. St. Rep. 306). In this case the court said:

“\* \* \* It is not constitutionally competent for the general assembly to confer the elective franchise upon persons whose legal status is fixed as nonresidents of the State.”

We are unable to avoid the conclusion that presence of the polling places outside the State, in legal intendment, is fatal to validity of the election. The voters participating in the election, some of whom without doubt were bona fide residents and qualified electors in New Mexico, did not, within the true meaning of State Constitution, article 7, section 1, personally appear and cast their ballots in the precinct of their residence “in New Mexico” (*Chase v. Lujan*, 48 N. M. 261, 149 P. 2d 1003). There are a few cases holding that under certain conditions an election held outside the precinct of the voter’s residence, although inside the State, will not be declared invalid (*People v. Graham*, 267 Ill. 426, 108 N. E. 699; Ann. Cas. 1916 C 391, and *Smith v. Hackett*, 129 Md. 73, 98 Atl. 140). In each case, the court cited somewhat critically and as holding otherwise or, at least, as being distinguishable, such cases as *Chase v. Miller* (41 Pa. 403); *Twitchell v. Blodgett* (13 Mich. 127), and *Bowland v. Hildrett* (26 Cal. 161), or one or more of them. These are cases cited approvingly and relied upon in reaching the conclusion we did in *Chase v. Lujan*, supra, and in the earlier case of *Thompson v. Scheier* (40 N. M. 199, 37 P. 2d 293), holding unconstitutional the law permitting absentee voting.

Even in those States permitting such voting, in order to avoid constitutional barriers, the ballot is deemed cast in the precinct where canvassed and counted—that of the voter’s residence. There is here no ground for indulging this somewhat fictional theory since the ballots were cast, canvassed, and counted outside any area in New Mexico able to supply basis for a voting residence. And, in view of our holdings in *Thompson v. Scheier*, supra; *Chase v. Lujan*, supra, and *Baca v. Ortiz* (40 N. M. 435, 61 P. 2d 320), that a statute purporting to authorize voting otherwise than through personal presence of the voter in the precinct of his residence in New Mexico was invalid it would seem somewhat anomalous to hold that the same thing the statute could not lawfully authorize, where done without the purported authority of a statute, will be given the badge of legality. It follows that there was no primary election for precinct No. 17 in Sandoval County on June 8, 1948.

Counsel for respondents as well as counsel appearing amicus curiae argue strongly that the conclusions we have reached are not to be indulged in view of the previous holdings of this court in *Tenorio v. Tenorio* (44 N. M. 89, 98 P. 2d 838), and *State v. Mimms* (43 N. M. 318, 92 P. 2d 993). We do not consider that the decisions reached in those cases are controlling. In the *Tenorio* case, we were dealing with the status of Pueblo Indian lands in relation to the question of “residence” for purposes of a divorce suit. We noted the difference between their status for the purpose indicated and property acquired by the United States in the constitutional method when viewed for the same purpose. We said:

“The status of the Pueblo Indian lands is so different from that of United States property acquired in the ‘constitutional method’ mentioned in the majority opinion in *Lowe v. Lowe*, that we do not deem the case decisive of the question involved, even if we were prepared to affirm its correctness, a conclusion we should be slow to announce without further study in view of the persuasive reasoning and forceful precedents employed by Chief Justice Bond in his dissent from the majority view.”

The seemingly tentative approval, provisional though it be, given the dissenting views of Chief Justice Bond in *Lowe v. Lowe*, supra, referred to in the quotation next above is, of course, to be qualified by what we today say and hold in the case before us.

The case of *State v. Mimms*, supra, presents more of a puzzle. It was a stipulated fact in the case that the land involved at Elephant Butte Dam was acquired for reclamation purposes pursuant to article 1, section 8 (17) of the Federal Constitution. It was upon a record containing such a stipulation that the court

trying the defendant, and this court in reviewing its judgment, decided the case. Counsel amicus curiae reminds us, however, a fact perhaps to be noticed judicially, that the lands, having come to the United States under the Treaty of Guadalupe Hidalgo, did not fall within the purview of the consent or cession statute. Nevertheless, as he says, it must be assumed the case was tried on the record before the court. So viewed, he and counsel for respondents as well find in it a precedent in favor of their position. They support their analysis of the case by the vigorous contention that, if acquired by condemnation under Federal constitutional provision mentioned, exclusive jurisdiction in the Government passed immediately by virtue of the consent statute, as argued by informant. Nevertheless, we uphold concurrent jurisdiction in the State.

On the other hand, counsel for informant say the case was correctly determined, even on the stipulated fact as to manner of acquisition. The purpose of acquisition being to promote the Government's program of reclamation, the mere fact that lands are acquired by condemnation, under United States Constitution, article 1, section 8 (17), without more, does not necessarily conclude the question whether exclusive jurisdiction, ipso facto, passes with the cession. So runs the engaging argument of informant's counsel. They cite and rely on *Silas Mason Co. v. Tax Commission of State of Washington* (302 U. S. 186, 82 L. ed. 187); *James v. Dravo Contracting Co.*, supra, and *Johnson v. Merrill*, supra.

We will not decide the issue between them. *State v. Minnms* having been correctly decided under the true fact as to character of the land involved, we have no hesitancy in saying we should decline to give it stare decisis effect whether correctly determined or not on a false fact, inadvertently stipulated to be true. So considered, we pass the effect of our decision on the Minnms case.

We are reminded by counsel of the several acts of jurisdiction exercised by the State on the lands in precinct No. 17, Los Alamos project, as to which the jurisdiction in the United States has been held to be exclusive. They point out, as the stipulated facts disclose, that residents of Los Alamos, including those who voted in this primary election, pay or bear the incidence of New Mexico income taxes, sales taxes, gasoline taxes, and tobacco taxes; that cost and cost-plus-fixed-fee contractors doing work for the Government on the condemned area within precinct No. 17 carry workmen's compensation insurance under the New Mexico compensation statute; and so on as to certain other acts and things done according to State law. Most, although not all, of the matters stipulated as being done, are expressly authorized by congressional acts and represent a recession to the State of jurisdiction on the part of the Government in the particulars indicated. See what is known as the Buck Act (4 U. S. C. A., secs. 12 to 16) giving States authority to apply gasoline taxes, sales, use, and income taxes on Federal areas; also act of June 25, 1936 (40 U. S. C. A., sec. 290), to the same purport regarding extension of State workmen's compensation laws in Federal areas.

To the extent any of the acts and things done on the condemned area in an application of State law are outside the purview of congressional authorization, they cannot impinge upon the exclusive jurisdiction of the Federal Government otherwise obtaining. If exclusive jurisdiction over certain landed areas be ceded to the United States by a State, such jurisdiction cannot be recaptured by the State by later statute without consent of the United States.

*Rogers v. Squier* (U. S. C. C. A., 9th Ct.; 157 F. 2d 948); *United States v. Unzueta* (281 U. S. 138; 74 L. Ed. 761). We find no Federal statute receding jurisdiction of the condemned area to New Mexico in the particulars here involved. We are informed by counsel in argument that such a measure was introduced in the recent special session of the Congress and never reached the floor for consideration due to the shortness of the session. The question is a legislative one and however strong our wish that residents of this community might enjoy the elective franchise, we may not properly further that desire by an act of judicial legislation.

The conclusion that residents of the condemned area in precinct No. 17 may not enjoy the elective franchise, based on residence there, does not necessarily mean they do not possess the right to vote elsewhere. As pointed out in a few of the so-called vote cases, particularly *In re Town of Highlands*, supra, and *Herken v. Glynn*, supra, certain residents of the condemned area may still have a voting residence at the place of their former domiciles. New Mexico Constitution, article 7, section 1, provides that no person shall be deemed to have acquired or lost a residence by reason of his presence or absence while employed in the service of the United States or of the State nor while a student at any school. Any residents of the condemned area in said precinct, to whom this constitutional provision applies as well as those from other States with like constitutional provision, and, indeed, aside from the effect of any such provision, where the only

thing evidencing an intention to change a former voting residence has been the futile act of seeking to acquire one in this Federal area, absent a fixed resolve to abandon the former residence at all events, may if otherwise qualified, cast his ballot at the place of former residence, in person, where so required as in New Mexico; or, by absentee voting in States where permissible.

As to those residents of the portion of precinct No. 17, which is not a part of the condemned area, who are qualified electors of the county and precinct in which they reside, a heavy responsibility rests on the Board of County Commissioners of Sandoval County to proceed forthwith with all dispatch and on their own notion to relocate the polling places, for the voting districts in such precinct to the end that the qualified electors therein may not be denied the right to vote in the forthcoming election. Time yet remains for such action and as well a remedy in the electors to compel same in the event of a refusal, which is not to be anticipated. See 1941 Comp. (1947 Pocket Parts), sections 56-201.

It follows from what has been said that the alternative writ should be made permanent.

It is so ordered.

We concur:

DANIEL K. SADLER, *Justice*.

JAMES B. MCGHEE,  
*Justice*.

A. W. MARSHALL,  
*District Judge*.

C. ROY ANDERSON,  
*District Judge*.

Charles H. Fowler, district judge, dissenting in part.

No. 5144

SEPTEMBER 19, 1948.

ARLEDGE V. MABRY, ETC. ET AL.

FOWLER, District Judge, dissenting:

I do not agree that the election held in precinct 17 (Los Alamos), Sandoval County, N. Mex., on June 8, 1949, was a nullity. The majority opinion admits that those persons who live on the 172.90 acres of former forest reserve lands in said precinct were or may have been qualified electors entitled to vote at said primary election. The election is declared a nullity, as to such persons, because all the polling places in said precinct were situated on the 407.39 acres of condemned land, which is said to be under the "exclusive legislation" or "exclusive jurisdiction" of the United States, and as such is deemed to be effectually "out of the State" for all election purposes.

New Mexico does have jurisdiction over said condemned land for some purposes. The State reserved some of this jurisdiction by its own acts of cession; some, on other matters, was retroceded to the State by acts of Congress, and it appears that the authorities agree that even after it has ceded jurisdiction the State still retains certain jurisdiction over the lands until and unless Congress acts by definitive legislation to prescribe for the acquired lands. If New Mexico retains any jurisdiction over this territory—and it does—then it cannot be a country "without the State." Subject to the right of the United States to exercise exclusive jurisdiction over it (which right the United States has waived by receding a part of such jurisdiction), this territory is still precinct 17 of Sandoval County of the State of New Mexico (*Collins v. Yosemite Park et al.*, 304 U. S. 518 58 S. Ct. 1009).

The County Commissioners of Sandoval County fixed the polling places at sites within the confines of precinct 17. Provisions regarding the fixing of polling places within a precinct are directory merely, and it is not the policy of the law to disfranchise and penalize electors merely because the public officials in charge have made some slight miscalculation in setting up the voting sites, if they did so, especially where this did not result in depriving a single elector of his chance to vote, and where no fraud is charged or appears. The election was held and the polling places were in the precinct where the electors offered to vote. No function or control of the government was in the least embarrassed nor was its jurisdiction impinged upon thereby.

As pointed out in the court's opinion, the weight of authority is to the effect that those persons who reside on lands which are acquired by the United States by the "constitutional method," as were the 407.39 acres of condemned lands in

precinct No. 17, do not have residence within the State within the meaning of the election laws. Although criticism might be leveled at this rule on principle it is probably too well established now for change. It may be inferred from these facts that there were illegal votes cast at said election which should not be counted or considered in the result. We are not informed how many such votes there were, and of course, no one knows for which one of the candidates any one or more or how many of the ballots were cast. The stipulation does not show that the number of those votes, by residents of the condemned lands, were sufficient to change the results, or were sufficient to invalidate the election in the precinct. I think the election was valid as to the qualified electors of said precinct 17 living on the former forest reserve lands.

Holding these views, I am of the opinion that the alternative writ should be discharged.

CHARLES H. FOWLER, *District Judge.*

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Exhibit No. 3

STATEMENT OF CARROLL L. TYLER REGARDING SCHOOL FINANCING AT LOS ALAMOS

In connection with my testimony on February 17 before the joint committee, a question was raised concerning school financing in New Mexico which I feel requires some clarification.

If normal State jurisdiction is returned to the State of New Mexico over the small part of the Los Alamos project now in the exclusive jurisdiction of the United States, no change will automatically occur in the administration of the schools at Los Alamos.

It may well be that the State of New Mexico will consider the schools as private schools. As such, the United States Government may not be entitled to any share of the revenue derived from the New Mexico school tax.

Uniform State jurisdiction would permit the formation of an independent school district under State law. If this were done, a further basis would be established by which the school district might receive a share of the school tax revenue and be subject to the various provisions of State law governing the administration of public schools. Formation of such a district would require a vote of the local residents. The relative advantages and disadvantages of forming such a school district are under study.

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EXHIBIT No. 4

UNITED STATES ATOMIC ENERGY COMMISSION,  
*Washington 25, D. C., April 5, 1949.*

MR. WILLIAM L. BORDEN,  
*Executive Director, Joint Committee on Atomic Energy.*

DEAR MR. BORDEN: At the hearings held by the joint committee on February 17 and February 21, 1949, members of the committee expressed an interest in a comparison of the costs of housing constructed for the Atomic Energy Commission with the costs incurred by the armed services. Attached is a statement and tabulation showing costs of representative housing recently built or now under construction for the Atomic Energy Commission and also showing the costs of current projects given us by the armed services.

A comparison of these cost figures is very difficult. Among other factors, we are advised that the armed services have lately engaged in relatively small programs of housing compared with the Atomic Energy Commission. Differences in location with attendant differences in wage scales, material costs, climatic problems, and similar local problems also prohibit an absolute comparison between housing costs in various parts of the country. Differences in standards of construction are of course a direct cause of noncomparative costs. If an over-all comparison is considered significant, however, attention is invited to the square-foot costs which the armed services are using in estimating costs for the ensuing year. These unit costs are listed at the end of the attached statement.

If any further or different analysis seems desirable to you, we will prepare it on request.

Sincerely yours,

C. SHUGG,  
(For Carroll L. Wilson, General Manager.)

MARCH 25, 1949.

In comparing costs of housing for the armed services with costs of housing for the AEC, the following facts must be kept in mind.

(a) The armed services are limited by statute to the following net usable areas for different grades of personnel:

	<i>Square feet</i>
For noncommissioned officers.....	1, 080
For company grade officers (lieutenants in Navy).....	1, 250
For majors and lieutenant colonels (lieutenant commanders and commanders in Navy).....	1, 400
For colonels (captains in Navy).....	1, 670
For generals or admirals.....	2, 100

We are advised, however, that virtually all current and planned armed forces construction has been within or under the 1,080 square-foot category. It also will be noted from the attached tabulation that in only one instance at Richland, two instances at Los Alamos, and one at Sandia has the area exceeded that of the armed services "enlisted personnel" and in no case has it equaled that for "company grade officers."

(b) The square-foot costs as used by the armed services are based on "net usable area" which is that area computed inside the outside walls, and excludes utility and storage rooms, porches, basements, common stairways and halls in apartments, and attics where not actually lived in. This results in a much higher square-foot cost than that obtained through the standard commercial practice of using the area of all finished parts of the house including used basements, attics, utility and storage rooms, and using the outside measurements for computing the areas. For purposes of comparison in this study, the AEC square-foot costs have been computed on this same basis. Hence the square-foot costs in this table should not be used for comparison with square-foot costs obtained through private or commercial channels.

(c) The costs shown are for the houses or apartments using complete contractors costs including contractor's own overhead and profit. The costs cover the water, sewer, and electrical services extended to a point 5'-0" outside the building, but do not include roads, streets, lot, lot improvements or water, sewer, and electrical connections from the 5'-0" point out.

There is no way by which a competent comparison of outside utilities such as road, streets, lot improvements, water, sewer, and electricity can be made due to the varied conditions of terrain, weather variations, and propinquity of trunk lines. Such services have varied on the Commission's operations from \$1,500 to \$4,200 per family. The Army's experience has demonstrated even wider variations, as for instance, the outside utility cost for housing shown in column N amounted to \$6,126 per living unit, while the outside utility cost for housing shown in column O amounted to \$1,134 per living unit.

The armed forces are using the following square-foot costs (on the same net usable area basis) in estimating costs for the ensuing year, which it will be noted are considerably higher than those contained in the table except for the AEC apartments at Oak Ridge and for the Army at West Point: \$15.97 per square foot for single dwellings, \$15.38 per square foot for duplex houses, and \$14.72 per square foot for row housing (eight units per building).



*Schedule of comparative costs—Housing—Continued*

## SPECIFICATIONS

- A. Concrete foundations, reinforced concrete frame and floors, poured gypsum roof slab on bar joists, concrete block walls, inside furred and plastered, exterior wall "gunited," asphalt tile floor finish, DH aluminum sash, steel exterior stairs. Modern design with large expanses of glass.
- B. Concrete foundation, concrete block walls, wood roof construction, concrete floor slab on ground, asphalt tile floor finish, radiant heating, DH aluminum sash, walls not plastered but painted with "sprayzon."
- C. Same as B.
- D. Wood frame, stucco finish, outside walls rock lath and plaster inside walls, Keene's cement in kitchen and bath, flat roof, hardwood floors, gas heat.
- E. Same as D.
- F. Same as D.
- G. Wood frame, shingle and siding exterior walls, plaster board inside walls (dry-wall finish), Keene's cement bath and kitchen, gas unit heat.
- H. Same as G.
- I. Precast pumice concrete walls and frame roof, inside and outside sprayed on finish, hard wood floors on sleepers, linoleum kitchen and bath floors, gas unit heat.
- J. Same as I.
- K. Same as I.
- L. Wood frame construction with weather board or shakes on exterior walls, plaster board inside finish (dry-wall finish), asphalt strip shingles on roof, concrete slab floor on ground with asphalt tile finish, forced draft coal fired warm air heat.
- M. Same as L.
- N. Brick exterior walls, furred and plastered inside walls wood joists, wood stud partitions, wood rafter, roof framing, asphalt shingle roof, No. 1 flooring over subfloor, coal-fired hot-water heating plant.
- O. Same as N.
- P. Same as N.
- Q. Light weight concrete exterior walls, inside finish furred and plastered, concrete slab floor on ground.
- R. Same as Q.
- S. Concrete foundations, wood frame asbestos shingle siding rock lath and plaster asphalt shingle roof, oil-fired hot-water heat with individual heaters.
- T. Same as S except that wood siding is used in lieu of asbestos shingle siding.

Exhibit No. 5  
Principal cost-type operation contracts

Contractor	Brief description of work	Estimated 1949 contract obligations (exclusive of fee)	Fee	Overhead and cost provisions
Monsanto Chemical Co. (contract No. AT-33-1-Gen-53).	The contractor is required to operate and maintain, in accordance with mutually agreeable plans and programs Mound Laboratory at Miamisburg, Ohio, and pending completion of construction of Mound Laboratory, units 3 and 4 of the contractor's research department located at or near Dayton, Ohio. The plans and programs include research, development, and production. The contractor is also to perform the necessary architectural, engineering, procurement of equipment and construction management services as may be required both for the Mound and Sclero Laboratories. The contract is for a term ending June 30, 1949.	\$6,044,623, maintenance and operations; \$120,000, overhead.  \$7,377, overhead (for Sclero).	\$375,000 for period Jan. 1, 1948, to June 30, 1949, for operation and maintenance of the plants (excluding Sclero). \$62,000 for engineering and construction services for Sclero Laboratory.	Contractor is to be paid for all of its costs and expenses (except as provided below for overhead) incurred in performing the contract. In connection with its operation and maintenance activities it is to be paid on overhead allowance of \$10,000 per month. This allowance is to cover costs and expenses of the contractor's main office, except salaries and wages and traveling expenses of personnel of that office, other than department heads, while engaged on contract work away from the main office, and certain costs and expenses of the operation of unit 1 of contractor's central research department in Dayton, Ohio. For its engineering and construction services in connection with the Sclero Laboratory, the contractor is paid an overhead allowance of \$614.75 per month which is intended as payment for the salary of an assistant director of unit 1 and for overhead expense of other employees. No provision is included for adjustment of the overhead allowances. The contract also provides a benefit fund arrangement. All work is performed at the expense of the Government. Overhead expenses incurred at Oak Ridge are reimbursable but no general administrative and other general overhead expenses of its New York office or other offices and plants are reimbursable. Contractor to be reimbursed for all of its costs and expenses. Payment for overhead is to be as follows: Factory overhead allowances for various departments ranging from 101 percent to 123 percent of direct labor costs, subject to revision at 6 months intervals; for administrative overhead a lump-sum of \$200,000 per month is paid. Provision is included that upon final settlement of the contract, if the total reimbursements, including the \$200,000 per month, exceed the contractor's total costs and expenses, the excess will be paid to the Government. Provision is included for an employee benefit fund.
Carbide & Carbon Chemicals Corp. (contract No. W-7406-Eng-26).	For operation of the gaseous diffusion plant (K-25 and K-27), parts of the electromagnetic plant (Y-12) and the Oak Ridge National Laboratory at Oak Ridge, Tenn. The contract is for a term ending June 30, 1951.	\$43,976,900, maintenance and operation; \$2,427,027, construction.	\$1,152,000 for K-25, K-27 per annum; \$228,000 for Y-12 per annum; \$504,000 laboratory per annum.	
General Electric Co. (contract No. W-31-100-Eng-52).	For performance of architect-engineer, construction, operation, research and development services at Hanford Works, at Knolls Atomic Power Laboratory, Schenectady, N. Y. and at General Electric Research Laboratory. The contract is for a term ending Dec. 31, 1950.	\$72,875,404, construction; \$44,122,433, plant operations; \$541,122, town operations; \$2,400,000, administrative overhead; \$119,938,959 total.	\$1.....	

*Principal cost-type operation contracts—Continued*

Contractor	Brief description of work	Estimated 1949 contract obligations (exclusive of fee)	Fee	Overhead and cost provisions
University of California (contract No. W-7405-Eng-36).	Work, in general, comprises research, and development and production of atomic weapons by the Los Alamos Scientific Laboratory, including operations both at Los Alamos, N. Mex., and at such other sites as have been or may be agreed upon by the parties to the contract either within or without the continental limits of the United States. The term of the contract is for a term ending June 30, 1952.	\$32,994,200, operations; \$185,800, overhead.	None	Contractor to be reimbursed for all of its costs incurred in good faith and arising out of or connected with the work under the contract including direct, indirect, and overhead costs. Overhead is provisionally charged at 7 percent of salaries and wages and adjusted at the end of the fiscal year on the basis of actual overhead expenses chargeable to the contract. Provision is included for an employee's benefit fund.
Iowa State College (contract No. W-7405-Eng-82).	The work under the contract consists of studies and experimental investigations on such problems related to the field of atomic energy as are agreeable to the contractor and authorized by the Commission. The work will involve such subjects as metallurgy, radio-chemistry, chemical engineering, physics, chemistry and others. Also included is development work with such materials as thorium and beryllium. The contractor will perform such engineering and construction services as it is in position to carry out. The contract is for a term ending June 30, 1953.	\$1,099,000, operations; \$275,000, adjusted overhead.	do.	The contractor is to be reimbursed for all of its costs and expenses which are actually incurred in good faith arising out of or in connection with work under the contract. \$250,000 per year is to be paid in monthly installments to cover overhead expenses and other expenses not specifically reimbursed under the contract. Not less often than once a year, the actual expenses intended to be covered by such payment are to be reviewed and any necessary adjustment made.
Associated Universities Inc. 383 7th Ave., N. Y., (contract No. AT-30-2-Gen-16).	For the establishment, management, operation and maintenance of the Brookhaven National Laboratory for the conduct of studies, experimental investigations and tests in the atomic fields described in section 3 of the Atomic Energy Act of 1946. The term of the contract is for a period ending Dec. 31, 1950.	\$8,323,675, operations; \$7,795,000, construction.	do.	Commission to reimburse for all costs and expenses incurred in good faith in performance of the work under the contract, including overhead computed in accordance with generally accepted accounting principles. Overhead of \$6,400 per annum is to be paid in monthly installments, subject to review and adjustment not less often than once a year. Benefit provisions are included.
University of California Berkeley, Calif., (contract No. W-7405-Eng-48).	For basic research and development work in the field of radiation phenomena, particularly as associated with high energy particles. Included are engineering and construction services in connection with alterations and new construction required in the conduct of the program. The contract is for a term ending June 30, 1952.	\$7,760,000, operations; \$1,461,000, construction; \$460,000, overhead.	do.	Commission to reimburse for all costs and expenses incurred in good faith in performance of the work under the contract, including overhead computed in accordance with generally accepted accounting principles. Overhead expenses chargeable to the contract are outlined in some detail in an appendix to the contract. Benefit fund provisions are included in the contract.

The University of Chicago, Chicago, Ill. (contract No. W-31-100-Eng-38).	The contract provides for the organization, operation, and maintenance of the Argonne National Laboratory. The work is to include research programs in the development and construction of new types of piles and research in nuclear science, physics, and chemistry, and in those phases of physics, biology, and engineering science, of interest to the atomic energy project. The contract is for a term ending Dec. 31, 1951.	Commission to pay all costs and expenses incurred by contractor in performance of the contract including overhead expenses, \$57,750, to be paid monthly for overhead costs. On final settlement, repayment to be made of any excess reimbursements under this contract and two previous contracts. Benefit fund provisions are included in the contract.
The University of Chicago, Chicago, Ill. (contract No. A.T. 40-1-Gen-42).	Contractor is to furnish all architectural, engineering, management, and construction work incident to the design and construction of the laboratory in Du Page County, Ill. The term of the contract is from May 27, 1947, to completion of the work.	Commission to pay contractor's actual costs, \$12,500 to be paid monthly as an overhead allowance. On final settlement, repayment to be made of any excess reimbursements under this contract and the three previous contracts.
The Zia Co., Santa Fe operations office (contract No. W-17-028-Eng-90).	The contractor, in general, will perform such management, operational, maintenance, architect-engineer, construction, and other related services, as may be mutually agreeable, in connection with the conduct of projects under the jurisdiction of Santa Fe operations office. The contract is for a term ending June 30, 1951.	Costs generally are limited to direct costs with no provision for a separate overhead payment.
Roane-Anderson Co., Oak Ridge, Tenn. (contract No. W-7401-Eng-115).	The contractor is to manage, operate and maintain facilities, utilities, roads, services, and properties, exclusive of processing facilities, at Oak Ridge, Tenn., as directed by the Commission. The contract is for a term ending Dec. 31, 1950.	Direct costs incurred by the contractor are reimbursable. No provision is made for payment of general overhead expenses.
American Industrial Transit, Inc. (contract No. W-14-108-Eng-53).	The contractor is required to operate a transportation system of passenger buses for both on-area and off-area operations at Oak Ridge, Tenn.	Direct costs incurred by the contractor are reimbursable. No provision is made for payment of general overhead expenses.

1 This is a gross figure on an obligation basis for fiscal year 1949. If gross revenues, estimated at \$4,171,000 are deducted, the net estimated obligation is \$7,988,000.

2 On the same basis as the Zia contract, deduction of gross revenues, estimated at \$7,138,367, leaves a net of \$5,890,000.

3 On the same basis as the Zia and Roane-Anderson contracts, deduction of gross revenues, estimated at \$700,000, leaves a net of \$998,016.

NOTE.—The above is intended only as a general indication of the scope of these lengthy and, in many instances, quite complicated contracts.

Fees on negotiated contracts let Jan. 1, 1947, to Nov. 15, 1948<sup>1</sup>

[Construction contracts over \$1,000,000]

Name of contractor	Project description	Date started	Amount of fixed fee <sup>2</sup>	Estimated cost of contracts (excluding fee) <sup>3</sup>
Oak Ridge Operations Office, Dayton, Ohio:				
Manion Construction Co.	Construction unit VI (Marion, Ohio)	Feb. 27, 1948	\$150,000	\$5,850,000
Hanley & Wolfe Co.	Subcontract under Maxon, mechanical work, unit VI	May 28, 1948	53,000	1,028,000
Hufford Operations Office:	Subcontract under Maxon, mechanical work, unit V (Miamisburg)	Feb. 28, 1947	76,396	1,853,304
Morrison-Knudsen Co.	Plant railroad work			
Do.	Process work	Mar. 1, 1948	60,000	3,148,000
Do.	Do	Sept. 1, 1948	100,000	2,470,000
Atkinson-Jones Co.	General process construction	Dec. 4, 1947	121,222	3,450,000
Newbury Neon Co.	Subcontract under Atkinson-Jones for electrical	July 3, 1947	1,357,310	183,417,812
Urban, Smyth & Warren	Subcontract under Atkinson-Jones for piping and sheet metal	Oct. 8, 1947	222,000	8,300,000
C. C. Moore & Co.	Steel plate and bridge work	Apr. 1, 1948	28,695	1,201,051
J. A. Terteling & Sons Co.	Road and bridge work	Feb. 27, 1948	100,000	4,460,000
McNeil Construction Co.	Schools and miscellaneous work in village of Richland	Apr. 23, 1948	80,000	3,215,880
Santa Fe Operations Office: No cost-plus-a-fixed-fee construction contracts				
New York Operations Office, Brookhaven, Long Island:				
H. K. Ferguson Co.	Architect-engineer services; construct and procure equipment for pile complex	July 14, 1947	500,000	17,788,700
Do.	Construction and installation equipment, cyclotron building	July 28, 1948	15,000	600,000
L. Comstock Co.	Electrical work on pile complex under Ferguson	Apr. 30, 1948	60,000	1,200,000
Chicago Operations Office:				
Ford, Bacon & Davis	Temporary facilities and work on permanent facilities, ANL	May 28, 1947	170,000	8,151,147
Ragnar, Benson, Inc.	Construction manager temporary facilities subcontract under F., B. & D.	June 9, 1948	128,946	4,686,000
Hanley & Co.	Heating and ventilating temperature facilities subcontract under F., B. & D.	June 25, 1948	51,550	1,250,000
Austin Co.	Construction manager permanent facilities	July 16, 1948	828,966	42,119,000
Hanley & Co.	Heating and ventilating permanent facilities subcontract under Austin	Sept. 24, 1948	206,800	7,500,000
Livingston-Kelso Barnett; Fries-Walters (joint venture)	Electrical, permanent facilities subcontract under Austin	Oct. 18, 1948	161,700	5,500,000
Schenectady Operations Office:				
Walsh Construction Co.	Constructing 11 buildings and yard work, Knolls APL	July 1, 1947	226,000	20,000,000
Raisler Corp.	Heating, ventilating air conditioning subcontract under Walsh	Jan. 28, 1948	90,000	3,200,000
Fishbach & Moore, Inc. and Watson-Flagg Engineering Co. (joint venture).	Electrical work subcontract under Walsh	Jan. 28, 1948	83,000	1,700,000

<sup>1</sup> General. Includes contracts and subcontracts under AEC, but no contracts involving maintenance- or operating-type services. Contracts let after November 15, 1948, are not included, but other contracts let prior to this date have been shown at the current estimated cost, including changes up to about February 18, 1949.

<sup>2</sup> General. Figures in some cases differ from earlier field reports of September and November 1948. The more recent data in this report contain up-to-date estimates. Cost estimates will necessarily vary on cost-type contracts.

<sup>3</sup> Figures in parentheses represent costs of sub- or sub-sub-contracts which are included in the totals of the pertinent prime or subcontract.

Negotiated fixed fees on architect-engineer contracts let Jan. 1, 1947, to Nov. 15, 1948<sup>1</sup>

Name of contractor	Project description	Date started	Amount fixed fee <sup>2</sup>	Total estimated cost of project (excluding fixed fee)—Cost of related construction <sup>3</sup>
Hanford Operations Office: Giffels & Vallet Co.....	Design and engineering	Oct. 3, 1947	270,000	71,530,000
Kellex Corp.....	Design and engineering services, process work	Sept. 16, 1947	580,000	* 67,267,157
Oak Ridge Operations Office: Austin Co.....	Oak Ridge National Laboratory	June 25, 1948	* 33,000	* 16,100,000
Skidmore, Owings & Merrill.....	Master plan and design of community facilities	Feb. 20, 1947	* 339,400	* 56,239,900
Dayton area: Giffels & Vallet, Inc.....	Subcontract for design of unit VI (Marion, Ohio)	Apr. 20, 1948	54,000	7,018,000
New York Operations Office: Kellex Corp.....	Research and design of a chemical process	June 1947	588,500	39,740,164
Singmaster & Breyer, St. Louis.....	Architect-engineer services and procure equipment for metal plant and boiler house.	May 3, 1948	100,000	3,160,000
Knappan, Tippetts, Abbott Engineering Co., New Brunswick, N. J.....	Architect-engineer services and procure equipment for laboratory.	July 1, 1948	17,000	1,550,000
Brookhaven: H. K. Ferguson.....	Architect-engineer services, Brookhaven Laboratory	( <sup>1</sup> )	( <sup>1</sup> )	-----
High Voltage Engineering Co.....	Design and fabrication of injector to Cosmotron	Nov. 9, 1948	22,194	379,137
Schenectady Operations Office: Blaw-Knox Construction Co.....	Engineering and furnish and supervise installation of equipment at Chemical Pilot Plant.	Apr. 1, 1948	183,000	5,814,946
Santa Fe Operations Office: Los Alamos: W. C. Kruger.....	Community and technical construction	July 16, 1948	313,769	* 39,428,313
Salton Sea: Kistner Curtis-Wright.....	Community and technical (AEM)	Dec. 5, 1947	(AEM) 38,500	2,479,519
Chicago Operations Office: Ford, Bacon & Davis Co.....	Temporary facilities.	( <sup>1</sup> )	( <sup>1</sup> )	-----
Voorhees, Walker, Foley & Smith.....	Permanent facilities.	Mar. 26, 1948	467,446	35,603,900

<sup>1</sup> General. Includes contracts and subcontracts under architect-engineer contracts, but no contracts for maintenance or operating-type services. Contracts let after Nov. 15, 1948, are not included, but other contracts let prior to this date have been shown at the current estimated cost, including changes up to about Feb. 18, 1949.

<sup>2</sup> General. Figures in some cases differ from those derived from earlier field reports of September and November 1948. The more recent data in this report contain up-to-date estimates. Cost estimates will necessarily vary on cost-type contracts.

<sup>3</sup> (Hanford). These services include research and development, experimental engineering, and basic-process design, as well as plans and specifications for construction of complete plant.

<sup>4</sup> (Oak Ridge). Negotiated for title I (preliminary design) only.

<sup>5</sup> (Oak Ridge). Tentative estimates only for complete engineering and construction costs.

<sup>6</sup> (Oak Ridge). Skidmore, Owings & Merrill contract includes \$19,000 fee for developing Oak Ridge master plan, but no related cost of construction is shown.

<sup>7</sup> See construction contract.

<sup>8</sup> (Santa Fe). This cost-plus-fixed-fee has some work involving titles I, II, and III, and all unfinished work of four terminated lump-sum contracts which had \$12,500,000 of work involving title III services only.

*Analysis of the cost of the ranch-type houses at Richland, Wash., exclusive of cost of land*

## Houses with utilities to 5-foot line:

House contract.....	\$9, 967, 180. 00
Refrigerators and stoves.....	280, 000. 00
Subtotal.....	10, 247, 180. 00
Streets, walks, and curbs.....	1, 344, 758. 00
Water system.....	537, 937. 00
Sewage system.....	342, 293. 00
Electrical system.....	520, 932. 00
Site preparation, grading, topsoiling, etc.....	595, 000. 00
Telephone system.....	50, 000. 00
Design of housing project.....	261, 300. 00
Indirect expense including field supervision, inspection, construction equipment use charges, etc.....	461, 273. 00
Total cost of 1,000 houses.....	14, 360, 673. 00
Complete cost per house.....	14, 360. 67

Residents handle seeding, planting and upkeep, etc.

## COST AND VALUE OF LAND OCCUPIED BY RANCH-TYPE HOUSES

The 1,000 houses occupy a gross land area of 312 acres. Original cost to the Government of the class of land occupied by these houses was about \$200 per acre. Recent survey of Richland rents by the firm of Barrett and Wheeler, real estate appraisers, determined the value of improved residential lots in the section of Richland now being developed with the ranch-type houses to be between \$1,000 and \$1,100 per lot. Based on its survey of current land values in nearby communities, the firm's appraisal of unimproved land suitable for residential development in Richland was about \$600 per acre. The original cost of raw land per dwelling therefore approximates \$62.40 and the appraised value of land per dwelling approximates \$187.20.

## ANALYSIS OF RENTALS FOR 1,000 RANCH-TYPE HOUSES, RICHLAND, WASH.

Rents paid by residents of houses in Richland include both shelter rent and charges for utilities and services. The present rent on a three-bedroom house is \$52.50, and for a four-bedroom house is \$57.50. An estimated break-down of these rents is as follows:

	3-bedroom	4-bedroom
Shelter rent.....	\$32. 75	\$35. 00
Water.....	1. 75	1. 75
Garbage collection.....	2. 00	2. 00
Electricity.....	6. 50	7. 75
Coal.....	6. 50	8. 00
Minor house maintenance.....	3. 00	3. 00
Total.....	52. 50	57. 50

The present rents on the 1,000 ranch-type houses at Richland were set by comparison with rents charged for existing houses on the site, taking into account differences in space, arrangement, and accommodations provided. Monthly rents on existing houses were originally set by the Manhattan District while Richland was under construction, and were calculated by taking 0.8 percent of the estimated cost of the houses, exclusive of land and land development costs to which was added estimated monthly cost of providing fuel, electric and water services, garbage and trash collection.

## COMMERCIAL FACILITY LEASE USED BY GENERAL ELECTRIC CO. AT HARTFORD

THIS LEASE, entered into this \_\_\_\_\_ day of \_\_\_\_\_, 19\_\_\_\_, by and between GENERAL ELECTRIC COMPANY, a corporation organized and existing under the laws of the State of New York with principal offices in the City of Schenectady, New York (hereinafter referred to as Lessor), and \_\_\_\_\_, a corporation organized and existing under the laws of the State of \_\_\_\_\_, a partnership consisting of \_\_\_\_\_, an individual trading as \_\_\_\_\_, of the City of \_\_\_\_\_ in the State of \_\_\_\_\_, (hereinafter referred to as Lessee):

## WITNESSETH THAT:

Whereas, Lessor, as a Pure Cost Contractor, has heretofore, to wit, on the 15th day of May, 1946, entered into a contract (W-31-109 Eng 52) which has been subsequently amended, and as amended, is hereinafter called the "principal contract" with the United States of America, hereinafter called the "Government", represented by the United States Atomic Energy Commission, hereinafter called the "Commission", to operate, expand and maintain the Hanford Works including the Community of Richland, Washington; and,

Whereas, pursuant to such contract, Lessor with the approval of the Commission invited Bids for the construction and operation of \_\_\_\_\_, (hereinafter referred to as the "Facility"), upon land owned by the Government, and the Lessee was the successful bidder;

Now, therefore, the Lessor hereby leases to Lessee and Lessee hereby leases from the Lessor, subject to the conditions and covenants hereinafter set forth in articles I to XXXVI, inclusive, the following described premises:

## ARTICLE I. TERM

The term hereof shall be \_\_\_\_\_ years, commencing \_\_\_\_\_, 19\_\_\_\_, and ending \_\_\_\_\_, 19\_\_\_\_, unless sooner terminated pursuant to the provisions of Article XII. At the expiration of this Lease the Lessee shall have the option of renewing the Lease for a term of \_\_\_\_\_ years upon the same terms and conditions as are contained herein, except that the amount of the payments payable under the renewed Lease shall be renegotiated. The Lessee shall exercise his option to renew in accordance with the preceding sentence by giving written notice of intention so to do not less than six months prior to expiration. Failure of the Lessor to receive such written notice shall be deemed to be conclusive evidence of the Lessee's intention not to exercise renewal option.

## ARTICLE II. USE OF PREMISES

The demised premises shall be used by the Lessee for the construction, maintenance, and operation of \_\_\_\_\_, and for no other purpose, unless the Lessor authorizes other and/or additional uses in writing in advance.

## ARTICLE III. RENT

Lessee shall pay to Lessor at Lessor's office at Hanford Works, Richland, Washington, or elsewhere, as designated from time to time by Lessor, the following amounts as rent for the use of the premises herein demised:

## 1. During the course of construction:

(a) \_\_\_\_\_ percent of gross receipts derived from any and all sales made on or from the leased premises; such payments to be made on or before the 15th day of the next succeeding calendar month, plus

(b) A fee sufficient to cover cost of building permit, inspections, and water and electricity used during course of construction, to be established by Lessor.

2. From and after \_\_\_\_\_, or such later date as may be fixed by Lessor, \_\_\_\_\_ percent of gross receipts derived from any and all sales made on or from the leased premises; provided that such payments shall in no event be less than

\$..... per month; such payments to be made on or before the 15th day of the next succeeding calendar month.

3. Interest computed at ---- percent per annum from due date of each payment, and upon each defaulted obligation, until paid.

#### ARTICLE IV. TITLE TO BUILDING(S)

It is understood and agreed that the premises demised hereunder are owned by United States of America; that the Lessor is entering into this Lease pursuant to the principal contract; and that any building(s) to be erected hereunder by the Lessee shall be and remain, during the term of this Lease and any renewal hereof, the property of the Lessee, irrespective of the manner in which the building(s) may be affixed to the land.

#### ARTICLE V. ENCUMBRANCES AND ASSIGNMENTS

1. Except with the prior written approval of the Lessor, which approval shall not be unreasonably withheld, the Lessee shall not sell, assign, mortgage, lease, sublease, license or otherwise dispose of or encumber, in whole or in part, the leasehold estate hereby created or the building(s) to be erected hereunder, nor suffer any voluntary or involuntary transfer or disposition of title or encumbrance to be made, and the Lessee will indemnify and keep indemnified the lessor and the Commission against losses resulting from the payment of any lien, charge or encumbrance. Nothing herein contained shall empower Lessee to do any act which can, may or shall cloud or encumber the Government's title to the land.

2. If, pursuant to the written consent of the lessor, Lessee shall mortgage, pledge or otherwise encumber the leasehold estate hereby created or the building(s) to be erected hereunder, then no termination provided for under Article XII, Section 1, of this Lease shall impair the validity of any such lien or encumbrance. Any notice of default on the part of the Lessee or intention on the part of Lessor to terminate or revoke this Lease shall be mailed to the agent designated by the mortgagee, pledgee, or other encumbrance-holder; provided, however, that no notice of such default or intention to terminate shall be required to be given to said mortgagee, pledgee or other encumbrance-holder, if he fails to designate such an agent.

#### ARTICLE VI. CONSTRUCTION

The Lessee agrees that he will, at his own cost and expense and pursuant to the following provisions, commence and complete construction of the building(s) to be utilized in the operation of the Facility:

1. The Lessee, before proceeding with the construction of the proposed building(s), shall submit to the Lessor, for inspection and approval by the Lessor, seven copies of the completely executed contract between the Lessee and his architect and builder and seven copies of completed drawings and specifications covering the proposed building(s). Upon approval of contract drawings and specifications, the Lessor shall return two copies to the Lessee.

2. The Lessee shall furnish the Lessor with one set of "as built" reproducible plans pertaining to the original building(s) and to any subsequent additional building alterations or additions, immediately following approval by Lessor and Commission of completed work.

3. Work on the building(s) shall be commenced as soon as practicable after receipt by Lessee, from Lessor, of notice of approval of the executed contract, drawings and specifications, and work shall be completed in accordance therewith not later than -----, 19----, or as this time may be extended by the Lessor because of delays beyond the control of the Lessee.

4. Whenever an actual or potential labor dispute or work stoppage arising therefrom, is delaying, or threatens to delay, the timely performance of work in connection with such building(s), the Lessee shall give immediate notice thereof to the Lessor. Such notice shall include all relevant information with respect to such dispute.

5. The Lessee shall procure, or cause to be procured, all licenses, permits, franchises, easements, rights of way, or other interests in real property necessary for the performance of work in connection with the construction of building(s).

6. In the construction of the building(s) hereunder, the Lessee covenants that he will not pay, or allow to be paid, any wages or allowances in excess of those prevailing at Hanford Works.

7. The Lessor shall extend existing water, electrical and sewer facilities to an agreed point near the building wall, at no additional cost to the Lessee.

8. The Lessor and the Commission shall have the right to inspect, in such manner and at such times as are reasonable, the work in process of construction.

9. The Lessee shall, at the discretion of the Lessor, require any or all of his contractors to furnish adequate performance and payment bonds.

#### ARTICLE VII. OPERATION OF THE FACILITY

The Lessee shall, at his own cost and expense, and pursuant to the following provisions, operate the Facility on the demised premises:

1. The Lessee shall maintain such stocks of merchandise, provide such services, employ sufficient personnel, furnish and install such fixtures and equipment and do all things necessary to render efficient and convenient service to customers.

2. The Lessee shall keep the premises open and available for business activity therein during all usual days and hours for such business in the community except when prevented by strikes, fire, casualty or other causes beyond Lessee's control and except during reasonable periods for repairing, cleaning, decorating, and for such other purposes as may be approved by the Lessor.

3. The Lessee shall fix charges and prices for merchandise and services that shall be fair and reasonable and in no case shall they be more than prices or charges of similar businesses for comparable merchandise and services in communities in the vicinity of Richland, Washington.

4. The Lessee shall include the address and identity of the Facility and the demised premises in all advertisements made by Lessee in which the address and identity of any other similar business, conducted by Lessee in the vicinity of Richland, Washington, shall be mentioned, and shall not divert elsewhere any trade, commerce or business which ordinarily would be transacted by Lessee in or from the demised premises, either during the period of construction of the building(s) hereunder or after completion thereof.

5. The installation, display, painting, affixing, or maintenance of signs, notices, pictures, billboards or other advertising material outside the building(s) shall be subject to the approval of the Lessor, and the Lessee shall remove all such signs, notices, pictures, billboards or other advertising material from the building(s) and premises at any time when directed by the Lessor so to do.

6. The Lessee shall not place nor permit any radio antennae, sound amplifiers, of similar devices on the roof or outside of the building(s) except with the written approval of the Lessor.

7. The Lessee shall keep the demised premises, the building(s), and all equipment therein, in good condition and repair. No additions to, or alterations of the building(s) shall be made, nor shall any additional building(s) be erected without the prior written approval of Lessor, which shall not be unreasonably withheld, nor shall any substantial change in the terrain of the premises be made without such approval.

8. The Lessee shall pay all charges assessed for the installation of telephones and the use of the telephone system.

9. The Lessee shall pay any and all taxes imposed by the Federal Government, the State or any political subdivision thereof.

#### ARTICLE VIII. UTILITIES

Electricity (for purposes other than heating) and water for the construction, maintenance, and/or operation of the Facility shall be furnished by the Lessor, and trash and garbage placed in containers furnished by the Lessee, shall be removed by the Lessor. The aforesaid utilities and services shall be furnished by the Lessor at no additional cost to the Lessee, except that separate billing may be rendered therefor; provided, however, that neither the Lessor nor the Commission, nor any of their contractors, shall be liable at any time for any loss or damage due to interruption or failure in the furnishing of such services or utilities for any reason whatsoever; and provided further, that in the event the furnishing of said utilities and services is taken over by others than the Lessor, the Lessor shall be relieved of its obligations under this Article and the Lessee shall make payment directly to the persons, firms, or corporations furnishing any or all of said utilities or services, and in such event the Lessee's payments shall be equitably adjusted.

## ARTICLE IX. SAFETY AND ACCIDENT PREVENTION

All activities in connection with the construction, maintenance, and/or operation of the Facility shall conform to all health and safety requirements and regulations of the Lessor and/or the Commission regardless of whether such activities be those of the Lessee or any of his contractors, or the officers, employees, or agents of the Lessee or any of his contractors; and the Lessee shall take, or cause to be taken, all reasonable steps or precautions to protect health and minimize danger from all hazards to life and property, and shall make, or cause to be made, all reports and permit all inspections as provided in such regulations and requirements.

## ARTICLE X. INDEMNITY AND INSURANCE

1. The Lessee shall indemnify and hold harmless the Lessor and the Commission from any and all liability whatsoever for injury to or death of persons or loss of or damage to property caused by or arising out of activities or nonfeasance in connection with the construction, maintenance, and/or operation of the Facility, whether such activities be those of the Lessee or any of his contractors, or the officers, employees, or agents of Lessee or any of his contractors.

2. The Lessee shall maintain or shall cause to be maintained insurance in at least the following amounts: Public liability for bodily injury, \$50,000/\$100,000; public liability for property damage, \$5,000; automobile public liability for bodily injury, \$50,000/\$100,000; automobile public liability for property damage, \$5,000, for purposes of providing protection against claims which may arise from activities in connection with the construction, maintenance, and/or operation of the Facility, whether such activities be those of the Lessee or any of his contractors, or the officers, employees, or agents of the Lessee or any of his contractors, and such other or additional insurance as will furnish reasonable protection against such claims. Certificates of such insurance shall be filed with the Lessor, and the Lessor shall be given ten (10) days advance notice by mail of changes in or cancellation of any such insurance.

## ARTICLE XI. COMPLIANCE WITH LAWS

The Lessee shall comply with the Industrial Insurance Act and the Medical Aid Act of the State of Washington, all Federal and State Social Security laws and all other Federal, State, and local laws, rules, and regulations applicable to the construction, maintenance, and/or operation of the Facility, or to the Lessee as an owner or employer, and shall comply with such rules and regulations as the Lessor or the Commission may from time to time establish pertaining to the construction, maintenance, and/or operation of the Facility, or to the Lessee as an owner or employer, or to the health, sanitation, fire protection, and safety of the community, and the Lessee shall take the necessary steps to require compliance by his contractors and their officers, agents, and employees, with the foregoing laws, rules, and regulations.

## ARTICLE XII. TERMINATION OR EXPIRATION

1. This Lease or any renewal hereof may be terminated by the Lessor, with the approval of the Commission, for the following reasons:

(a) Default in the payment of rent, when the Lessee is in default longer than ten (10) days from the date the rent is due hereunder; or, default in the performance by the Lessee, his agents, contractors, or employees in respect to any of the terms, conditions, or covenants of this Lease, whether or not such default is expressly declared to be a cause for termination elsewhere in this Lease: provided, however, that this Lease shall not be terminated for default (other than nonpayment of rent) if such default is remedied within ten (10) days after written notice thereof has been given to the Lessee by the Lessor.

(b) The filing of a petition or similar proceeding under any bankruptcy or insolvency laws, either by or against the Lessee; the appointment of a receiver of the property of the Lessee; or the making by the Lessee of a general assignment for the benefit of his creditors.

(c) Abandonment of the premises by the Lessee.

(d) A radical change in the control, management, or composition of a corporate or partnership Lessee resulting in an operation, which, in the opinion of the Commission, is contrary to the interest of the common defense and security.

2. In the event of termination or revocation by the Lessor for any of the reasons stated in Section 1 of this Article:

(a) The Lessee will be permitted to sell or otherwise dispose of the building(s), in place, for continued operation, within — days or as this time may be extended by the Lessor, to such person or persons, and upon such terms and conditions (including protective conditions to insure payment by Lessee of damages, if any, under Paragraph (c) of this Section), as the Lessor and the Commission may approve in writing in advance.

(b) In the event that the Lessee does not sell or otherwise dispose of the building(s) under Paragraph (a) immediately preceding, title to the building(s) shall vest in the Government, without any compensation therefor.

(c) If termination is for any of the reasons specified in Section 1 of this Article, the Lessee shall be liable to the Lessor and/or the Commission, for liquidated damages in an amount equal to the average of the monthly payments for the six-month period preceding the termination, multiplied by the number of months not to exceed six (6) from and after the date the demised premises are vacated or abandoned by the Lessee until another Lessee takes possession thereof.

3. In addition to the right of the Lessor to terminate this Lease or any renewal thereof, under Section 1 of this Article, the Commission, through notice given by the Lessor, may revoke this Lease whenever in the opinion of the Commission, such termination is essential in the interest of the common defense and security.

4. In the event that revocation is effected under the provisions of section 3 of this article and the Lessee is not in default of the provisions of this Lease or in violation of any law or regulation, which violation is the basis for such revocation, the Lessor, for and on behalf of the Commission, hereby agrees to purchase the Lessee's building(s) and the Lessee hereby agrees to sell said building(s) to the Lessor at the fair value thereof, as that term is hereinafter defined, *Provided, however:* That the Lessor reserves the right to pay such sums as may be due hereunder to any holder of a valid lien, mortgage or encumbrance.

5. Upon expiration of the term of the lease, title to the building(s) erected upon the demised premises shall vest in the Commission, and the building(s) shall thereupon become part of the realty.

6. The term "fair value" as used in this lease shall mean the actual original cost of the Lessee's building(s) to be purchased by the Lessor, less depreciation computed at ----- percent per annum of the actual cost of the original building(s); and plus the actual cost of any authorized additional building(s) to be so purchased, less depreciation at fixed percentages per annum to be agreed upon in advance in writing by the parties hereto with respect to any such authorized additional building(s). The rate of depreciation provided for herein is based on the understanding and agreement of the parties hereto that the actual cost of the building(s) now contemplated for construction by Lessee shall be totally and completely amortized within a period of ----- years, and that any authorized additional building(s) shall be deemed totally and completely amortized within the period agreed upon pursuant to the provision of section 7 of this article. In the event that this period of amortization is changed at any time by written agreement of the parties hereto, the depreciation figure will be revised so that the total depreciation will be prorated on a per annum basis for the period of amortization.

7. At the time the Lessee submits the drawings, plans, and specifications of the original building(s) to the Lessor for approval, pursuant to article VI, section 1, the Lessor and Lessee shall agree in writing, subject to the approval of the Commission, upon the items which properly may be included in the actual cost of said building(s), and within ----- days after completion of said building(s), or as this time may be extended by the Lessor, the parties hereto shall agree in writing, subject to the approval of the Commission, as to the amount of the actual cost of said building(s); at the time approval is obtained to construct any additional building(s) pursuant to article VII, section 7, the Lessor and Lessee shall agree in writing, subject to the approval of the Commission, upon the items which properly may be included in the actual cost of said additional building(s), and within ----- days after completion of said additional building(s), or as this time may be extended by the Lessor, the parties hereto shall agree in writing, subject to the approval of the Commission, as to the amount of the actual cost of said additional building(s) and as to the period within which said additional building(s) shall be totally and completely amortized.

8. In any case where the Lessor on behalf of the Commission purchases Lessee's building(s), or the title thereto is to vest in the Commission, the building(s) shall become part of the realty and shall become the absolute property of the Commission, at time that payment is made, if the transfer of title occurs prior to the expiration of the amortization period, or on the date fixed for termination or

revocation, if no payment is to be made. The Lessee covenants to execute, acknowledge and deliver any and all documents of title and to take all necessary steps to transfer of title, free and clear of all liens, encumbrances and charges, other than those expressly authorized and validly existing under the provisions of article V, section 2.

9. Upon termination, revocation, or expiration of this lease or any renewal hereof, the Lessee shall, at the request of Lessor, surrender possession and vacate the premises, remove all his property therefrom, and deliver possession of the premises to the Lessor, and hereby grants to the Lessor or the Commission full and free right to enter into and upon the premises in such event, with or without process of law, and to take possession of the premises and to expel or remove Lessee and any others who may be occupying the premises and to remove any and all property therefrom using such force as may be necessary, without being deemed guilty of trespass, eviction or forcible entry or detainer, and without relinquishing Lessor's rights to payments or any other right given to Lessor hereunder or by operation of law.

#### ARTICLE XIII. LESSEE'S RIGHTS UPON SALE OF PREMISES

The Lessor hereby covenants that the demised premises will not be sold during the term of this Lease unless and until the Lessee shall have been given notice of the intention to sell said premises and shall have been given a period of ----- days in which to make an offer for said premises, and the Lessor further covenants that, in the event this offer is not accepted, no such sale will thereafter be made unless and until the Lessee shall have been notified of the best offer received by the Lessor or the Commission for said premises and shall have been given an additional period of ----- days in which to make a further offer.

#### ARTICLE XIV. STATEMENTS AND BOOKS OF ACCOUNT

1. The Lessee shall keep records and books of account in accordance with recognized accounting principles approved by the Lessor and the Commission. Receipts shall be accounted for in sufficient detail to enable the preparation of a comprehensive statement of gross receipts. The Lessee shall furnish to the Lessor six (6) copies of a monthly statement of gross receipts on or before the fifteenth (15) day of the following calendar month, which said statement shall be sworn to before an officer authorized to administer oaths; and the Lessee shall furnish to the Lessor within thirty (30) days after the close of his fiscal year six (6) copies of an annual report, including balance sheet and statement of profit and loss prepared and certified to by a certified public accountant or other recognized accountant licensed pursuant to the laws of the State of Washington and who is acceptable to the Commission. The Lessor and/or the Commission shall at all times have access to all books and records of the Lessee concerning the operation of the Facility for the purpose of determining the amount of gross receipts.

2. In the event that the Lessor and the Lessee are unable to agree in respect to any matter pertaining to any monthly or other required statement, an examination and/or audit of all books and records of the Lessee, including Lessee's bank accounts, concerning the operation of the Facility shall be made by a certified public accountant to be selected by the Lessor with the approval of the Commission. All expenses of such examination and/or audit shall be paid by Lessee if the report of such accountant shows such statement to have contained error prejudicial to Lessor's receipt of rent in an amount equal to or greater than 1 percent of the amount of rent reported by said statement, otherwise such expenses will be paid by Lessor. The examination and/or audit of the certified public accountant made pursuant to this section shall be conclusive upon the parties and Lessee shall pay to Lessor within five (5) days after a copy of said accountant's final report has been delivered to Lessee the amount, if any, shown thereby to be due to Lessor.

#### ARTICLE XV. LIMITATION

Lessor is not and never shall be liable to any creditor of Lessee or to any claimant against the estate or property of Lessee for any debt, loss, contract, or other obligation of Lessee.

#### ARTICLE XVI. DISPUTES

Except as otherwise specifically provided herein, all disputes concerning questions of fact, which may arise hereunder and which are not disposed of by mutual agreement, shall be decided by a representative of the Commission duly author-

ized to supervise and administer performance of the Lessor's operations at Hanford Works, who shall reduce his decision to writing and mail a copy thereof to both the Lessor and Lessee. Within thirty days from this mailing, the Lessor or Lessee may appeal in writing to the Commission whose written decision thereon shall be final and conclusive. The Commission may designate an individual or individuals, other than the individual who made the initial decision, or a Board, as authorized representatives of the Commission to determine appeals under this Article who may make the final written decision on behalf of the Commission. Pending decision of a dispute hereunder, the Lessee shall diligently proceed under this Lease as construed by Lessor, unless otherwise authorized by the Commission.

#### ARTICLE XVII. ACTS OF SOVEREIGN

Neither the Lessor nor the Commission nor any of their agents, employees, nor contractors shall be liable for any interruption of the Lessee's business or interference therewith which may result from the repair, relocation, changing of grade, or closing down or opening of any streets, roads, or highways.

#### ARTICLE XVIII. FIRE OR OTHER CASUALTY

If the building(s) are totally or partially damaged or destroyed by fire, acts of God, or other casualty, the Lessee shall rebuild, repair, reinstall, or rehabilitate the building(s) at the Lessee's expense, subject to the approval of the Lessor in accordance with the provisions of article VI (Construction), in which event payment by the Lessee shall be equitably adjusted.

#### ARTICLE XIX. NOTICES

In every instance where it shall be necessary or desirable for Lessor to serve any notice or demand upon Lessee, it shall be sufficient either (a) to deliver or cause to be delivered to Lessee a written or printed copy thereof, or (b) to send a written or printed copy thereof by United States registered mail, postage prepaid, addressed to Lessee at the demised premises, in which event the notice or demand shall be deemed for all purposes to have been served at the time the copy is mailed, or (c) to leave a written or printed copy thereof with any person residing on or in possession of the demised premises or to affix the same upon any door leading into any building upon the demised premises, in which event the notice or demand shall be deemed to have been served at the time the copy is so left or affixed.

#### ARTICLE XX. MISCELLANEOUS

1. No receipt of money by the Lessor from Lessee after the termination of this Lease or after the service of any notice or after the commencement of any suit, or after final judgment for possession of the demised premises, shall renew, reinstate, continue or extend the term of this lease or affect any such notice, demand, or suit.

2. Failure of the Lessor to take any action with respect to any default by the Lessee hereunder shall not constitute a waiver of any of the Lessor's rights under this Lease, and no express waiver shall affect any default other than the default specified in the express waiver and that only for the time and to the extent therein stated.

3. The invalidity or unenforceability of any provision herein shall not affect or impair any other provision in this lease.

4. Provisions inserted herein or affixed hereto shall not be valid unless appearing in the executed copy hereof in the possession of the Lessor, and in event of variation or discrepancy, Lessor's duplicate original shall control.

5. Except as otherwise herein provided, each provision hereof shall extend to and shall, as the case may require, bind, and inure to the benefit of Lessor and Lessee and their respective heirs, legal representatives, successors, and assigns.

6. The headings of articles, sections, and paragraphs are for convenience only and do not define, limit, or construe the contents thereof.

#### ARTICLE XXI. RESERVED RIGHTS

Lessor reserves the following rights:

1. To change the name of the street or address of the building(s) without prior notice thereof or liability to Lessee.

2. To enter the premises or any part thereof at reasonable hours to make inspections, to exhibit the premises to prospective tenants, purchasers, or others, and to perform, consistently with this lease, any acts related to the safety, protection, preservation, sale, or improvement of the premises or the building(s).

#### ARTICLE XXII. DEFAULT UNDER OTHER LICENSE AGREEMENT OR LEASE

If the term of any license agreement or lease, other than this lease, made by Lessee and Lessor, be terminated or terminable after the execution of this lease because of any default by Lessee under such other license agreement or lease, the Lessor, at its option, may either terminate this lease or add any sums due to Lessor under the other license agreement or lease to the amount payable under this lease.

#### ARTICLE XXIII. HOLDING OVER

Lessee shall pay to Lessor, as liquidated damages, a sum equal to double the amount of the monthly payments as computed under the terms of this lease or a sum equal to double the average monthly payments for the six-month period immediately preceding the date the holding over begins, whichever is greater, for each month the Lessee retains unauthorized possession of the premises or building(s) in violation of the terms of this lease. For any period of holding over for less than a month, the amount of liquidated damages as above computed will be prorated on a per diem basis. Lessor's acceptance of any payments after holding over begins does not renew this lease. This provision does not waive Lessor's right of reentry or any other right hereunder.

#### ARTICLE XXIV. LITIGATION COSTS

Lessee shall pay upon demand all of Lessor's costs, charges and expenses, including the fees of counsel, agents and others retained by Lessor, incurred in enforcing Lessee's obligations hereunder or incurred by Lessor in any litigation, negotiation or transaction in which Lessee causes Lessor, without Lessor's fault, to become involved or concerned.

#### ARTICLE XXV. RENEGOTIATION

The Lessor or Lessee shall have the right to require renegotiation of the rent payable hereunder and adjustment of the amounts thereof at the end of each five-year period of this lease or any renewal hereof. If the Lessor and the Lessee are unable to agree, after renegotiation, on the amounts, if any, by which such payments should be adjusted, the question may be referred to the Commission under the provisions of article XVI (Disputes) herein; provided, however, that pending the determination of such a dispute the Lessee shall pay as rent hereunder the amount or percentage of gross receipts fixed by the Lessor.

#### ARTICLE XXVI. INTEGRATION CLAUSE

This lease contains the entire understanding between the parties, and there are no understandings, representations, or warranties not set forth or incorporated by reference herein. No subsequent modifications of this Lease shall be of any force or effect unless in writing, signed by the party claimed to be bound hereby.

#### ARTICLE XXVII. RIGHT TO OPERATE BUSINESS NOT EXCLUSIVE

The Lessor reserves the right to grant leases or licenses to others to operate similar or identical businesses at the Hanford Works, or to permit the conduct of similar or identical businesses under any other arrangement.

#### ARTICLE XXVIII. ANTIDISCRIMINATION

The Lessee shall not discriminate against any employee or applicant for employment because of race, creed, color or national origin.

#### ARTICLE XXIX. COVENANT AGAINST CONTINGENT FEES

The Lessee warrants that no person has been employed to solicit or assist in obtaining this lease upon any agreement for a commission, percentage, brokerage or contingent fee. This warranty shall not apply to commissions payable by

Lessee upon contracts or sales secured or made through bona fide commercial or selling agencies maintained by the Lessee for the purpose of securing business.

#### ARTICLE XXX. OFFICIALS NOT TO BENEFIT

No Member of or Delegate to Congress nor Resident Commissioner shall be admitted to any share or part of this lease nor to any benefit that may arise therefrom, but this provision shall not be construed to extend to this lease if made with a corporation for its general benefit.

#### ARTICLE XXXI. SECURITY CLEARANCE AND EMPLOYEES

1. Lessee shall comply with all regulations and rules in effect on the Hanford Works regarding passes, badges, list of employees and conduct on the property, and shall take the necessary steps to require compliance by his contractors and their officers, agents and employees with such rules and regulations.

2. The Lessee shall submit to the Lessor the names of all persons to be employed in connection with the construction of the building(s) and operation of the Facility. The Lessee shall also promptly notify the Lessor of all employee terminations. The Lessor may, with the approval of the Commission, refuse to allow the employment of any person, if, in the opinion of the Commission, such employment would be prejudicial to the interest of the common defense and security.

3. Unless otherwise authorized by the Lessor, all persons employed in the construction of the building(s) and operation of the Facility will be required to obtain security clearance before performing any work, and the Lessor, with the approval of the Commission, may require dismissal from the work of any employee whose employment is deemed prejudicial to the interest of the common defense and security, subject to right of appeal by the Lessee pursuant to the provisions of article XVI (Disputes) for reinstatement of any such employee in the event such action shall be taken.

#### ARTICLE XXXII. APPROVAL OF COMMISSION

This lease shall be subject to the written approval of the Commission and shall not be binding until so approved.

#### ARTICLE XXXIII. DEFINITIONS

1. As used in this lease, the terms "United States Atomic Energy Commission" and "Commission" shall mean the United States Atomic Energy Commission or its duly authorized representative or representatives.

2. The term "gross receipts" as used herein includes the total receipts from sales of merchandise, or charges for services and business transacted in, upon and from the building(s) and premises during the term hereof by Lessee. The term "gross receipts" shall not include amounts collected as taxes and paid over to Federal, State or local authorities, and refunds made to customers in connection with merchandise or services sold by the Lessee. Such term shall include receipts from sales, charges for services and business transacted for which orders are taken in or upon the said building(s) or premises regardless of where the services are to be rendered or the business consummated.

3. The term "building(s)" as used herein shall mean all structures, tenements and appurtenances constructed on the demised premises and such fixtures as are affixed thereto so as to become a part thereof, and not be severable wholly or in any portion without material injury to the freehold.

#### ARTICLE XXXIV. AVAILABILITY OF FUNDS

Any contingent liability or obligation for future payments assumed hereunder by the Lessor and/or the Commission shall be subject to the availability of funds appropriated by Congress, for the discharge of said obligation.

#### ARTICLE XXXV. ASSIGNMENT TO COMMISSION

This lease may be assigned at any time by the Lessor to the Commission or its designee and by such assignment the Lessor is relieved from all liability to the Lessee under this lease.

## ARTICLE XXXVI. ALTERATIONS

The following changes were made in this lease before it was signed by the parties hereto:

In witness whereof the parties have caused this lease to be executed on the day and year first hereinbefore written.

Attest:

-----  
Assistant Secretary.

By GENERAL ELECTRIC Co.,

By -----  
Assistant to General Manager.

Witness or attest:

-----

Lessee:

By -----  
Title.

Approved:

UNITED STATES ATOMIC ENERGY COMMISSION.

By

-----  
Manager, Hanford Operations Office.

STATE OF WASHINGTON,  
County of Benton, ss:

On this day personally appeared before me -----  
to me known to be the individual or individuals described in and who executed  
the within and foregoing instrument and acknowledged that he (she or they)  
signed the same as his (her or their) free and voluntary act and deed, for the  
uses and purposes therein mentioned. Given under my hand and official seal  
this ----- day of -----, 19-----.

-----  
Notary Public in and for the State of  
Washington, residing at -----.

My Commission expires -----

STATE OF WASHINGTON,  
County of Benton, ss:

On this ----- day of -----, 19-----, before me personally appeared  
-----, to me known to be the (president, vice  
president, secretary, treasurer, or other authorized officer or agent, as the case  
may be) of the corporation that executed the within and foregoing instrument,  
and acknowledged said instrument to be the free and voluntary act and deed of  
said corporation, for the uses and purposes therein mentioned, and on oath  
stated that he was authorized to execute said instrument and that the seal affixed  
is the corporate seal of said corporation.

In witness whereof I have hereunto set my hand and affixed my official seal the  
day and year first above written.

-----  
Notary Public in and for the State of  
Washington, residing at -----.

My Commission expires -----

## PRIVATE BUSINESS CONCERNS OPERATING CONCESSIONS IN RICHLAND, WASH.

As of February 23, 1949, there were 26 new and 43 existing commercial facilities in Richland. The 43 existing facilities were operating under license agreements in structures owned by the Government. Two of the twenty-six new facilities consist of additions to existing Government-owned buildings. With the exception of these two, plus one other, all awards for the new facilities have been based on competitive bids invited by the General Electric Co. in behalf of the Atomic Energy Commission. The one exception is an automobile agency which was negotiated, since it was the first automobile agency under the new program and there were no other interested dealers at that time. The awards which have been made to various operators under the private financing plan now underway were based on the following rentals:

Furniture store No. 1: \$500 + 1½ percent gross sales.

Furniture store No. 2: 2½ percent gross sales, with \$281.25 minimum monthly guaranty.

*Printing plant:* 1½ percent gross sales, with \$50 minimum monthly guaranty.  
*Cahoon Motors Automobile Agency:* one-fourth of 1 percent gross sales + \$60 per month, with minimum monthly guaranty of \$160.

*Anderson Automobile Agency:* one-half of 1 percent on new car sales, Richland delivery, less Federal, State and city taxes; one-fourth of 1 percent on used cars less service, insurance, finance charges, and tax, if made a part of the sales price; 1 percent on labor sales, 2 percent on parts, accessories and oil sales; one-half cent per gallon of gas, with \$148 minimum monthly guaranty.

*General repair garage:* 2½ percent gross sales, with \$250 monthly minimum guaranty.

*Frozen food locker building:* 5 percent gross locker rentals; 5 percent gross sales from flower counter; 2½ percent gross sales from delicatessen and retail bakery counter; 1 percent gross receipts from wholesale meat sales and service.

Operator-built food locker of 6,210 square feet adjacent to and supplementing his grocery store operated in Government-owned buildings.

*Garmo's Bakery:* 2½ percent gross receipt on retail sales; 1 percent on wholesale sales.

Title to building addition conveyed to Atomic Energy Commission at an estimated cost of \$30,000. Garmo constructed 4,320 square feet bakery addition to an existing Government-owned building in which he operates a grocery store.

*Grocery Store No. 1:* 1 percent of gross grocery sales with \$500 minimum monthly guaranty on total land area.

Lessee is subleasing space to drug store and will pay three-fourths of 1 percent of gross sales. He is also subleasing beauty and barber space paying 1 percent of gross sales and service from both operations.

*Grocery store No. 2:* 1½ percent of gross sales with \$300 minimum monthly guaranty.

*Drug store and beauty shop:* 1 percent gross sales with \$225 minimum monthly guaranty.

*Gas station No. 1:* 2¼ cents per gallon gas sold + 5.1 percent of all sales exclusive of gas, with \$400 minimum monthly guaranty.

*Gas station No. 2:* 2.63 cents per gallon gas sold with \$250 minimum monthly guaranty.

*Gas station No. 3:* 2.1 cents per gallon gas sold with \$150 minimum monthly guaranty.

*Fountain lunch:* 4 percent gross sales with \$58 minimum monthly guaranty.

*Milk depot:* 2 percent gross sales up to \$25,000; 2½ percent gross sales between \$25,001 and \$40,000; 2¾ percent gross sales between \$40,001 and \$60,000; 3½ percent gross sales between \$60,001 and \$90,000; 3¾ percent gross sales between \$90,001 and \$100,000; 3¾ percent on all gross sales over \$101,000 with \$300 minimum monthly guaranty.

*Men's wear:* 3 percent gross sales with \$150 minimum monthly guaranty.

*Women's apparel and fur shop:* 2¼ percent gross sales with \$155 minimum monthly guaranty.

*Sporting goods and florist and hobby shop:* 2½ percent gross sales with \$250 minimum monthly guaranty.

*Roller skating rink:* 3 percent gross admissions after State and Federal tax; 10 percent gross sales of merchandise, skates, shoes, etc.; 3 percent gross sales of confections with \$175 minimum monthly guaranty.

*Shoe store:* 3½ percent gross sales with \$200 minimum monthly guaranty.

*Barnhart Bakery:* 1½ percent gross sales with \$70 minimum monthly guaranty.

*Theater (1,200 seats):* \$500 per month flat rental for initial 15-year lease period; 17½ percent gross admissions and 5 percent on confections if option to renew is exercised.

*Dry cleaning:* 3.5 percent gross sales with \$250 minimum monthly guaranty for first year; \$300 minimum thereafter.

*Ready-mix concrete:* 10 cents per cubic yard of aggregate used plus 3 percent gross sales with \$250 minimum monthly guaranty.

Estimated total investment of private capital in above buildings, exclusive of equipment and fixtures is \$1,400,000.

*Women's apparel chain operation:* 1½ percent gross sales, with \$200 minimum monthly guaranty.





# **NATURAL GAS FACILITIES FOR OAK RIDGE**

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## **HEARING**

**BEFORE A**

### **SUBCOMMITTEE OF THE JOINT COMMITTEE ON ATOMIC ENERGY CONGRESS OF THE UNITED STATES**

**EIGHTY-FIRST CONGRESS**

**FIRST SESSION**

**ON**

### **NATURAL GAS FACILITIES FOR OAK RIDGE**

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**MONDAY, MAY 2, 1949**

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### SUBCOMMITTEE OF THE JOINT COMMITTEE ON ATOMIC ENERGY TO INQUIRE INTO PROPOSED NATURAL GAS FACILITIES FOR OAK RIDGE, TENN.

CARL T. DURHAM, North Carolina, *Chairman*

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MELVIN PRICE, Illinois

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JAMES E. VAN ZANDT, Pennsylvania

WILLIAM L. BORDEN, *Executive Director*

HAROLD BERGMAN, *Deputy Director*

WILLIAM J. BERGIN, *Editor*

# NATURAL GAS FACILITIES FOR OAK RIDGE

MONDAY, MAY 2, 1949

CONGRESS OF THE UNITED STATES,  
SUBCOMMITTEE OF THE JOINT COMMITTEE ON ATOMIC ENERGY,  
*Washington, D. C.*

The subcommittee met at 10 a. m., pursuant to call, in room 48-G, the Capitol, Hon. Carl T. Durham (vice chairman of the joint committee and chairman of the subcommittee) presiding.

Present: Representatives Durham (vice chairman of the joint committee and chairman of the subcommittee), Holifield, Price, Cole, Elston, and Van Zandt.

Also present: Sumner T. Pike, Member, Edward J. Bloch, Division of Production, Everett L. Hollis, and F. Aley Allan, Office of General Counsel, Atomic Energy Commission; William L. Borden, Executive Director, Harold Bergman, Deputy Director, and E. L. Heller, staff member, Joint Committee on Atomic Energy.

Representative DURHAM. The subcommittee will come to order.

In order that this hearing may proceed smoothly and without avoidable misunderstanding, I think it is necessary to define our purpose as to why this hearing is being called.

First. Is what is here contemplated necessary to carry out the production of weapons for the Military Establishment?

Second. Is it necessary to carry out the basic research and technical research and development, the pure research and applied research, for which the act assigns responsibility?

If you can give us a clear picture, it will be important to the committee in judging the necessity for the physical addition at Oak Ridge. As your Government, we appreciate your work, and desire to give you excellent working equipment and in ample quantity for the purposes I have stated.

This meeting is a closed meeting, for various reasons. We have a reporter here to take down material for publication. If it is necessary to go off the record at all in this discussion, we will do it later in the morning. If so, we will request the reporter to leave. Therefore, I request the witnesses from the Atomic Energy Commission to confine themselves now to statements which can be made public, and later if necessary we will go off the record.

I understand that Mr. Pike will make an opening statement on the record; then he will later go off the record for a few minutes, and during that time the reporter will leave the room; then we will go back on the record and call the reporter back.

Mr. Pike, you may proceed with your statement.

**STATEMENTS OF SUMNER T. PIKE, MEMBER, AND EDWARD J. BLOCH, DIVISION OF PRODUCTION, ATOMIC ENERGY COMMISSION, WASHINGTON, D. C.**

Mr. PIKE. Our position of course is very simple. The plant at Oak Ridge is an essential part of the atomic energy enterprise. There are various specific features about it which I think for more logical presentation, we should perhaps go into in a little more detail in the off-the-record period. But the principle of the matter is quite a simple one. We have a large power plant at Oak Ridge, several hundred thousand kilowatts, and the electricity from that plant is necessary for the proper operation of the facilities.

Representative DURHAM. Right at that point: Is it off the record as to how much power, in kilowatts, that plant produces?

Mr. PIKE. The total capacity I think is about 230,000 kilowatts. It produces a variety of brands of electricity which are not commercially available, but very necessary for the operation of this plant. We have been using and do use coal. There are three boilers there, one of which is adaptable to be turned over to oil.

However, during the several years that this plant has operated there have been times when, due to disturbances in the coal labor situation and one or two brief disturbances in the railway labor situation, we felt we ought to have another source of supply of fuel for this plant, which would bypass both railroad transportation and the coal-mining industry, so that we would have another string to our bow.

This was one of the first things we looked at when we got to know about the whole set-up of manufacturing operation in this field. If I am not mistaken, it was a year ago last January when we went after the thing pretty hard to see what we could do to take us off of the uncomfortable position of a plant dependent upon one source of supply of fuel.

Since that time we first talked to and were talked to by several natural gas suppliers. Over a period, we worked up a contract with the East Tennessee Natural Gas Co., and the contract is now in finite form. I am sure the committee has it. Proceedings are before the Federal Power Commission having to do with both this specific line which goes to Oak Ridge, and also the gas supply of the furnishing company, the Tennessee Gas Transmission Co., which gets its gas mostly along the Texas Gulf coast.

As a subsidiary point, although not completely to be ignored, under the contract the gas will represent a real saving in the operation of the plant; as I remember it, estimated to be about a million dollars a year. And as a further subsidiary point, gas is about the only fuel which you can contract for several years ahead at very close to a fixed price.

There is also another rather small point: As operators of this town, you know, we have to furnish the fuel, bringing coal to every house and taking away the ashes. I am inclined to think that if natural gas came in we could effect real economies in town operation by having natural gas brought to these houses.

These are small points, but they are nevertheless points that add up somewhat to the major ones, that this K-25-27 plant, and 29, when and if built, are unique, and essential in the Nation's interest

and security. We should clear ourselves of all possible risks of this plant having to close down.

Perhaps, Mr. Chairman, if it suits you, we might have a small off-the-record period to go into one of those security aspects of this plant, the hazards which might come along if it were closed down, and the way in which it ties into the whole manufacturing enterprise. It may save some questions in your mind to go into these matters now rather than later. I make that as a suggestion.

Representative DURHAM. Is there any question, before we go into the off-the-record session?

If we get into some question that necessarily has to be off the record, Mr. Pike, say so, and we will stop.

Representative PRICE. Mr. Chairman, I would just like to ask a couple of questions that will fit in here with this.

What is your backlog of coal, of present fuel, Mr. Pike? How long could you operate in the event of a strike?

Mr. PIKE. I am not sure of that. Mr. Bloch possibly could answer.

Mr. BLOCH. At the present time it is equivalent to about 90 days' operation.

Representative PRICE. Do you know of any coal strike in the history of the country that lasted that long?

Mr. PIKE. My memory is not too good on that; but there was the harbor strike, about 1901.

Representative PRICE. Do you recall any strike during a period of emergency, in time of war?

Mr. PIKE. Oh, yes. There were coal strikes during the war.

Representative PRICE. There was not any coal strike during this last war, was there?

Mr. PIKE. Yes, sir.

Representative PRICE. How long did it last?

Mr. PIKE. Well, I think we had about two a year.

Representative PRICE. But for how long did they actually go out?

Mr. PIKE. Those are matters of record, Mr. Price. I was very much worried at those times, because I was in charge of fuel prices for OPA; and there were strikes, and then there were seizures, and wildcat strikes.

Representative PRICE. In any event, if we did have a coal strike during the war, and while I recall threats of strikes and possible calling out of the men, and I think maybe they did go out for a period of 1 or 2 days, they were under Executive order, and with the President invoking his powers they went back under certain conditions. So that there was not any prolonged lay-off in the mines. But at any rate, the President has the power, during time of such emergency and during time of war, to operate those mines, and he would certainly see to it that they were operated if such an emergency existed.

Mr. PIKE. With all due respect to that power, you know, about the third time this thing came up, it wasn't very well respected by the people who were dealing with mine operations. Government operation largely consists of the putting up of a flag at the mine, and having a colonel at the mine office, and the management went on about as before. I have always had the feeling and, of course, this is a matter of opinion, that after one of those so-called seizures and Government operation are carried out two or three times, respect for that seizure

decreases; and it did in this coal business for the last year or two of the war, to the point that nobody took it very seriously along at the end of it. I don't know how to describe it, but I could see over there among the coal operators and coal labor people that they were not very much impressed with the so-called taking over of the mines by the Government. I think it was Captain Carlson who was the Government man for the Department of the Interior. Of course, he would remember very clearly about these things. I think he would tell you the same thing. I have discussed the matter with him.

Representative PRICE. Mr. Chairman, I think maybe at the outset of this hearing we should perhaps find out just how far advanced this project is. I think we should go into the amount of participation in it by the Commission up to this point, so that we will know where to start in the questioning here.

Mr. PIKE. Mr. Bloch, who is our Deputy Director of Production, has that story well in mind, Mr. Price, and I am sure he can give you a better answer than I can.

Representative DURHAM. Give your full name to the reporter, Mr. Bloch.

Mr. BLOCH. Edward J. Bloch, Deputy Director of Production.

Representative DURHAM. All right. Proceed.

Mr. BLOCH. For about the year preceding our taking action on this problem, I think from about August 1946 until August or September 1947, we used coal at Oak Ridge at the K-25 plant at a rate of about 10,000 tons a month greater than our purchases of coal, and during that period we made very strenuous efforts to secure coal wherever we could.

Our experience was due to a combination of things; to some extent to strikes, and to some extent to the fact that we could not get cars to transport the coal and move it in. But we went from one crisis to another during that period, and subsequent to it, until the turn of the year.

If we hadn't, at the very outset, even back during the war, attempted to build up a reserve of coal, the plant probably would have shut down during that period of time, because we consumed in about 13 months about 130,000 tons more coal than we were able to procure. And at that period the plant was not operating at the level at which it is operating now.

Representative PRICE. But what I meant was: how far advanced is this project? Has the Commission entered into any definite contract with this fuel operator?

Mr. BLOCH. Yes; we have a definite contract with the East Tennessee Natural Gas Co.

Representative PRICE. What is the nature of that contract?

Mr. BLOCH. The contract obligates the Commission to take gas beginning within 30 days after the gas company serves us with notice that they are ready to deliver gas.

Representative DURHAM. I think at that point the contract should be placed in the record, if it is agreeable with you. I do not see why it should be off the record.

Mr. BLOCH. There is nothing classified about the contract.

Representative DURHAM. If there is no objection, we will have a copy of the contract included in the hearing.

Representative PRICE. I think it should be placed in the record.

Representative DURHAM. Any objections? If not, it will be placed in the record.

(The contract referred to will be found in the appendix on p. 25.)

Representative PRICE. The main thing I would like to know is how far advanced this project is.

Representative VAN ZANDT. I wonder if they will tell us whether or not they have purchased pipe.

Representative PRICE. Yes; how late are we getting into the inquiry on this?

Representative COLE. Along about that time I wish you would develop why we are getting into it.

Representative PRICE. I do not know any more about that than the gentleman does.

Mr. BLOCH. The joint committee has been kept informed of our progress by a series of letters and also by a quarterly report. I think the initial letter was sent over early last spring, telling the committee that we were investigating this problem.

As far as the progress to date is concerned, the gas company has orders placed for the pipe. The pipe is currently being fabricated. Delivery of the pipe to the gas company is contingent upon the East Tennessee Natural Gas Co. having a certificate from the Federal Power Commission, which they do not as yet have. The Federal Power Commission has recently concluded hearings on the application.

Representative PRICE. The gentleman from Pennsylvania had a question, I believe.

Representative VAN ZANDT. I wonder what your commitments already amount to in dollars and cents?

Mr. BLOCH. The commitments of the Atomic Energy Commission?

Representative VAN ZANDT. Yes.

Mr. BLOCH. Our commitment at the outset of the contract takes a form best described as a guaranty that we will take gas over a certain period of time. We are not obligated to spend any money on this matter except approximately \$240,000 that we will have to spend to convert the boilers to burn gas.

Representative VAN ZANDT. Have you spent any money in that direction?

Mr. BLOCH. No, sir; we have not. We will have ample time to make the conversion when the gas company starts constructing the line.

Representative VAN ZANDT. How about the steel that is being fabricated? Is that an obligation on your part, or on the part of the gas company?

Mr. BLOCH. On the part of the gas company. We have no obligation.

Representative VAN ZANDT. You said your present plant produces about 230,000 kilowatts. Are you disposing of any of your production to outside interests?

Mr. BLOCH. At times when we can safely operate the third boiler, we have helped out TVA by generating some power to reduce the load which they are committed to serve us.

Representative VAN ZANDT. How frequent is that?

Mr. BLOCH. Well, I believe over the past year it probably totaled about, oh, perhaps about 6 months. We have no obligation to fur-

nish that power, and we can stop on a moment's notice. The purpose is to be sure that we can generate for our own needs.

Representative VAN ZANDT. I think Mr. Pike said in his opening statement that your principal source of power depended upon coal.

Mr. PIKE. Yes, sir.

Representative VAN ZANDT. Do you have any other stand-by, other than natural gas?

Mr. PIKE. I think one more is available for conversion to fuel oil.

Mr. BLOCH. That is correct, sir. The background on that conversion is this: During the war we built a thermal diffusion plant, a small plant which was known as the S-50 plant. After the war, we stopped operation of that plant and dismantled it. That plant operated with some Navy boilers that we had secured, and it just burned oil. So in order to operate that plant we had to build a tank. Due to the difficulties we were having in maintaining the coal supply, this was one step that we could take immediately. We had the tank farm available. It would hold enough oil to operate one-third of the plant for probably 30 days. So we converted one boiler.

Representative VAN ZANDT. As it is now, you have coal storage facilities up to 230,000 tons?

Mr. BLOCH. Approximately, yes.

Representative VAN ZANDT. And you have 12 to 13 storage tanks for oil. That is stand-by.

Mr. BLOCH. I think that is correct.

Representative VAN ZANDT. Would it be possible for you to expand your coal storage facility as well as your storage tank facility?

Mr. BLOCH. It is possible; yes, sir. But at the time this problem was considered, there didn't appear to be any possibility of getting coal in stock pile. It would cost some money in rehandling costs, and so on, which you must consider when your stock pile spreads out over a large area.

Representative VAN ZANDT. But you would have the area there if you wanted to expand.

Mr. BLOCH. There is land; yes, sir.

Representative VAN ZANDT. What method do you employ to get your coal there at present? Is it not true that you employ railroads as well as trucks?

Mr. BLOCH. We employ both; yes, sir.

Representative VAN ZANDT. And how is your oil brought in? By tank car, or pipe?

Mr. BLOCH. The oil is brought in by tank car.

Representative VAN ZANDT. And is it not so that there is a pipe line 17 miles from Oak Ridge that transports oil and gasoline from points in the South to the northern United States?

Mr. BLOCH. It is my understanding that that pipe line is not designed to transport the bunker-C fuel oil, which is a heavy oil, a residual oil, that we burn in these boilers.

Representative VAN ZANDT. That is mostly for gasoline, I understand.

Mr. PIKE. And lighter oil products.

Mr. BLOCH. And lighter oil products; yes, sir.

Representative VAN ZANDT. In your desire to bring natural gas into Oak Ridge, is it not true that you not only want to have this definite supply of fuels, as we may call it, for your power-producing

plants, but you want to also supply natural gas for the community of Oak Ridge? Is that correct?

Mr. BLOCH. If the gas is brought in, we would like to extend it to the community.

Representative VAN ZANDT. What is the status of Oak Ridge at the moment? Is it an independent community, or still part of the AEC?

Mr. BLOCH. It is a community that is wholly owned and operated by the AEC.

Representative VAN ZANDT. No local or self-government?

Mr. BLOCH. No self-government.

Representative VAN ZANDT. That is all I have at the moment, Mr. Chairman.

Representative DURHAM. Mr. Pike, at the present time, how much power have we secured from the TVA?

Mr. PIKE. I would have to refer the question to Mr. Bloch, Mr. Chairman.

Mr. BLOCH. Our contract with TVA is for a demand of 225,000 kilowatts.

Representative DURHAM. Are you using all that?

Mr. BLOCH. We are using just about all of it. Yes, at this time, we are very close to our full demand. Of course, that power supplies all of the Oak Ridge area. It supplies more than just the K-25 plant.

Representative DURHAM. Is there an actual shortage, a situation of their not meeting their contract at the present time?

Mr. BLOCH. No..

Representative DURHAM. They are meeting all of their contract obligations at the present time?

Mr. BLOCH. That is correct.

Representative DURHAM. Do you need more?

Mr. BLOCH. We could not get from TVA the variable frequency power which is generated at this power plant on the site.

First of all, it is a question of TVA's not being able to furnish it even if it were available, because of the frequencies we would need.

Representative DURHAM. Do you think it should be off the record as to exactly what this pipe line will cost the Commission in actual figures? Should that be off the record?

Mr. PIKE. That is in the general contract, I think.

Mr. BLOCH. The formula is in the contract.

Representative DURHAM. I know it is in the contract, but your over-all total cost to the Commission in actual dollars was what I had in mind.

Mr. PIKE. If we keep on buying gas—

Representative DURHAM. I am not talking about what we will eventually save. I am talking about the actual investment.

Mr. PIKE. It will not cost us anything, if we take the gas. If we do not take the gas, there are various penalties.

Representative VAN ZANDT. The conversion of the boilers?

Mr. PIKE. Yes, the conversion of the boilers, \$240,000.

Representative ELSTON. Mr. Chairman, I am not a member of the committee, but was very courteously invited to sit in, because of the fact that we in Ohio are tremendously interested in the matter.

I would like to ask whether or not, before you decided to contract for this natural gas, you considered the hardships and the incon-

venience that would result to municipalities throughout the five States that are served by this pipe line. Did you consider that at all?

MR. PIKE. Mr. Elston, we, of course, do not want to cause anybody inconvenience. We were assured by the gas transmission people that the gas we require will come out of additional gas, which will soon be coming through the Tennessee Gas Transmission line, and there will be no cutting back. If I am not mistaken, that went on the Power Commission record during the last week.

MR. BLOCH. Yes, sir.

MR. PIKE. So this is not depriving anybody of gas that is now coming up and being served to other communities, but will come from additional gas, on which the Power Commission I believe is now holding hearings. There is no question, as you know, in the gas business, of a shortage of gas in the gas-producing States. There is roughly about twice as many years' supply of gas in sight in these United States as there is of oil supply. Compared with the somewhat less than 14 or 15 years of oil supply in sight, there is something like 30 years of gas supply in sight. The question is and has been for some years one of getting the gas from where it is available to the places that want to use it. Tennessee Gas Transmission is expanding its pipe-line capacity and this would be part of the additional supply which they expect to have coming along in the next 2 or 3 years.

Representative ELSTON. It is a fact, is it not, that there is a gas shortage every winter, and they have been compelled to shut off industries entirely for some of the colder periods of the winter in order that domestic users may have sufficient gas to heat their homes?

MR. PIKE. Yes, Mr. Elston. That is true. And regularly, as you know, a lot of contracts have been written with interruptible provisions, so that in case of shortage, let us say, in what you might call the utility outlet for gas, these industries which have, let us say, used gas during the summer, when there was no tremendous domestic demand, will go off the line during the shortage period. Some industries go to other sources of fuel, or to their stock pile; other industries close down or curtail for the period. But this is usually written right into the contract.

For the last several years, going back to the war period, as you know, line pipe for both gas and oil has been in great demand, and the expansion in supply has not been able to keep up with the demand. I think this past winter there were not many gas shortages. The winter before last, which was a very cold winter, had some very substantial gas shortages.

These pipe lines, of course, have been getting in further capacity just about as fast as they could. The way the thing looks at the moment, though anybody's guess is of course as good as mine, is that the steel shortage does not seem to be as acute as it was. I might say there that you have to go back to certain plate shortages. There is very limited capacity in these rolling mills that can do the plates from which the pipes are made, and the pipe rolling itself.

So we have had a steel shortage which has resulted in a gas shortage. Of course, it has not helped the whole situation any that during the war and since there have been among the railroads and other users of fuel some moves toward trying to protect themselves against interrupted coal supplies. This has sort of upset the whole equation in addition.

Representative ELSTON. Well, what assurances has the Atomic Energy Commission got that it will not be deprived of natural gas in the wintertime? Is it not running a risk in adopting natural gas as a fuel, in that it may have to shut down at a particular time in the winter, the same as industry has to shut down? Or resort to coal?

Mr. PIKE. To resort to coal, of course, would be a very easy thing for us, on a very few days' notice. Coal is a thing you can stock pile very easily. And it would be our plan, of course, to keep a good ample stock pile of coal.

Gas is a thing that you can't stock pile very well.

Representative PRICE. How would you do that, though, if you had reconverted all your boilers?

Mr. PIKE. Mr. Price, we have always seen to it that we can reconvert. That is the normal practice in the case of large consumption; so that it is possible to switch back and forth on very short notice.

Mr. BLOCH. This is almost instantaneous. The boilers are equipped with jets which introduce gas and another set of equipment which introduces coal. The coal is blown in. It is pulverized. You can burn the two simultaneously in the boiler if you wish.

Representative ELSTON. Was there anything in your contract indicating that the gas that the Atomic Energy Commission is to get is to be in addition to the gas supply already required to be furnished to the five States that are now served by this company?

Mr. PIKE. Of course, Mr. Elston, that goes to the Power Commission's responsibility. It is not in the contract, but they are sort of the watchdogs of the consumers on things, and one of the principal things they have been looking at, as I understand it, for the past several weeks has been not only an ample gas supply back in Texas, but an ample pipe line to bring it up there, so that none of the outlets which are now served will suffer because of this allocation to us.

Representative ELSTON. They have suffered every winter so far that I have known of.

Mr. PIKE. I think that is right.

Representative ELSTON. And there have been times in Cincinnati, Ohio, when the situation was rather serious. The whole idea was that they would in time have sufficient natural gas so that they would not have all of this trouble. Now they are quite alarmed at the fact that the Atomic Energy Commission is going to cut into this gas supply and perhaps deprive municipalities of their gas supply, when the Atomic Energy Commission at Oak Ridge is in a position, being nearer the coal fields to have an ample supply of coal at all times.

It has been pointed out too that the gas supply will not last more than 25 or 30 years at the most, whereas the coal supply will last hundreds of years. Of course, if the Atomic Energy Commission cuts into the gas supply, it will be one of the largest users of gas.

Because of that, the cities that are now using gas will run the risk of having an even greater shortage in the winter-time, because it becomes obvious that if conditions become bad in the wintertime, the Commission will get its gas first and municipalities in other States will get theirs next, on the theory that they cannot shut down the atomic energy plants.

So I say the matter is exceedingly serious as far as the State of Ohio is concerned, and the other States in connection with their getting this gas supply.

Representative DURHAM. Mr. Cole?

Representative COLE. Mr. Chairman, first I would like to inquire of you what interests have provoked this inquiry, which apparently raises some criticism or objection to the construction of the line and the use of the gas by the AEC, other than the process that has been indicated by Mr. Elston.

Representative DURHAM. It is nothing more than the regular procedure in which we have been looking into these different aspects of the whole operation of the AEC. That is why the meeting was called. Under the authority of the act, as I understand it, they are supposed to report to us. This subject was brought up at an earlier date. We had just simply not gotten around to it. I was asked by the chairman to hold a meeting.

Representative COLE. I do not dispute that it is in accordance with the responsibility and authority of the committee. But the Commission is undertaking all manner of operations that this committee does not inquire into, unless some serious question has been raised as to the advisability of it.

Representative DURHAM. I think my statement is very clear that we have been interested in only one thing, that is, the operation of the plan in the two fields in which we are operating, one being the national defense and development of weapons, and the other, research. I tried to make that plain in the opening statement.

Representative PRICE. On the question of saving money, I wonder if we could get some figures as to the comparative costs under natural gas and under coal.

Representative VAN ZANDT. That is all in here [indicating FPC transcript].

Mr. Chairman, in February I received a bulletin from the Fuels Research Council. They are identified with the National Coal Association, I think. That bulletin pointed out just what the substitution of gas for coal would mean to many communities in the United States.

When it came to Pennsylvania, I noticed that my district was very vitally affected. It simply ties into the problem that Mr. Elston, here, outlined a moment ago. During cold spells in the winter months, we had to shut down our industries and throw many hundreds, sometimes thousands out of work, because we did not have the gas. Those industries that did operate, had to go out and purchase bottle gas, which was quite expensive.

Then I got in touch with members of the professional staff of the committee, who furnished me certain information, and then I talked with the chairman of the committee many weeks ago. No other action, of course, on my part was taken until I received notice of my appointment to the committee. But the question itself has been before the Federal Power Commission, and I have a copy of the testimony presented so far. I think we should decide how far we are going, and what we are going to do.

Mr. PIKE. There is one other point that should perhaps be brought in here. Our requirement would be about 60 million feet a day, just by what the contract calls for.

There is one other thing that the Tennessee Gas Transmission Co. is doing in its present application. I understand their capacity will be about a billion feet a day, so that our contract use would be around

6 percent of the capacity of that line. Of course, as you know, Mr. Elston, that is not the sole source. Tennessee Gas Transmission is not the sole source of gas in either the Cincinnati or the Pittsburgh districts. In general, they both got their gas, until recently, from the West Virginia-Kentucky fields in general; Cincinnati through the Columbia gas system, and Pittsburgh through rather a mixture of systems, the old Standard Oil Co. subsidiary, which is now Consolidated Natural Gas, the Philadelphia Co. subsidiary, which is a pretty complicated set-up; and then if I am not mistaken, Columbia itself has a piece of the business.

Fairly recently, in the matter of the last few years, those gas supplies have been supplemented by gas from, let us say, the Texas areas. There was one weakness, of course, about gas coming in over a long gas transmission line. It is not a very flexible thing. If you get it from a nearby gas field, you get your gas in in a hurry, if a cold day comes along. When you are the end of an 1,100-mile line, you have a great lack of flexibility. You cannot get the gas from Texas to Ohio, say, as fast as cold weather can come from, let us say, Montana to Ohio.

Representative DURHAM. Last week when we were holding hearings down there, as I recall we had considerable complaint as to the frequency of the current going off. Of course, you intend to establish this line so as to service the homes in the whole community, as I understand the over-all picture of your plan.

Mr. PIKE. That would be the sensible thing, once we had gas in there: To get rid of that delivery and ash removal from every home in the place.

Representative DURHAM. That is a community of approximately 30,000 people or more at the present time. So furnishing them a public utility would be the same as furnishing it to some other city. It is just a question of what they desire, what they want to use.

Mr. PIKE. Yes, sir.

Representative PRICE. Is the line of the Tennessee Gas Transmission Co., that green line there on the map, coming in at the request of the Atomic Energy Commission? Or did they sell the idea of natural gas to the Commission?

Mr. PIKE. I think, Mr. Price, originally we felt that we wanted an alternate supply of fuel. We did ask several of the people who had gas pipe lines coming up in that direction to see what they could do. As you probably know, there is a pretty large pipe line, Southern Gas, which comes up through Atlanta, and I think they are figuring on shoving the stub up to Chattanooga. We talked to them.

To really answer your question: We wanted the gas, and we looked around to see who could supply it, and several people who thought they might supply it came in and talked to us. The Tennessee Gas Transmission Co. line was about the only line that looked as though it had enough gas, and was going to have enough pipe and was near enough to give us gas, let us say, in the winter of 1949 and 1950. It happened that the Southern people were well contracted up for their gas, and they would have had to go the whole way back and expand. They are expanding, but they would not have expanded fast enough to have any gas to spare.

Representative PRICE. What is the urgency of this project at the present time?

Mr. PIKE. From our point of view, Mr. Price, we would like to have this protection in there as early as we can. I do not think there is any specific urgency from our point of view, although it does happen that, as you know, the pipe was under certain allocation; and there were applications before the Power Commission for more capacity on the Tennessee Gas Transmission line. I do not know what particular urgency the East Tennessee Natural Gas people have. We figure that is pretty largely their business.

Representative PRICE. One of the chief complaints I run into when I am home is from contractors who have difficulty in securing small pipe, 3-inch pipes and domestic pipes. Of course, when they go to the manufacturer, the steel industry, and so forth, the reason they cannot get it is because the industry is engaged in production of the larger pipe. I was just wondering why there was so much urgency in projects of this character that keeps the industry from supplying domestic pipes that are vitally needed in housing.

Mr. PIKE. They are two pretty different businesses, Mr. Price.

Representative PRICE. They are different businesses only because this is the more profitable business, and they go to the larger pipe rather than the smaller pipe. They only go to the domestic building construction pipe when they do not have the other business available.

Mr. PIKE. There are not very many mills that can roll this large pipe.

Representative PRICE. I am giving you actual testimony from construction men, contractors.

Mr. PIKE. Of course, we are perfectly well aware that during the last couple of years, there has been an over-all shortage of steel, and I assume that in an over-all shortage situation the business has gone to the outlet that would provide the best market. I think the steel situation is easing up. I doubt if it is easing up so much in this large pipe field.

Representative PRICE. I would not want to know whether to favor this or oppose it. So far as our committee is concerned, it does not make much difference whether we do or do not. But perhaps our timing might be pretty bad on it.

Mr. BLOCH. We feel that until we have a second fuel supply for K-25, the plant does not have the security that it needs. And due to the nature of the plant, we feel it certainly needs all of this security.

Representative PRICE. In answer to that, I will say that I cannot quite agree with you, because the security situation has developed a little more favorably month by month, and you are reaching a point now where you are not going to have so much difficulty as you had for 2 or 3 years after the war.

I will say this: When you think of coal strikes, you must remember that there are a great number of mines in the country that have never been down. And in case of emergency, the Atomic Energy Commission can certainly get its supply. There are hundreds of mines in Illinois that have never shut down at any time. They belong to an entirely different union. So this thing is not quite as serious from the emergency angle as you might think it is.

Representative ELSTON. Will the gentleman yield?

Representative PRICE. Yes.

Representative ELSTON. As to the emergency angle, there are a great many industries that depend upon natural gas that are manu-

facturing things for the war effort and would be jeopardized the same as the Atomic Energy Commission would. Take the case of Cincinnati, for example. They started to produce a tremendous amount of war material during the war. To be cut off from gas supply at certain times, is a serious matter. They have to convert too. My notion is that one of the reasons for locating the atomic energy plant at Oak Ridge was the available coal supply.

Representative PRICE. And the existing power supply.

Representative ELSTON. Yes. And as the gentleman from Pennsylvania points out, there is barge transportation up the river.

But the availability of coal supply was one of the things that I can recall was stressed as a reason for locating at Oak Ridge.

Representative PRICE. They have river transportation and rail transportation both.

Representative ELSTON. I have been down there, and I know that you have plenty of areas in which you could stock pile from now until many years to come, whereas many industries do not have the opportunity to stock pile coal. Their area is quite limited.

Representative PRICE. I might bring out a point right here and now. All these small mines I have been referring to, that have never been down all through the war, that have never been on strike, that operated every day and disregarded orders from others to go out, are now working 1 or 2 days a week. You might be using their supply to stock pile, and you would never run out of coal.

Representative HOLIFIELD. Mr. Chairman, I would like to comment on that point. I would like to know about the union situation around Oak Ridge there as to all these various mines which are noted here in the report. Are those mines under the control of the John L. Lewis union, or are they unorganized mines? Are they small private mines? What is that situation?

Mr. BLOCH. I am reasonably sure that the bulk of them are unionized. I do not know the detailed figures.

Representative HOLIFIELD. Well, can you tell the committee whether, during the coal strikes in the past 2 or 3 years, those mines in proximity to Oak Ridge have been shut down?

Mr. BLOCH. Yes; they have been shut down; and shut-downs along with shortages of coal cars, which we experience from time to time, resulted in our not being able to secure sufficient coal to meet our operating requirements over a period of about 13 months during 1946 and '47.

Representative HOLIFIELD. What kind of a stock pile of coal do you have on hand down there at the present time? How many days?

Mr. BLOCH. Approximately 90 days' operation.

Representative HOLIFIELD. Is there any reason why you could not have 180 days' stock pile there?

Mr. BLOCH. It is physically possible. It increases costs. It raises a problem of whether there is sufficient coal and sufficient transportation to bring in over a reasonable period of time additional coal to stock pile. There certainly was not, at the time the Commission considered this problem. The opposite effect was true.

Representative HOLIFIELD. I think conditions have changed. I am inclined to agree with Mr. Elston that you have a problem here of sustaining your position under the present conditions. Maybe, during the war, conditions were different; but you have already got

your alternate supply of oil there, have you not? You have 12 or 14 storage tanks there, and you could have more there for an alternate supply.

Mr. BLOCH. The oil supply was a case of improvising to utilize what we had available at the site to get a little bit of protection. It was far from adequate to generate the amount of power we need for any reasonable period of time.

Representative DURHAM. There is quite a difference in the costs there, though, is there not?

Mr. BLOCH. The cost of oil from the standpoint of economics would be prohibitive. It is about equivalent to \$18-a-ton coal.

Representative HOLIFIELD. It would seem to me that you are situated there in the midst of one of the greatest coal-bearing areas in the United States and that at less cost than the cost of this pipe line something could be done along the lines of exploring the utilization of this tremendous stock of coal which is available there. Mr. Pike assures us this pipe line is not going to cost us anything, but we know it would be in the amortized rates of the gas companies, and it will eventually cost the taxpayers something. It seems, therefore, to me that you could explore the matter of coal utilization and of making your stock piles there a little larger. In the meantime this committee is going to have hearings on this labor situation. We are starting tomorrow morning some hearings on that to see if we cannot solve to a certain extent that problem, with the two of us working together.

Mr. PIKE. It is a queer thing, Mr. Holifield, that to transport coal 150 miles costs more than to deliver gas from nearly a thousand miles away, but it is a fact.

Representative HOLIFIELD. The gas is more economical from that standpoint?

Mr. PIKE. Yes, sir. You see, we are under some penalties if we do not use the gas for a period. That penalty, if I am not mistaken, runs out in about 10 years. In the matter of savings in costs, let me say this: We had thought, first of all, that we could build the line, but that was something which really did not make such sense when we got into it. But we figure on such a savings, if we take gas from the Tennessee Gas Transmission line that we could clear the cost in perhaps 8 years, besides having something like a firm price, which is something that you cannot get for coal beyond the period of the contract, usually about a year.

Representative DURHAM. How does your contract compare with the ordinary contract entered into by a city of about the same size as that?

Mr. PIKE. As I remember our contract, it is between 20 and 22 cents a thousand, according to what our volume would be. And as I remember it, that is against a city gate price of variously 30 and 40 cents. I believe that 30 to 40 cents would cover city gate prices at Cincinnati, Columbus, and Pittsburgh. We are getting rather a better price.

Representative DURHAM. I think that is a fair comparison: comparative figures on the contract price as against a city with sales of approximately the same size.

Mr. PIKE. Even much larger cities. Of course, we do have this pretty good-sized power plant.

Representative DURHAM. Is that due to the fact that you use and accumulate so much of it, or other factors?

Mr. PIKE. Of course, it is a steady thing. That has a good deal to do with the operation of a long pipe line, Mr. Durham, where it can practically be assumed that you will be a 24-hour consumer, 365 days a year. You can make a better utilization of the line there than if you are a variable consumer.

Representative DURHAM. Mr. Cole?

Representative COLE. Mr. Pike, is not the real question confronting the Commission a question of power rather than heat?

Mr. PIKE. Yes, sir. There is a little heat in it, but power is the main thing.

Representative COLE. We have a map here showing three pipe lines, one indicated in brown, which I assume is the line from the Texas field running up close by Nashville, and on up to Huntington, W. Va. Then there is also a pipe line, indicated in red, coming off the brown line at a point near Centerville, Tenn., running down to Chattanooga and up to Knoxville. There is also indicated a line in green from a point at the brown line near Springfield, Tenn., over to Knoxville.

First, who operates the brown line?

Mr. PIKE. That is the Tennessee Gas Transmission Co.

Representative COLE. Who operates the red line?

Mr. PIKE. That I believe is to be done by the same East Tennessee Natural Gas Co., but we have no particular interest in it. This is completely separable, although I believe it will be the same corporation.

Representative COLE. The red line has not been installed?

Mr. PIKE. No, sir.

Representative COLE. What is the reason, if it has not been installed, that that red line could not supply your needs, since it ends at Knoxville?

Mr. BLOCH. I believe I can answer that. The East Tennessee Natural Gas Co. about a year ago secured a certificate to bring gas into Chattanooga-Knoxville. In our discussions with them, relative to bringing the gas into Oak Ridge, we did not specify how the gas should be brought in. The decision of East Tennessee to bring it in by a separate line rather than to increase considerably the size of the line which would serve Chattanooga-Knoxville was an engineering and economic decision of theirs. We did not specify by what route they had to bring the gas in.

Representative COLE. Who is going to use off the green line other than the Atomic Energy Commission?

Mr. BLOCH. The Gas Co. plans, or had tentative plans eventually to extend that line on up to Kingsport and Bristol, Tenn.

Representative COLE. But until that extension is done, the Commission will be the only buyer.

Mr. BLOCH. We would be the only significant buyer.

Representative PRICE. Could I ask a question?

Do they have any application for funds from RFC on that particular line?

Mr. BLOCH. The green line?

Representative PRICE. Yes.

Mr. BLOCH. I am not sure. I believe not. I understand they have been negotiating for funds for the red line, the Chattanooga line.

Representative PRICE. From RFC?

Mr. BLOCH. Yes.

Representative PRICE. Do you have any idea how they would finance the green line, then?

Mr. BLOCH. I don't have the details. A financing plan was presented to the Federal Power Commission as part of an exhibit in their application, and that plan is in the record of the FPC hearing.

Representative COLE. What will it cost to construct the green line?

Mr. BLOCH. The estimates are approximately nine and a half million dollars.

Representative COLE. So that since the AEC is to be the only consumer, the cost of the construction of that green line will have to come out of the AEC through its purchases of gas; and not only the cost of the line, but whatever profit there might be.

Mr. BLOCH. That gets back to what earnings the gas company can get by with. We have a firm contract which, for the first 3 years of operation establishes a firm price at which we will buy gas. The contract, I believe, provides for renegotiation periodically.

Representative DURHAM. Every 2 years?

Mr. BLOCH. Every 3 years, I believe.

Representative COLE. You said that the Commission would consume 60,000,000 cubic feet a day out of a total of a billion?

Mr. BLOCH. That is right.

Representative COLE. What is that? The brown line?

Mr. PIKE. The brown line, yes. The main line. My memory may be inaccurate. The present capacity is, I think, around 640,000,000 feet on the brown line. They have applications and lines under construction to bring the total capacity up to about a billion feet, of which we will want about 60,000,000.

Representative COLE. Sixty, not sixteen?

Mr. PIKE. Sixty, yes.

Again, if I am not mistaken, total capacity of that line they intend to run into Oak Ridge, the 22-inch line, will be about 100,000,000 feet. Obviously they intend to run that line on when they can get the pipe and the permits, over, as Mr. Bloch said, to Bristol and Kingsport, and utilize the other 40,000,000 feet capacity for, I guess you would call it, public utility purposes. But our concern, of course, stops at this point.

I have the feeling that this contract probably is a good contract for us, in that we are getting a very good price; and probably it is a good contract for them, because it sort of carries this first 180 miles. I do not think they are going to make very much profit out of it. It carries this first 180 miles, so that when they take the jump over to Kingsport and Bristol they will be able to make a better contract with those communities than if they had to put in that whole line and make them carry the whole cost. We think that it is not unreasonable that they should make a fair profit. We are getting what I believe is a good price here.

Representative COLE. It has been indicated that one of the considerations which prompted the selection of Oak Ridge as the site for this operation, was the availability of coal. Would you not agree that the principal reason that Oak Ridge was selected was the availability of power from TVA?

Mr. PIKE. That would be my guess, sir. Of course, I knew nothing about it at the time.

Representative COLE. I did not either, but I think that was the main reason it was settled down in this locality. It was because of the availability of power.

AEC has bought its power from TVA and has also generated its own power. Which has been greater? For instance, in the past year, did you buy more TVA power than you produced yourself?

Mr. BLOCH. Yes.

Representative COLE. In what ratio?

Mr. BLOCH. I can give you those approximately. However, there is nothing classified about the TVA figures. We have considered as still classified the actual amount of this variable power that we use for K-25. The total capacity of the plant is not necessarily an indication. I would prefer to give that off the record.

Representative COLE. You can tell me on the record whether you bought 10 times as much TVA power as you produced yourself, or whether it was the same amount that you bought from TVA.

Is it not correct that the power plant at Oak Ridge is stand-by plant to fill in when you cannot get all the power you need from TVA?

Representative DURHAM. They have been selling power there.

Representative COLE. I realize they have been selling power, but that is when TVA has been short.

Mr. PIKE. I think at this point we ought to go off the record. That is something that is pretty classified.

Representative COLE. All right. But in connection with that, I want to inquire when this contract was made.

Mr. BLOCH. When was it? June of 1948. I believe it was approved the 13th of June.

Representative COLE. How long will it take to construct that line?

Mr. BLOCH. Probably 6 to 7 months.

Representative COLE. This decision then apparently was made by the Commission prior to the time it was determined by the Congress to build a steam plant at TVA, one of the major reasons for which was to permit TVA to have a greater capacity in order to supply and meet the needs of the Commission at Oak Ridge.

What explanation can you give—there must be one—to justify your going ahead with this gas contract, the cost of which eventually will be borne by the AEC, if you are able to get the power which you might need from TVA through this steam plant at TVA?

Mr. BLOCH. We are unable to get that power, because TVA cannot furnish power at the frequencies which are required.

Mr. PIKE. You see, this is not a matter of quantity entirely. It is a matter of kind of power.

Mr. BLOCH. It is type of power as well as total quantity.

Mr. PIKE. TVA does not furnish this.

Representative COLE. TVA can manufacture with its steam plant the same type of power which you can with yours?

Mr. PIKE. On this, I think we ought to get off the record. This is really one of the troublesome things in K-25.

Representative COLE. But still for the record: There is no connection, then, between the steam plant, the proposed steam plant for TVA, and the requirements of the Commission at Oak Ridge?

Mr. BLOCH. Not as far as our current requirements go. That is correct. There is a connection in connection with this expansion of the Oak Ridge plant, which we are contemplating.

Representative COLE. And it is in connection with the consideration of that expansion that you think we should go off the record?

Mr. PIKE. Yes, sir. We cannot even explain it to you on the record.

Representative COLE. I say, you think we should go off the record?

Mr. PIKE. Yes, sir.

Representative VAN ZANDT. Is it not true that the Commission has had to ask for a priority so as to purchase the necessary steel?

Mr. PIKE. The pipe? Yes, sir. Let us say it appeared in their application.

Representative VAN ZANDT. In other words, the voluntary allocation program that Congress authorized was put into effect?

Mr. PIKE. Yes, sir.

Representative DURHAM. You also do that for other companies. By that I mean you might have peak steel for the development of some other thing. You have done that all the way along the line.

Mr. PIKE. Yes, sir; but this was a pretty big chunk of tonnage. I think it ran around 25,000.

Representative VAN ZANDT. One other question: Have you ever approached the operators or the United Mine Workers for the purpose of perfecting an agreement whereby there would be no work stoppage in coal mines, so that you would enjoy a continued flow of coal?

Mr. PIKE. I do not think we have; no, sir. We do not happen to have the union that Mr. Price has down in the lower Illinois fields. It does not operate in our area.

Representative DURHAM. We will go off the record now.

You may be excused, Mr. Reporter.

(Discussion off the record.)

Mr. COLE. What is the reason why you can't stock-pile coal?

Mr. PIKE. There is the extra expense.

Mr. HOLIFIELD. Your requirements are 600,000 tons a year?

Mr. PIKE. Roughly. The trouble is we obviously need the alternate source. Coal is beautiful to stock-pile because you can stock-pile it—with gas, you can't.

Gas is no good as a stand-by, because it will not stock pile. Once you have it in, particularly since it means a saving of over a million dollars a year, I think we could go to coal and pull it off our stock pile. It would be the sensible thing to do.

Representative PRICE. Is gas there low pressure or high pressure?

Mr. PIKE. They bring it up in pretty high pressure in order to save pipe diameter.

Representative PRICE. Is there not a danger of explosion with high-pressure gas?

Mr. PIKE. No, sir; not if the thing is designed right. They usually use six to nine hundred pounds per square inch.

Representative PRICE. There are some regulations proposed in high-pressure gas, because of the numerous explosions which have happened, that blow houses just to bits. A spark of an electric switch will set off such an explosion.

Mr. PIKE. It never enters a community, sir, at that pressure. Of course, it is stepped down.

Representative PRICE. We had an explosion out in St. Louis County, and there have been numerous explosions in the Bronx and Queens.

Mr. PIKE. Of course, manufactured gas would do the same thing.

Representative PRICE. This is just a matter of a flick of the switch.

Mr. PIKE. But that 4-ounce gas will explode just as well as 600-pound gas. When it comes into the communities, they step down the pressure, usually to a matter of a few pounds per inch.

Representative PRICE. Is there any danger of explosion?

Mr. PIKE. No more than with the use of any other gas.

Representative PRICE. Is there a danger of explosion with gas?

Mr. PIKE. Yes. Of course, it is a thing that has to be handled in every household with care. We are all familiar with the fellow who blew out the gas. Gas is not foolproof.

Representative PRICE. One explosion there might shut your plant down for quite a while.

Mr. PIKE. You see, this is a very different thing. As far as the power plant is concerned, you have competent people around it, and there is no real danger there.

Representative PRICE. If I were to come in and flick a switch, it might be serious, though.

Representative HOLIFIELD. That is only in the case of a gas escape.

Representative PRICE. Yes.

Mr. PIKE. I would be more afraid of it in the community than around the power plant. I do not think there is any record of any trouble from gas on a well-operating power plant.

Representative PRICE. Of course, there are not too many of them operating from natural gas.

Mr. PIKE. Quite a few, sir. All through the South practically all of the utilities of Texas, Louisiana, Mississippi, Arkansas, Oklahoma; practically all their power plants are operated with natural gas.

Representative PRICE. If they all continue to get into the use of natural gas, you are not going to have a very good source of supply in about 20 years.

Mr. PIKE. We still keep finding more than we are using up. We have about 30 years' supply in sight. We keep discovering more than we use. Then, of course, looking at it from a purely financial point of view, we will have saved enough so that even if we had to pay for the cost of this line, we would have it four times over in the annual saving.

Representative DURHAM. Over a period of how many years?

Mr. PIKE. I think in 8 to 10 years we will about pay these boys off for the cost of this line.

Representative VAN ZANDT. Mr. Chairman, I think we have lost sight of one thing in this discussion, and that is the fact that you are displacing jobs.

Mr. PIKE. No question of it.

Representative VAN ZANDT. You are destroying the job of the railroader. The L. & N. and the Southern now carry coal to you over their lines. You are destroying the job of the coal miner. And here we are, the Government, using the taxpayers' money to destroy those jobs. I think that should be taken into consideration.

Representative PRICE. Mr. Pike, I believe there is an actual incident where a gas plant did blow up out in Kansas, and was out of service many weeks.

Mr. PIKE. It may have happened. I do not know about it.

Representative DURHAM. I do not believe the cost of coal and the cost of gas have been put in the record. Could you place those figures

in the record, as to the cost of operation with coal and the cost with gas, in the final production of your kilowatt? Is that reasonable or possible?

Mr. PIKE. Perhaps we could give it to you the way we have it, and then perhaps translate it into your terms, Mr. Chairman.

Representative DURHAM. That is right.

Mr. BLOCH. In the first letter we sent over to the joint committee, we said it appeared that we would save approximately \$650,000 annually, based on an estimated price of coal at \$6.50 a ton delivered to the boilers. The bulk of our coal right now is costing us \$7.14 a ton.

Representative DURHAM. Your figures were based on \$6 a ton?

Mr. BLOCH. Our figures were based on \$6.50. So based upon the current price at which we are buying—in which we are paying for approximately two-thirds of the coal we are using at K-25, the savings will be in the order of a million dollars a year.

It is true that the price of coal fluctuates. It may come down. But as a comparative figure, in order for coal to be as cheap as gas, to use the K-25 price of coal delivered to the boilers, it would have to be about \$5.45 a ton. Those are the latest figures that we have.

Representative VAN ZANDT. That is gas?

Mr. PIKE. The price of coal would have to be about \$5.45 to break even on this contract price for gas.

Representative PRICE. Do you make any provision for domestic use of this in the community?

Mr. BLOCH. Yes, sir.

Representative PRICE. Is it a different rate?

Mr. BLOCH. No, sir; the rate is the same. And incidentally, as to these coal prices, the coal at K-25 represents the most favorable and the cheapest price for coal. When you get into the community, by the time you include the cost of delivering the coal to the individual houses, picking up the ashes, and what not, coal has been costing close to \$14 a ton delivered to the houses in the community.

Representative VAN ZANDT. Would it not be proper to say that it would probably be a little more convenient to have natural gas down there than coal?

Mr. BLOCH. Yes.

Representative VAN ZANDT. You have pointed out the fact that you have ashes to carry away, or to dispose of.

Mr. PIKE. It would cut down our community operating problem very much. We had that, of course, in Los Alamos in a much more striking form, where we had to bring the coal up those steep pitches. But it still would simplify community operations.

Representative VAN ZANDT. Mr. Chairman, I would like to point out again that I think we are doing an economic harm to that community. We are destroying what would mean a lot to the community. I am thinking now of the communities along the Southern and the L. & N. Railroads, where this coal is dug. I am thinking too of the coal miner. I am thinking of the taxes that are paid to those communities by the railroads and by the coal miners. And I think we are destroying the economy of that community.

Representative PRICE. I do not think there is any question about that. That is definitely what we are doing.

Mr. PIKE. My memory is, Mr. Van Zandt, that the amount of coal we are using that we will not use afterward, will mean a difference of approximately 350 miners.

Representative DURHAM. It is always a very difficult problem to fit national security into economics. I think we all realize that there is going to be some—I will not say suffering, but some displaced people, probably, from the effects of this operation.

Mr. PIKE. This, of course, goes right through the whole expansion in the use of natural gas, and to some extent fuel oil. So the demand for coal is decreased, or at least the increase is cut down. I think it is pretty clear that the coal at the head of the mine is around 60 to 70 percent labor. So any change in labor cost, cost per man-hour, would have to be reflected in the cost of coal. It is a fact, and there is no use trying to disguise it.

When you come to gas, the labor element in the cost of gas is probably not over 5 or 6 percent.

Representative DURHAM. But you are basing your main reason for this operation on security.

Mr. PIKE. On security. We felt that security outweighed the other elements.

Representative VAN ZANDT. Mr. Chairman, we had the element of security during this last war, as far as coal was concerned. If my memory serves me correctly, did not the spokesmen for organized labor guarantee to the Government of the United States that there would be no interruption in production? And I believe that John Lewis and his coal miners were part of that guaranty. While I cannot speak for Mr. Lewis or any of the coal miners, yet I have a lot of them in my congressional district, and I know them as good Americans, and I just cannot believe that the United Mine Workers would deny the AEC a contract that would permit an ample supply of coal to be on hand at all times, even though the remainder of country may be on a strike; that is, the coal miners of the country. I am convinced that that angle has not been explored.

Representative DURHAM. In other words, you feel that you can get as much security out of a stock pile of coal.

Representative VAN ZANDT. I do, yes. In fact, I think there is more. Because we have encountered the experience in Pennsylvania during the cold spells of having the pressure go down. And there is only one of two things to do. You either go down and buy bottled gas, which is expensive, or you shut down your plants. And our plants have shut down.

Let us not forget that the hearings of the Federal Power Commission down there will show that the request of the AEC, or of this Tennessee Gas Co., for the right to build this line, is just part of the over-all situation that confronts the eastern United States. We in Pennsylvania, as well as Ohio, I understand, and other Eastern States are depending upon the extension of this line to relieve the shortage of gas during cold spells. Then they tell us that they cannot guarantee and will not guarantee that they will meet the demands on the part of the consumer during cold spells.

So we still may have to shut down.

Mr. PIKE. Of course, you know, Mr. Van Zandt, that a good many industries have voluntarily taken on those interruptible con-

tracts, at a preferred price. This is probably inescapable economics in the gas business: The longer your line, the more necessary it becomes to keep it full. Because a certain cross-section at a given pressure will only carry so much gas. Your investment in pipe line gets big, and bigger, but it will not carry any more gas than the short line. So on these longer pipe lines, 1,000 miles and up, it has been the custom for the pipe-line companies to see if some of the fellows on the other end would not take it with the provision that their supply would be interrupted when the community requirements ran too high, as they do on cold days.

In addition to that, the Columbia gas organization in Mr. Elston's area and the Michigan Consolidated up in Detroit have been bringing it up and poking it back in the ground, so that they can have some nearby gas to pull out in a hurry. The physical elements of the gas business are pretty clear. There is no question as to the fact that when you put gas in instead of coal, you displace miners. It is not a very happy thing.

In this town, for instance, in the last few years, we have gone from mixed gas to straight natural gas. It has cut out the use of a great deal of coal and oil. This is the only town on the Atlantic coast, by the way, that uses straight natural gas. Under some of these contracts, Philadelphia, Baltimore, New York, Boston, all will be using mixed gases. That is the tendency in the coal business. And I wish it were not true.

Representative VAN ZANDT. Mr. Chairman, I am convinced, further, that I do not think you have explored fully the possibility of using oil. You could build up your supply of oil. Here the Government has spent millions of dollars on deepening the channels of rivers. And within a few miles of Oak Ridge, you have a channel that will permit the use of barges. You can transport all the oil that is necessary to Oak Ridge by increasing your storage capacity. You have 12 to 13 tanks now capable of holding you for a period of 30 days.

Mr. PIKE. On one boiler, Mr. Van Zandt?

Representative VAN ZANDT. On one boiler. Well, you could build up your supply of oil.

Mr. PIKE. That is, of course, tremendously expensive. As Mr. Bloch said, as against a cost of around \$7.14 for our coal at present, oil at present prices would be equivalent to around \$18 a ton.

Mr. BLOCH. Mr. Van Zandt, when the Commission first explored this problem, our Oak Ridge office did look into the possibility of securing oil. They contacted eight or ten of the major oil producers, all of whom said that they were overcommitted, and said that they could not give us any relief and could not make oil available to us. Of course, that picture has changed.

Representative VAN ZANDT. That situation has changed today.

Mr. PIKE. And it may change back again. That is always true of the oil business. It is an up and down business.

Mr. BLOCH. We have looked at it from the standpoint of the amount of steel that would be necessary to build the tanks, and what was necessary to build the tank cars.

Representative VAN ZANDT. Of course, that situation has changed today. Tank cars are in excess.

Mr. BLOCH. But if that situation came about again, oils would be the tightest fuel on the market. Your demands for oil would be tremendous, and it would be really premium material.

Representative DURHAM. You are expecting to up the production of fissionable materials in the next 12 months?

Mr. PIKE. Twelve months may be a little optimistic.

Mr. BLOCH. We have, through certain improvements mentioned in the semiannual report, made possible certain increases. It will be about 2 years before we can start operating this plant in addition.

Representative HOLIFIELD. There are two things that bother me about this, Mr. Chairman. One is the fact that your security problem, it seems to me, does not necessarily depend upon this alternate supply. It seems to me you could take care of your security problem by increasing your stock pile of coal if necessary to a year's supply. That point would seem to me to answer the security problem. There would be, it is true, a little more investment in the stock pile of coal that you would have there; but that would be an inventory investment and would not be an expenditure. The \$1 a ton for extra handling in case it was ever needed might be considered as an expenditure, but I think if you increased your stock pile of coal there, you would not have to handle all of that coal, because it would be in the nature of an unused inventory to draw from in case of an emergency. I think with increased attention to certain types of labor contracts with these miners, if these miners see that their strike procedures are going to kill the industry in that area, self-service alone would cause the mines in that area to make an exception in their contracts as to continuity of supply to your Oak Ridge installations.

In considering the economic saving per year that you would get from the use of gas, if you can sustain that at the figure you gave, I think you would have to offset that from the standpoint of our whole economy with the loss that would accrue in the form of income taxes from the miners' wages, and from the whole communities that would be affected by this from the standpoint of the taxation which would accrue to the Government.

I wonder if you have gone into the full impact of this thing from an economic standpoint, and if these factors which I speak of, and others which I am not aware of, would not offset to a certain extent your immediate saving by using gas in the place of coal.

These are things that bother me to some extent, and I do not think that you have completely answered them.

Mr. PIKE. Of course, Mr. Holifield, some of that money would come back in the form of income taxes, just the same as if you spent too much money in anything else. If there was an excessive profit, the Government would recapture some of it in income taxes. On the other hand, you know, this coal business is not a very profitable business. It is not particularly well managed, nor are the labor relations particularly good. We have all recognized it as a business which has had elements of grave illness and some of them quite fundamental. We have probably 16,000 coal mines in the country of which probably 8,000 operate pretty regularly in reasonably active times. Others only operate seasonally, at best. This happens in Iowa, where a man will go out and get his season's supply of coal and sell it to his neighbors. When those conditions operate things are pretty hard.

It is a business where things are always going to be affected by the condition of the economy, insofar as marginal producers are concerned. They go up very quickly, and they drop very quickly.

Representative VAN ZANDT. That is not true in Tennessee.

Mr. PIKE. Of course, the coal business is also characterized by a tremendous difference in man-hours per ton. In your district, as you know, you have some mines that will run a long while, and there is not enough life left in some of those mines to warrant thorough mechanizing, and some of them, frankly, are running their mines out because they cannot afford to put a lot of expensive machinery in a mine that only has, say, 5 or 10 years to run.

Representative VAN ZANDT. But they are bringing new mines in, and some of them are highly mechanized.

Mr. PIKE. That is right. There are high profits in some of those cheap costs. And costs, again, go to labor in tonnage per man-hour. Those are your costs, really. I think a survey has been made showing that we have quite a lot of small-to-medium mines, some of which are profitable, and some of which are not. This is characteristic, even in a given district, where you will have mines within a couple of miles of each other, producing exactly the same quantity of coal, but in which the costs will vary considerably.

Representative PRICE. The Congress charges the National Security Resources Board with the coordinating of all planning of power supply for industries important to the national defense. Now, has the Commission coordinated this plan with the National Security Resources Board? And has the Board given its approval to this plan?

Mr. PIKE. That I do not know, sir.

Representative PRICE. I think that is very important.

Representative VAN ZANDT. They have not, I may say to the gentleman from Illinois. According to the hearings before the Federal Power Commission, they have not.

Representative PRICE. I think you are overlooking a provision in an act of Congress that should be considered.

Mr. BLOCH. We do work with the National Security Resources Board. We have coordinated our power requirements, projected power requirements, with them. To my knowledge, we have not held any discussions with them relative to our requirements for coal or gas or any other fuel. Power, manpower, and a few other such requirements we have already given information on.

Representative DURHAM. Any further questions?

Thank you very much, Mr. Pike.

(Whereupon, at 11:59 a. m., the committee adjourned, subject to the call of the Chair.)

## APPENDIX

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### CONTRACT BETWEEN THE UNITED STATES ATOMIC ENERGY COMMISSION AND THE EAST TENNESSEE NATURAL GAS COMPANY

Contract No. AT-40-1-GEN-244

THIS AGREEMENT, entered into the 19th day of June 1948, by and between the UNITED STATES OF AMERICA (hereinafter referred to as the "Government"), and EAST TENNESSEE NATURAL GAS COMPANY (hereinafter referred to as the "Gas Company"), a corporation duly organized and existing under the laws of the State of Tennessee,

Witnesseth, that:

Whereas the Government desires to obtain natural gas for use in the Oak Ridge area; and

Whereas the Gas Company is authorized by its charter to engage in the business of supplying natural gas; and

Whereas the Gas Company will obtain its requirements of natural gas from the Tennessee Gas Transmission Co.; and

Whereas the United States Atomic Energy Commission deems it to be in the best interest of the Government to obtain natural gas from the Gas Company on the terms and conditions hereinafter set forth; and

Whereas this agreement is authorized by and is executed under the Atomic Energy Act of 1946, and is certified by the Commission to be necessary in the interest of the common defense and security;

Now, therefore, the parties hereto mutually covenant and agree as follows:

#### ARTICLE I—SCOPE

1. The Gas Company shall apply for promptly and use due diligence (a) to obtain all necessary materials and authorizations for the construction of the facilities and for the purchase of a supply of natural gas necessary to enable it to deliver to the Government at the Points of Delivery, defined herein, the volume of natural gas contemplated by this agreement, and (b) to secure such certificates, licenses, or permits as may be found necessary to authorize the sale and delivery to the Government of said volume of gas. When requested by the Commission, and to the extent that the Commission may require, the Gas Company shall submit to the Commission adequate information concerning the status of its undertakings under this paragraph.

2. Upon the receipt by the Gas Company of authorizations therefor, deemed requisite and satisfactory by it, the Gas Company shall proceed with due diligence to construct the necessary facilities for its performance hereunder as expeditiously as practicable. When requested by the Commission, the Gas Company shall submit to the Commission written progress reports covering the construction of said facilities.

3. Upon the issuance of authorizations deemed requisite and satisfactory to the Gas Company for the construction of the requisite facilities and for the purchase and sale of the volumes of natural gas and natural gas service contemplated by this agreement, and upon the completion of the construction of such facilities so as to enable the Gas Company to deliver to the Government said volume of natural gas, the Gas Company shall be ready to sell and deliver to the Government, at the charges provided in Article IX hereof, a contracted demand of 60,000 MCF of gas per day.

4. The Government shall use due diligence (a) to secure necessary materials and (b) to construct or cause to be constructed, the facilities necessary to enable it to receive gas by the time the Gas Company is prepared to deliver gas hereunder.

5. After completion of construction of the Government facilities and commencing with the initial delivery of natural gas hereunder, the Government may pur-

chase and receive a contracted demand of 60,000 MCF of gas per day, and shall pay the Gas Company therefor at the charges provided in Article IX hereof.

6. Notwithstanding the provisions of paragraphs 1 and 2 of Article IX hereof, the Demand Payments and Commodity Payments therein provided for shall become applicable on the day specified in a written notice given by the Gas Company to the Commission at least thirty (30) days prior to the said day, provided that on the day so specified the Gas Company is actually ready to commence delivery of gas hereunder at the rate of 60,000 MCF of gas per day. In such event the specified day shall be deemed to be the day of commencement of delivery and of initial delivery, of natural gas to the Government hereunder. The Gas Company shall give such notice as soon as practicable and, except with the prior written consent of the Commission, shall not make deliveries from its said facilities to any other customers prior to the said specified day.

#### ARTICLE II—TERM: TERMINATION FOR CONVENIENCE: AND OBLIGATION OF FUNDS

1. This agreement shall be effective on the date hereof first above written, and shall continue in effect for a period of twenty (20) years from the day of initial delivery of gas hereunder unless it otherwise expires or is terminated as herein provided.

2. The Commission may, at any time, upon at least twelve (12) months' prior written notice to the Gas Company, terminate this agreement after the initial delivery of gas hereunder.

3. Notwithstanding any other provisions of this Article and regardless of cause, this agreement shall expire upon the happening of the first of following events, (a) when and if the application of the Gas Company for the certificate of public convenience and necessity requisite to enable it to construct the necessary facilities for performance hereunder is finally denied, (b) when and if the Gas Company notifies the Commission in writing that it deems the certificate of public convenience and necessity issued to it to be unsatisfactory, (c) when and if construction of such facilities has not been substantially completed within two years after the Gas Company gives written notice to the Commission that the certificate of public convenience and necessity issued to it is deemed to be satisfactory, or (d) on June 30, 1952, or such substituted later date as the Commission, from time to time, may designate by written notice to the Gas Company, unless the Gas Company is actually ready to deliver 60,000 MCF of gas per day hereunder on or before such stated date or such later date, as the case may be. The Gas Company shall, upon receipt of said certificate of public convenience and necessity, promptly notify the Commission in writing whether or not it deems the same satisfactory unless the Commission consents in writing to a later notification.

4. The Commission has initially obligated for this agreement from obligational authority available to the Commission the sum of Four Million Four Hundred Thousand Dollars (\$4,400,000). The Commission will for each Government fiscal year, beginning with the fiscal year in which gas is initially delivered hereunder, review and revise this obligation to provide for estimated payments hereunder for that fiscal year, in addition to the variable charge set forth in paragraph 5 of Article IX. It is understood that, except to the extent of the initial obligation of Four Million Four Hundred Thousand Dollars (\$4,400,000) and any subsequent obligations, all payments under this agreement are subject to the availability of appropriations for this purpose.

#### ARTICLE III—CHARACTER OF SERVICE

Natural gas delivered by the Gas Company to the Government under this agreement shall not be subject to curtailment or interruption except that caused by force majeure and deliveries hereunder shall have priority over all other deliveries made or to be made by the Gas Company for industrial use. This agreement shall obligate the Gas Company to sell and be ready at all times, commencing with the day of initial delivery, to deliver to the Government the contracted demand and the Government shall have the right to purchase and receive from the Gas Company up to the contracted demand. Such deliveries of gas shall be as nearly as practicable at uniform hourly rates of flow and in uniform daily amounts, but on account of variations deemed for purposes of this agreement to be due to the inability of the Gas Company to maintain more precise control, daily deliveries shall be subject to an allowable variation of not more than ten percent either above or below the scheduled daily delivery, and total deliveries in any month of the calendar shall be subject to an allowable variation of not

more than five percent above or below the average scheduled daily delivery multiplied by the number of days in said month.

#### ARTICLE IV—POINTS OF DELIVERY

1. There shall be not more than three Points of Delivery for all of the natural gas purchased under this agreement, and they shall be located at points mutually agreeable to both the Gas Company and the Government on the Gas Company's transmission system or laterals therefrom as near as the Government desires to the boundary of the Oak Ridge Area, but outside thereof.

2. The Government may accept delivery of the natural gas which the Gas Company is obligated to deliver to the Government hereunder at any or all of the respective points of delivery, only one of which, however, shall have a capacity equal to the contracted demand.

#### ARTICLE V—PRESSURES

1. The Gas Company shall deliver the natural gas to the Government at points of delivery at a regulated pressure of one hundred pounds (100 lbs.) per square inch gauge pressure, with the least practicable variation.

#### ARTICLE VI—QUALITY

1. *Heating value.*—The gas to be delivered under this agreement shall be natural gas from the Gas Company's present or future source of supply; provided, however, that helium, natural gasoline, butane, propane, and any other hydrocarbons except methane may be removed prior to delivery to the Government. In no event shall the natural gas delivered by the Gas Company have a total heating value at the Points of Delivery below one thousand British thermal units per cubic foot. The Gas Company may subject, or permit the subjection of, the natural gas to compression, cooling, cleaning and other processes. In the event that the total heating value of the gas, per cubic foot, in any month of the calendar when determined as provided in paragraph 2 of Article VII hereof, falls below one thousand British thermal units per cubic foot, the Government shall have the option (a) to refuse to accept said gas so long as said total heating value remains below one thousand British thermal units per cubic foot, or (b) may continue to accept delivery of gas, in which case a reduction shall be made in the total amount which the Government would otherwise pay for such month if the total heating value were one thousand British thermal units or above. Such reduction shall be determined by multiplying said amount so otherwise payable by a fraction, the numerator of which is the deficiency in total heating value per cubic foot below one thousand British thermal units and the denominator of which is one thousand. Such reductions shall be reflected on the bill rendered for such month and the net amount is the total amount to be paid by the Government for that month.

2. *Freedom from objectionable matter.*—The natural gas to be delivered by the Gas Company under this agreement:

(a) Shall be commercially free from objectionable odors, dust, or other solid or liquid matters which might interfere with its merchantability or cause injury to or interference with proper operation of the lines, regulators, meters or other appliances through which it flows;

(b) Shall contain less than one grain of hydrogen sulphide per hundred cubic feet of gas volume when tested in accordance with the following procedure; a strip of white filter paper previously moistened with fresh 5% lead acetate solution shall be exposed to the gas for one and one-half minutes in a previously purged apparatus through which the test gas is flowing at a rate of approximately five cubic feet per hour; the gas shall not directly impinge upon the test strip during the test. At the end of the stated time the test paper thus exposed shall be compared with a second test strip similarly prepared but not exposed to the test gas. If the exposed test strip is not noticeably darker than the comparison strip the gas under test shall be considered acceptable. If the exposed strip is definitely darker than the comparison strip the gas shall be tested quantitatively for hydrogen sulphide by the Tutweiler method; and

(c) Shall not contain more than twenty grains of total sulphur per hundred cubic feet of gas volume as determined by methods to be mutually agreed upon.

3. *Failure to conform to specifications against objectionable matter.*—If the gas offered for delivery by the Gas Company shall fail at any time to conform to any of the specifications set forth in paragraph 2 of this Article, then the Government

shall notify the Gas Company of such deficiency and thereupon may at Government's option refuse to accept delivery pending correction by the Gas Company. Upon the Gas Company's failure promptly to remedy any deficiency in quality as specified in paragraph 2 of this Article, the Government may accept delivery of such gas and may make changes necessary to bring such gas into conformity with such specifications, and the Gas Company shall reimburse the Government for any reasonable expense incurred by it in effecting such changes.

#### ARTICLE VII—MEASUREMENTS

1. *Sales unit.*—The sales unit of the gas delivered by the Gas Company shall be one thousand cubic feet of gas measured according to Boyle's Law for the measurement of gas under varying pressures with deviations therefrom as provided in paragraph 2 (f) below on the measurement basis hereinafter specified.

2. *Determination of volume and total heating value.*—The volume and the total heating value of the gas delivered by the Gas Company shall be determined as follows:

(a) The unit of volume, for the purpose of measurement shall be one cubic foot of gas at a temperature of sixty degrees Fahrenheit and at a pressure of eight ounces per square inch above an assumed atmospheric pressure 14.4 pounds per square inch (14.90 pounds per square inch absolute pressure).

(b) The term "total heating value per cubic foot" shall mean the number of British thermal units produced by the combustion at constant pressure of the amount of water vapor free natural gas which would occupy one cubic foot of space at a pressure of 14.90 pounds per square inch absolute, at a temperature of 60 degrees Fahrenheit. The heating value of the gas shall be measured by the use of a Cutler-Hammer, or equal, recording calorimeter, operating at a constant pressure and at a temperature of 60 degrees Fahrenheit, when saturated with water vapor, and under a pressure equal to that of 30 inches of mercury at 32 degrees Fahrenheit and under standard gravitational force (acceleration 980.665 cm. per second) with air of the same temperature and pressure as the gas, when the products of combustion are cooled to the initial temperature of the gas and air, and when the water formed by combustion is condensed to the liquid state, and the readings so obtained shall be corrected by the use of factors published in National Bureau of Standards Circular C-417 from the conditions of the recording calorimeter to those set forth in the first sentence of this paragraph, and corrected for the water vapor conditions at the points of measurement.

(c) The total heating value of the gas per cubic foot shall be determined for any month of the calendar by taking the arithmetical average of the heating value in the gas in the Gas Company's transmission line as recorded each day by a Cutler-Hammer or any equally efficient recording calorimeter located so as to record the heating value of the gas delivered to the Government at the intersection of the Gas Company's facilities with those of its source of supply.

(d) The temperature of the gas passing through the meters shall be determined for any day by the use of continuous recording thermometers so installed that they may properly record the temperature of the gas flowing through the meters. The arithmetical average of the temperature recorded each day at each delivery point shall be used in computing gas volumes at such delivery point.

(e) The specific gravity of the gas delivered by the Gas Company shall be determined by the use of a recording gravitometer of approved type which shall be checked at least once each month by the use of Edward's Balance or any other approved method mutually agreed upon.

(f) The deviation of the natural gas from Boyle's Law shall be determined by tests upon the request of either party to this agreement, but tests shall not be made more frequently than once in any thirty day period. The apparatus and the method to be used in making such tests shall be in accordance with the recommendations of the National Bureau of Standards of the United States Department of Commerce or any other method or methods mutually agreed upon. When the deviation factors, based on the results of such tests, agree with those published by the California Natural Gasoline Association in Bulletins TS-354 or TS-402, or amendments thereof, for the composition and conditions at the point of measurement, within a tolerance of plus or minus two tenths of one percent (0.2%), said California factors shall be used in computing the volume of gas delivered under this agreement. When the results of such tests do not agree with said California deviation factors within said tolerance, then beginning on the date such tests are run, provided the results of such tests are accepted by both parties to

this agreement, computation of deliveries under said agreement, shall be based on the results of such tests retroactively to the date thereof, and deliveries shall continue to be so computed until additional tests have been made as provided herein.

(g) The water vapor content of the natural gas that the Government receives hereunder shall be determined from time to time, at the request of either party, by such methods as are mutually agreed upon.

#### ARTICLE VIII—MEASURING EQUIPMENT

1. The Gas Company shall furnish, install, operate and maintain, at or near all points of delivery, measuring stations, which shall be properly equipped with standard orifice meters, flange connections, orifice plates, recording thermometers, and all other equipment necessary for determining the volume of the natural gas to be delivered hereunder. Orifice meters shall be installed and operated in accordance with the joint Bureau of Standards, A. G. A., A. S. M. E. specifications published May 6, 1935, as Gas Measurement Committee Report No. 2 of the American Gas Association, as same may be modified and shall include the use of straightening vanes. Each measuring station shall be located as near as is practicable to the point of delivery. The Gas Company shall likewise furnish, install operate and maintain such instruments and equipment at points other than points of delivery as may be necessary to obtain the information to measure properly the natural gas to be delivered to the Government hereunder.

2. The Government shall have the right to have such individuals as the Commission may designate present at the time of any installing, reading, cleaning, changing, repairing, inspecting, testing, calibrating, or adjusting of the Gas Company's measuring equipment used in measuring or checking the measurement of the natural gas delivered to the Government hereunder.

3. The Gas Company shall maintain, and shall preserve for a period of four (4) years after collection, all test data, charts, and other similar records and data, and calculations therefrom, pertinent to its undertakings under this agreement. Said data shall be available at all reasonable times for inspection by such individuals as the Commission may designate.

4. (a) The Gas Company shall cause its measuring equipment to be installed in such manner that it will, among other things, permit an accurate determination of the quantity and heating value of the natural gas received by the Government hereunder and ready verification of the accuracy of measurement.

(b) The accuracy of the Gas Company's measuring equipment shall be verified by the Gas Company at least once each month of the calendar.

(c) If, upon tests, any measuring equipment used in determining volume and heat content of natural gas delivered to the Government is found to be inaccurate in an amount exceeding two percent (2%), at a recording corresponding to the average hourly rate of flow for the period since the last preceding test, then all previous recordings of such equipment shall be corrected, as provided in subparagraph (d) next following, to zero error for a period extending back to the time such inaccuracy occurred, if such time is ascertainable, and if not ascertainable then extending back one-half (½) of the time elapsed since the date of the last previous test, not exceeding a correction period of 16 days. If, upon such test, said measuring equipment is found to be inaccurate in an amount not exceeding two percent (2%), previous recordings of said equipment shall not be changed but said equipment shall be adjusted at once to record correctly.

(d) If for any reason meters are out of service, or registering inaccurately, so that the volume of natural gas received by the Government cannot be ascertained or computed from the readings thereof, the volume of said natural gas during the period such meters are out of service or registering inaccurately shall be determined:

(1) By using the registration of any check meter or meters, if installed and accurately measuring; or in the absence of (1),

(2) By correcting the error, if the percentage of error is ascertainable by calibration, test, or mathematical calculation; or in the absence of (2),

(3) By estimating the volume of natural gas received by the Government by volumes of natural gas received by the Government during periods of similar conditions when the meters were registering accurately.

5. The Government may procure, install, operate, and maintain regulating, check-measuring, dehydrating, and other equipment in its facilities which shall not interfere with the operation or maintenance of the Gas Company's facilities.

## ARTICLE IX—CHARGES TO BE PAID BY GOVERNMENT

*1. Demand charge and payment*

(a) The Demand Charge hereunder is Two Dollars and Sixty Four Cents (\$2.64) per MCF per month of the calendar. The Government shall pay the Gas Company, for each month of the calendar, a Demand Payment in an amount equal to the Demand Charge multiplied by the contracted demand of 60,000 MCF. It is understood that said Demand Payment shall become applicable on the date of commencement of delivery of natural gas to the Government hereunder and shall cease to be applicable upon expiration or termination of this agreement. It is further understood that said Payment shall be prorated, on the basis of the number of days in the month of the calendar involved, for the months of commencement and expiration or termination if less than a full month of the calendar.

(b) In the event the Gas Company, by reason of Force Majeure, fails to deliver such part of the maximum volume of 60,000 MCF of natural gas that the Government desires to receive on any day or days, the Demand Payment otherwise payable for the month of the calendar in which such failure or failures occur shall be reduced by an amount determined as follows: The aggregate of the differences in MCF between the volumes of natural gas received by the Government on the day or days of failure and the volumes of natural gas which the Government desired to receive on such day or days shall be divided by the number of days in the month of the calendar in which such failure or failures occur; the quotient thus arrived at shall be multiplied by the Demand Charge and the resulting figure shall represent the amount by which the Demand Payment otherwise payable shall be reduced.

(c) In the event the Gas Company fails to deliver such part of the maximum volume of 60,000 MCF per day of natural gas that the Government desires to receive on any day or days, and such failure or failures are not due to Force Majeure, the Demand Payment otherwise payable for the month of the calendar in which such failure or failures occur shall be reduced by an amount determined as in subparagraph *b* above, subject to the allowable variations provided for in Article III and the provisions of Article XVI.

(d) Refusal by the Government to accept gas pursuant to the provisions of paragraph 1 or paragraph 3 of article VI shall be deemed to be a failure to deliver within the meaning of subparagraphs *b*. and *c*. of this paragraph 1.

*2. Commodity charge and payment*

(a) The Commodity Charge hereunder is 12.1 cents per MCF. The Government shall pay the Gas Company, for each month of the calendar, a Commodity Payment in an amount equal to the Commodity Charge multiplied by the number of MCF of natural gas actually received by the Government at all Points of Delivery during such month of the calendar, or the Commodity Payment provided for in subparagraph *b* below, whichever is greater.

(b) Except as otherwise provided in this agreement, the Government shall pay the Gas Company, for each month of the calendar, a minimum Commodity Payment in an amount equal to the Commodity Charge multiplied by 40,000 MCF, multiplied by the number of days in the month of the calendar. This monthly payment shall be made irrespective of the actual volume of gas deliveries. It is understood that said minimum Commodity Payment shall become applicable on the day of commencement of delivery of natural gas to the Government hereunder and shall cease to be applicable upon expiration or termination of this agreement. It is further understood that said Payment shall be prorated, on the basis of the number of days in the months of the calendar involved for the months of commencement and expiration or termination if less than a full month of the calendar. If, subject to the allowable variations provided for in Article III, the Gas Company fails to deliver the volume of natural gas that the Government has given the Gas Company notice it desires to receive of less than 40,000 MCF on any day or days, then the charges set forth in the first sentence of this subparagraph *b*, shall be reduced by an amount equal to the Commodity Charge multiplied by the volume of gas the Gas Company failed to deliver. Refusal by the Government to accept gas pursuant to the provisions of paragraph 1 or paragraph 3 of Article VI shall be deemed to be a failure to deliver within the meaning of this subparagraph *b*.

(c) In the event the Commission estimates that the Government will not require the minimum of forty thousand (40,000) MCF of natural gas on any future day or days, and the Commission notifies the Gas Company in a writing, mailed at least 10 days prior to the day or days referred to above, that on such day or days

the Government will require such volume of natural gas less than forty thousand (40,000) MCF per day, then the Gas Company will use due diligence to attempt to sell to others the volume of natural gas representing the difference between 40,000 MCF per day and the volume that the Commission specified the Government would require on such day or days, provided such sale or sales shall not interfere with sales or prospective sales by the Gas Company to other customers (but the Gas Company shall not increase its demand requirements from its supplier after such notice from the Commission for the period of time specified therein), and provided, further, the Commission and the Gas Company agree upon the terms of such sale or sales and upon the credit to be derived therefrom by the Government. This credit shall apply only to the extent that the average volume of gas delivered by the Gas Company during a given month of the calendar shall be less than 40,000 MCF per day.

### 3. *Mutual privilege to negotiate for revision of rates*

(a) From time to time, either party to this agreement may give written notice to the other that it desires to have the demand and commodity charges set out above in paragraphs 1 and 2, of this Article IX, revised. No such notice shall be given prior to the expiration of a period of three years minus ninety (90) days from the day of initial delivery of natural gas by the Gas Company to the Government hereunder. Thereafter, no revision notice shall be given less than three years minus ninety (90) days after the effective day of any prior revision.

(b) Within thirty (30) days after the receipt of such written notice, it shall become the obligation of both parties to negotiate in good faith to agree upon new demand and commodity charges.

(c) Upon receipt by either party of the notice specified in subparagraph (a) above, it shall be the duty of the Gas Company promptly to furnish to the Commission all available information as to costs, such information however to be limited to the scope and kind of information required by the Federal Power Commission in a contested rate case under its jurisdiction. Such information will be submitted in the form required by the Federal Power Commission in obtaining similar information. The Gas Company will be further required to certify to the Commission, with supporting information showing, that it has allocated that portion of its over-all costs to the obligations assumed by the Gas Company under the terms of this agreement on the same basis as similar costs are allocated to contracts with other customers under Federal Power Commission jurisdiction. It is understood that in no event shall the cost allocated to this agreement exceed sixty percent (60%) of the initial construction costs, less depreciation, of the facilities described in paragraph *d* of Article XVIII and sixty percent (60%) of operating and administrative expenses chargeable to these facilities.

(d) If, as a result of such negotiation for revision of rates, the parties are unable to agree upon a new rate within ninety (90) days from the date of mailing the required notice, such disagreement shall then at the option of either party be deemed to be a dispute and shall be resolved as provided in Article XIV of this agreement, titled "Disputes." The objective to be attained in resolving a dispute as to rates under this subparagraph is to adjust rates charged by the Gas Company to the Commission up or down so that the return to the Gas Company from this agreement will be, as nearly as practicable, on the level with the allowable return approved by the Federal Power Commission in fixing rates charged by the Gas Company over which the Federal Power Commission exercises jurisdiction. It is understood that the return and rate under this agreement shall be figured upon construction costs and upon operating and administrative expenses allocated to this agreement as described in subparagraph (c) above.

(e) Whenever any new rates shall be agreed upon by the parties or settled under the Disputes Article, such rates shall become effective on the ninetieth day following the mailing of the required notice, and shall be included in a revised rate schedule amendatory of this agreement.

### 4. *Adjustments*

(a) The Demand and Commodity Charges provided for in paragraphs 1 and 2 above shall be subject to the following adjustments:

(1) Plus or minus the amount of any increase above or decrease below such charges exacted from the Gas Company by the Tennessee Gas Transmission Company for gas and gas service furnished hereunder. The amount of increase or decrease shall be determined by calculating the difference in the charges for gas and gas service furnished hereunder which are purchased by the Gas Company from Tennessee Gas Transmission Company under its 1947 charges applicable to

sales within the State of Tennessee on file with the Federal Power Commission and any new authorized charges for such gas and gas service payable by the Gas Company to Tennessee Gas Transmission Company or any other supplier.

(2) Plus any increase or additional tax or minus a decrease of tax directly allocable to the sale or delivery of the quantities of gas sold and delivered hereunder.

(b) It is agreed and understood that should any tax, levied against the Gas Company for the privilege of doing business, as now provided in Sec. 1248.136 of the Code of Tennessee, based upon gross receipts from deliveries of natural gas made to the Government, be collected from the Gas Company by the State of Tennessee, then the Government shall reimburse the Gas Company for the full amount of such tax, less refunds and credits, as has been calculated upon the amount of gas sold to the Government by the Gas Company.

(c) (1) If, because of the Gas Company's inability to maintain precise control over the rates of flow and quantities of gas delivered, the Gas Company has actually delivered to the Government in any month of the calendar a quantity of gas which is greater than the contracted demand multiplied by the number of days in such month, then the quantities of gas which the Gas Company would otherwise have delivered to the Government during the next succeeding three months of the calendar may be reduced as an adjustment by an amount the total of which is equal to the net aggregate amount of the overage, or, at the Government's option, the Government may continue to take natural gas up to the contracted demand during said three-month period, and the Government shall pay a demand payment on the volume of natural gas so delivered in accordance with subparagraph (e) below.

(2) If, for like reason, the Gas Company has actually delivered to the Government in any month of the calendar a quantity of gas which is less than the contracted demand and which the Government otherwise would have received from the Gas Company and have paid the Gas Company for, then the Gas Company after reasonable notice shall tender to the Government an amount of gas equal to the net aggregate amount of the deficit but not exceeding the allowable five percent variation for the month as an adjustment during the next succeeding three months of the calendar, in such quantities and at such rates of flow as the Gas Company may determine. The Government's refusal or inability to accept "deficit gas" so tendered by the Gas Company during said three-month period shall reduce the net aggregate amount of the deficit by the quantity so tendered by the Gas Company and refused by the Government provided, however, that nothing contained in this subparagraph or elsewhere in this agreement shall be construed as requiring the Gas Company to deliver to the Government during any day a volume of gas in excess of the contracted demand.

(d) If, due to emergency conditions on either the Government's or the Gas Company's facilities, quantities of gas are delivered by the Gas Company to the Government over and above the total contracted demand plus the allowable variations, then the quantities of gas which the Gas Company otherwise would have delivered to the Government during the next succeeding three months may be reduced as an adjustment by an amount the total of which is equal to the net aggregate amount of the overage; or, at the Government's option, the Government may continue to take natural gas up to the contracted demand during said three months period, and the Government shall pay a demand payment on the volume of natural gas so delivered in accordance with subparagraph (e) below.

(e) The demand payment for gas delivered under subparagraphs (c) (1) and (d) above shall be an amount equal to the demand charge in effect at the time of the overdelivery, multiplied by the quantity of gas in MCF overdelivered, divided by the number of days in the month of the calendar in which the overage occurred.

##### *5. Variable charge*

(a) If, after the initial delivery of gas hereunder, this agreement is terminated by the Commission in accordance with the provisions of paragraph 2 of Article II, the Government shall reimburse the Gas Company a portion of the capital expended by the Gas Company in construction of the facilities required to enable the Gas Company to discharge its obligations under this agreement, which reimbursement shall be computed as follows:

(1) Two thirds of the following algebraic sum: (i) sixty percent (60%) of the total cost of construction and installation of the Gas Company's facilities, to be determined by figures furnished by the Gas Company to, and approved by, the Federal Power Commission, minus (ii) sixty percent (60%) of the accrued depreciation on the said facilities, at the rate of five percent (5%) per annum for the period from the date of initial delivery of natural gas to the Government to the

effective date of termination, plus (iii) sixty percent (60%) of the then present value, computed at interest of  $3\frac{1}{4}$  percent ( $3\frac{1}{4}\%$ ), of the State and County ad valorem tax payments, without penalty, on the said facilities for the years remaining after termination of this agreement in a 20-year period beginning on the date of initial delivery of natural gas to the Government on the agreed assumption that annual tax payments during that period will be equal to the tax payment in the year in which the termination becomes effective. Such reimbursement shall be made on, or at the election of the Government before, the termination date of this agreement provided that the Gas Company's bill therefor has been properly presented in accordance with the requirements of the Commission at least thirty (30) days prior to the termination date.

#### ARTICLE X—BILLING

1. The Gas Company on or before the twelfth day of each month of the calendar, shall render bills to the Government for the demand and commodity payments payable under the provisions of this agreement for the preceding month of the calendar.

#### ARTICLE XI—PAYMENTS

1. Payments on bills properly presented in accordance with requirements of the Commission shall be paid by the Government as follows:

(a) Ninety percent (90%) of the total monthly billing within ten (10) days after receipt.

(b) The remaining ten percent (10%) within thirty (30) days after receipt.

#### ARTICLE XII—POSSESSION OF GAS

1. As between the parties hereto, the Gas Company shall be deemed to be in control and possession of the gas deliverable hereunder until it shall have been delivered to the Government at the Point or Points of Delivery, after which the Government shall be deemed to be in control and possession thereof.

2. The Government shall have no responsibility with respect to any gas deliverable hereunder until it is delivered into the facilities of the Government, or on account of anything which may be done, happen or arise with respect to such gas before such delivery, and the Gas Company shall have no responsibility with respect to such gas after its delivery into the facilities of the Government or on account of anything which may be done, happen or arise with respect to such gas after such delivery.

#### ARTICLE XIII—WARRANTY OF TITLE TO GAS

The Gas Company agrees that it will, and it hereby does, warrant for itself, its successors and assigns, that it will at the time of delivery have good title to all gas delivered by it hereunder, free and clear of all liens, encumbrances and claims whatsoever; that it will at such time of delivery have good right and title to sell said gas as aforesaid, and that it will indemnify the Government and save it harmless from all suits, actions, debts, accounts, damages, costs, losses and expenses arising from or out of adverse claims of any or all persons to said gas or to royalties, taxes, license fees or charges thereon, which are applicable before or at the moment the title to the gas passes to the Government. In the event any adverse claims of any character whatsoever are asserted in respect of any of said gas, the Government may retain any moneys otherwise payable to the Gas Company hereunder up to the amount of such claims without interest until such claims have been finally determined, as security for the performance of the Gas Company's obligations with respect to such claims under this Article or until the Gas Company shall have furnished bond to the Government, in an amount and with sureties satisfactory to the Commission, conditioned for the protection of the Government with respect to such claims.

#### ARTICLE XIV—DISPUTES

To the extent that applicable laws do not require that a particular governmental instrumentality exercise jurisdiction and determine, all disputes which may arise under this agreement, and which are not disposed of by mutual agreement, shall be decided by a representative of the Commission duly authorized to supervise and administer performance of the Gas Company's undertakings hereunder, who shall reduce his decision to writing and mail a copy thereof to the Gas Company.

Said decision shall be final and conclusive, subject to the two rights of appeal provided for in this Article. Within thirty (30) days from the date of said mailing, the Gas Company may appeal in writing to the Commission, whose written decision thereon, or that of its duly authorized representative, representatives, or board, not including the representative mentioned in the first sentence of this Article, shall be final and conclusive, subject to the right of appeal provided for in the sentence next following, and a copy of which decision shall be mailed to the Gas Company. Within thirty (30) days from the date of said latter mailing, the Gas Company, by written notice to the Commission, may elect to not be bound thereby in which event the dispute shall be determined de novo by arbitration, each of the parties selecting one arbitrator and those two selecting the third, the decision of any two or more arbitrators to be final and conclusive. Each of the parties hereto shall pay one-half ( $\frac{1}{2}$ ) the cost of such arbitration. Pending decision of a dispute hereunder the Gas Company shall diligently proceed with the performance of its undertakings under this agreement.

#### ARTICLE XV—NOTICES

1. All notices under this agreement, shall (i) if given by the Commission, be mailed to East Tennessee Natural Gas Company, Hamilton National Bank Building, Chattanooga 2, Tennessee, or delivered to a responsible official of the Gas Company at said address, and (ii) if given by the Gas Company, be mailed to United States Atomic Energy Commission, P. O. Box E, Oak Ridge, Tennessee, or delivered to the Manager, or Deputy Manager, Oak Ridge Directed Operations, at Oak Ridge, Tennessee. Either party may designate other addresses or other recipients of notices by notifying the other party in writing sufficiently in advance.

2. Unless otherwise provided in this agreement, written notices, payments, and other communications shall be considered as duly given or made when duly mailed by ordinary or registered mail or when delivered as provided in paragraph 1 above.

#### ARTICLE XVI—FORCE MAJEURE AND TERMINATION FOR CAUSE

1. *Relief from liability.*—Neither the Gas Company nor the Government shall be liable in damages to the other for any act, omission or circumstances occasioned by or in consequence of any acts of God, strikes, lock-outs, acts of the public enemy, wars, blockades, insurrections, riots, epidemics, landslides, lightning, earthquakes, fires, storms, floods, washouts, arrests and restraints of rulers and peoples, civil disturbances, explosions, breakage or accident to machinery or lines of pipe, line freeze-ups, temporary failure of gas supply, the binding order of any court or governmental authority which has been resisted in good faith by all reasonable legal means, and any other cause not within the control of the party claiming suspension and which by the exercise of due diligence such party is unable to prevent or overcome. A failure to settle or prevent any strike or other controversy with employees or with anyone purporting or seeking to represent employees shall not be considered to be a matter within the control of the party claiming suspension.

2. *Liabilities not relieved.*—Such causes or contingencies affecting the performance of this agreement by either party shall be deemed to be "Force Majeure" within the meaning of this agreement but, however, shall not relieve it of liability in the event of its concurring negligence or in the event of its failure to use due diligence to remedy the situation and remove the cause in an adequate manner and with all reasonable dispatch, nor shall such causes or contingencies affecting the performance of this agreement relieve either party from its obligations to make payments of amounts then due thereunder, nor shall such causes or contingencies relieve either party of liability unless such party shall give notice and full particulars of the same in writing or by telegraph to the other party as soon as possible after the occurrence relied on.

3. *Termination of agreement.*—If either the Gas Company or the Government shall fail to perform any of the covenants or obligations imposed upon it by this agreement, then in such event the other party may at its option terminate this agreement by proceeding as follows: the party not in default shall cause a written notice to be served on the party in default stating specifically the cause for terminating the agreement and declaring it to be the intention of the party giving the notice to terminate the same; thereupon the party in default shall have thirty days after the service of the aforesaid notice in which to remedy or remove the cause or causes stated in the notice for terminating the agreement, and if within said period of thirty days the party in default does so remove and remedy said

cause or causes and fully indemnify the party not in default for any and all consequences or such breach, then such notice shall be withdrawn and this agreement shall continue in full force and effect. In case the party in default does not so remedy and remove the cause or causes or does not indemnify the party giving the notice for any and all consequences of such breach, within said period of thirty days, the agreement shall terminate. Any termination of the agreement pursuant to the provisions of this paragraph shall be without prejudice to the right of the Gas Company to collect any amounts then due to it for natural gas delivered prior to the time of termination, and shall be without prejudice to the right of the Government to receive any gas which it has not received but for which it has paid prior to the time of termination and without waiver of any remedy to which the party not in default may be entitled for violations of the agreement.

#### ARTICLE XVII—MISCELLANEOUS PROVISIONS

1. *Waiver.*—No waiver, by either party, of any one or more violations of the terms of this agreement by the other party, shall be deemed to be a waiver of any subsequent violation or violations, whether of like or different character.

2. *Modification.*—This Agreement shall not be modified in any manner other than by mutual written agreement of the parties hereto.

3. *Assignment.*—Except as provided in paragraph 4 below, neither this agreement, nor any part thereof, nor claim thereunder, shall be assigned or transferred by either party without the prior written approval of the other party, provided, however, that this shall not be deemed to prohibit the substitution hereunder for the Commission of any other executive department, agency or independent establishment of the Government of the United States of America.

4. *Assignment of rights hereunder.*—(a) Claims for monies due or to become due the Gas Company from the Government under this agreement may be assigned to a bank, trust company or other financing institution, including any Federal lending agency. Any such assignment shall cover all amounts payable under this agreement and not already paid, and shall not be made to more than one party, except that any such assignment may be made to one party as agent or trustee for two or more parties participating in such financing.

(b) In the event of any such assignment the assignee shall file four signed copies of a written notice of the assignment, together with one copy of the instrument of assignment, with each of the following:

- (i) General Accounting Office;
- (ii) the Commission;
- (iii) the surety or sureties upon the bond or bonds, if any, in connection with this agreement;

(iv) such other person as the Commission shall designate in writing.

(c) Any claim under this agreement which has been assigned pursuant to the foregoing provisions of this Article may be further assigned and reassigned to a bank, trust company or other financing institution, including any Federal lending agency. In the event of such further assignment or reassignment, the assignee shall file one signed copy of a written notice of the further assignment or reassignment together with a true copy of the instrument of further assignment or reassignment with the Gas Company, and shall file four signed copies of such written notice and one copy of such instrument with each of the parties designated in the preceding paragraph.

(d) Indication of the assignment of claim and of any further assignment thereof and the name of the assignee will be made on all vouchers or invoices certified by the Gas Company.

5. *Officials not to benefit.*—No member of or delegate to Congress or resident commissioner shall be admitted to any share or part of this agreement or to any benefit that may arise therefrom but this provision shall not be construed to extend to this agreement if made with a corporation for its general benefit.

6. *Convict labor.*—The Gas Company shall not employ any person undergoing imprisonment at hard labor. This provision shall not be construed to prevent the Gas Company or any subcontractor hereunder from obtaining any of the supplies, or any component parts or ingredients thereof, to be furnished under this agreement or any of the materials or supplies to be used in connection with the performance of this agreement, directly or indirectly, from any Federal, State or territorial prison or prison industry, provided that such articles, materials or supplies are not produced pursuant to any agreement or other arrangement under which prison labor is hired by or employed or used by any private person, firm, or corporation.

7. *Covenant against contingent fees.*—The Gas Company warrants that it has not employed any person to solicit or secure this agreement upon any agreement for a commission, percentage, brokerage, or contingent fee. Breach of this warranty shall give the Government the right to annul this agreement, or, in the discretion of the Commission, the right to deduct from any money due the Gas Company under this agreement the amount of such commission, percentage, brokerage, or contingent fees. This warranty shall not apply to commissions payable by Contractors upon contracts or sales secured or made through bona fide established commercial or selling agencies maintained by Contractors for the purpose of securing business.

8. *Antidiscrimination.*—The Gas Company in performing its undertakings under this agreement, shall not discriminate against any employee or applicant for employment because of race, creed, color, or national origin. The Gas Company agrees that the provisions of the preceding sentence will also be inserted in all of its subcontracts hereunder.

9. *Operating information and estimates.*—At the Gas Company's request, the Government will furnish to the Gas Company estimates of the daily, monthly, and annual quantities of natural gas which the Government desires the Gas Company to furnish to the Government for as least two years in advance. Such estimates shall not be binding on either party.

10. *Law of the agreement.*—This agreement shall be construed under the laws of the State of Tennessee.

11. *Compliance with applicable laws and regulations.*—The Gas Company shall, in the course of its undertakings hereunder and as a part thereof, obtain all required licenses, permits and other authorizations and shall otherwise comply with all applicable federal, state and local laws and regulations thereunder.

12. *Records.*—The Government shall, at all reasonable times, have the right to inspect the books and records of the Gas Company for any and all purposes related to this agreement. The Government shall not have the right to require the Gas Company to keep any records or use any system of accounting which are not required by the Federal Power Commission.

13. *Resale or other disposition of gas.*—The Government in its discretion, may sell, or furnish without charge, to others in the Oak Ridge area, all or any part of the gas furnished by the Gas Company hereunder.

14. *Approval.*—Notwithstanding any other provisions hereof, this agreement shall not be effective unless approved by the General Manager of the Commission.

#### ARTICLE XVIII—DEFINITIONS

Except where the context expressly states another meaning the following terms when used in this agreement shall be construed to have the following meanings:

(a) "*Commission*" shall mean the United States Atomic Energy Commission or its duly authorized representative or representatives.

(b) "*British thermal unit*" shall mean the amount of heat required to raise the temperature of one pound of water one degree (1°) Fahrenheit (at atmospheric pressure of 14.7 pounds per square inch absolute and at a temperature of sixty degrees (60°) Fahrenheit).

(c) "*MCF*" shall mean one thousand (1,000) cubic feet.

(d) "*facilities*," when used in reference to the Gas Company's facilities, and/or "*Pipe line*" shall mean the gas transmission system originating at the point of connection with the pipe line of Tennessee Gas Transmission Company, between Tennessee Gas Transmission Company's compressor station No. 10 near Lobelville, Tennessee, and Tennessee Gas Transmission Company's compressor station No. 11 near Mitchellville, Tennessee, and terminating at the most distant point of delivery to the Government; it shall not be deemed to include any facilities connected to said system specifically for purposes other than delivery of natural gas to the Government hereunder. The Pipe line from the point of origin to the point of connection with the lateral to the last Point of Delivery shall have a nominal diameter of twenty (22) inches.

(e) "*month of the calendar*" shall mean a period beginning at 8:00 o'clock A. M. Eastern Standard Time (or such other time standard as may be in effect in Knoxville, Tennessee) on a calendar date marked "1" and ending at 8:00 o'clock A. M. Eastern Standard Time (or such other time standard as may be in effect in Knoxville, Tennessee) on the calendar date marked "1" in the following month.

(f) "*day*" shall mean a period beginning at 8:00 o'clock A. M. Eastern Standard Time (or such other time standard as may be in effect in Knoxville, Tennessee) on a date of the calendar and ending at 8:00 o'clock A. M. Eastern Standard Time

(or such other time standard as may be in effect in Knoxville, Tennessee) on the date of the calendar next following.

(g) "*contracted demand*" shall mean the volume of natural gas specified in this agreement which the Gas Company obligates itself to be ready to deliver to the Government commencing with the day of initial delivery.

(h) "*scheduled daily delivery*" shall mean the volume of natural gas which, during any one day, the Gas Company is obligated to be ready to deliver to the Government and which the Government requests the Gas Company to deliver.

(i) "*Oak Ridge Area*" shall mean the area located within the Counties of Roane and Anderson, State of Tennessee, in the possession or under the control of the Commission from time to time.

IN WITNESS WHEREOF, the parties hereto have executed this agreement the day and year first above written.

THE UNITED STATES OF AMERICA,  
By: UNITED STATES ATOMIC ENERGY COMMISSION,  
By: s/JOHN C. FRANKLIN,  
*Manager, Oak Ridge Directed Operations.*  
EAST TENNESSEE NATURAL GAS COMPANY,  
By: s/G. H. MCKAY,

*Executive Vice President.*

I, F. M. Cantrell, certify that I am the Secretary of the East Tennessee Natural Gas Company, referred to in this agreement as the "Gas Company"; I further certify that G. H. McKay, who signed this agreement in my presence, was then Executive Vice President of the East Tennessee Natural Gas Company, and that this agreement was thus duly signed for and on behalf of said Corporation by authority of its governing body and is within the scope of its corporate powers.

IN WITNESS WHEREOF, I have hereunto affixed my hand and the seal of said Corporation this 19th day of June, 1948.

s/F. M. CANTRELL,  
*Secretary.*

[CORPORATE SEAL]

Approved this 23d day of June, 1948:

s/WALTER J. WILLIAMS,  
*Acting General Manager, United States Atomic Energy Commission.*

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# **OAK RIDGE DORMITORY FACILITIES**

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## **HEARING**

**BEFORE A**

**SUBCOMMITTEE OF THE**

**JOINT COMMITTEE ON ATOMIC ENERGY**

**CONGRESS OF THE UNITED STATES**

**EIGHTY-FIRST CONGRESS**

**FIRST SESSION**

**ON**

**OAK RIDGE DORMITORY FACILITIES**

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**APRIL 21, 1949**

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JUN 17 1949

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**SUBCOMMITTEE TO INQUIRE INTO THE DORMITORY RENTAL SITUATION AT  
OAK RIDGE, TENN.**

**CARL T. DURHAM**, North Carolina, *Chairman*

**CHET HOLIFIELD**, California

**MELVIN PRICE**, Illinois

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## OAK RIDGE DORMITORY FACILITIES

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THURSDAY, APRIL 21, 1949

CONGRESS OF THE UNITED STATES,  
SUBCOMMITTEE OF THE JOINT COMMITTEE ON ATOMIC ENERGY,  
*Oak Ridge, Tenn.*

The subcommittee met at 10 a. m., pursuant to call, in the auditorium of the Oak Ridge Recreation Center, Oak Ridge, Tenn., Hon. Carl T. Durham, vice chairman of the joint committee and chairman of the subcommittee, presiding.

Present: Representatives Durham (vice chairman of the joint committee and chairman of the subcommittee), Holifield, and Price.

Also present: William L. Borden, executive director of the joint committee, and E. L. Heller, staff member.

Representative DURHAM. The subcommittee will come to order.

The purpose of this hearing is to learn the facts about the dormitory rental problem and related matters here at Oak Ridge.

We want to give the various viewpoints that may exist an opportunity to be heard.

Let me emphasize that this subcommittee has come here with no preconceived ideas. Neither have we prejudged anything. We are not conducting an investigation. We want to hold a hearing in the true sense of that word, a hearing as to the facts and as to the opinions which exist locally.

I might say that we have received letters in Washington from various citizens here at Oak Ridge regarding the dormitory problem. As members of the Joint Congressional Committee on Atomic Energy, of course, we are keenly interested in the community problems here, especially because Oak Ridge is a Government-owned and operated city.

It is our hope that this hearing will throw light on the rental question and will help both the joint committee and the Atomic Energy Commission to proceed wisely in the future.

The subcommittee spent some time this morning going around to the different dormitories in the residential area. Therefore, we have the benefit of a first-hand look at the subject under discussion here today.

I believe that our first witness is Mr. Minor, who is the chairman of the Central Dormitory Committee.

Mr. Minor, will you come around?

Will you give the stenographer your full name and whom you represent, Mr. Minor?

**STATEMENT OF WILLIAM H. MINOR, OAK RIDGE, TENN., APPEAR-  
ING AS CHAIRMAN OF THE CENTRAL DORMITORY COMMITTEE**

Mr. MINOR. I am William H. Minor, chairman of the Central Dormitory Committee, representing the residents of the dormitories at Oak Ridge.

First, I want to get my paraphernalia over here, if you please, sir.

Representative DURHAM. You may have a seat and proceed to tell us what you know about this matter, Mr. Minor.

Mr. MINOR. I would like to give the chairman and each member some typewritten sheets, which I will mention as I go along. There is a list there, and I have a few random notes here which I hope to follow.

The dormitories as built here at Oak Ridge by the Army had a rental structure set up on them. That structure was set up by the Army, in consultation with the rent-control authorities at that time. It was based rather largely on amortization over a period of years and on the basis of what was a reasonable rental at that time.

We who have come here at a later date, living in those dormitories, had held up to us the fact that those rentals were thus applied, and that quarters could be obtained at such a figure. Of course, we had a surprise waiting for us one morning, when we found in our mail boxes a memorandum which stated that services which workingmen had depended upon were to be no longer rendered. This was followed very quickly by a statement that for \$7.50 a month those services would be restored.

We endeavored to secure such facts as might be available as to why \$7.50 was required to cover the services which were being removed.

To date, three different sets of unrelated figures have been used by the Atomic Energy Commission and their representatives.

Representative DURHAM. Mr. Minor, will you name those services, right at the present time, that were discontinued?

Mr. MINOR. We formerly had maid service for 5 days a week, including the making up of beds. We lost 4 days of maid service. We had clerks 24 hours a day, and, of course, we lost that clerical service. We had towel service twice a week, and we now have towel service once a week, though I don't believe there would be too much complaint on the towel picture.

The mail situation is quite disagreeable, in that you have to get the mail in the afternoon during the short number of hours that the clerk is on duty; otherwise you have to wait 24 hours for it.

To go on: We have the unrelated sets of figures here that were made available through publicity or exchange of letters between AEC officials. These figures cover the cost of operating the dormitories during the year prior to March 1. There are three sets of figures covering that. Then there are three sets of figures covering the prospective costs to the Federal Government by the Atomic Energy Commission for the year to follow March 1.

The first of these figures was released by AEC under date of February 12. The second set of figures was released by General Manager C. L. Wilson on February 21. The latest ones were used by the Chairman of the Board in his latest series of letters, copies of which you have in the information which I have placed before you, and, of course, there is the likelihood of still a fourth set of figures.

But throughout all of these letters it seems that all officials of AEC—F. W. Ford, Director of Community Affairs locally; Carroll L. Wilson, General Manager; Walter J. Williams, Director of Production; Sumner T. Pike, Acting Chairman; and Hon. David E. Lilienthal, Chairman—have stated—and their letters are included in the exhibits that you have there—that the increase in dormitory rent, or decrease in services, was a result of a “study of comparability.”

Mr. Carroll L. Wilson has given us in his letter of February 25, 1949, his letter addressed to Mr. William L. Borden, Executive Director of the Joint Committee on Atomic Energy, the table of comparability that was used for this study.

All officials of the AEC have now stated that comparability was the only factor involved in both the study and the decision to increase the rents or reduce services. That being the case, then the important item here is the yardstick of comparability used by the Atomic Energy Commission. If that yardstick is not a true, accurate, or factual document, then the true basis for altering the rent of the dormitories falls of its own weight, and it is the desire of the Central Dormitory Committee to bring to the attention of you gentlemen the fact that the yardstick used by AEC was not a true, accurate, or factual document.

In the information which I placed before you, there is the letter of Mr. C. L. Wilson to Mr. Borden, and attached to that is the table of comparability that he gave you at that time. We will use that in the process of tearing it apart, if we can.

We can start with the first item, the dormitories of Oak Ridge, Tenn. There, the rates quoted are not complete, as single rooms are rented for \$15—that is one rate they give, and the only rate—\$20, \$25, and \$50 a month. As for double rooms, where they only quote one rate, of \$20, these rooms rent for \$20, \$30, and \$50 per month. There are, of course, daily and weekly rates, as well. But it is, of course, to be noticed that the entire picture was not portrayed in this comparison of rents charged and services supplied dormitory residents, for several of the rates were omitted from the comparison.

Now we can consider, under Oak Ridge dormitories, the column “Services supplied, present.” We find at the head of the list “Linen service daily.”

Gentlemen, that is as untrue a picture as could be painted, for it was not supplied and has not been supplied within several years, if ever.

The next item is “Maid service daily.” For the past several years, at least, maid service has been on a 5-day-a-week basis insofar as the rooms of the dormitory residents were concerned.

The next item is “Towel service three times weekly.” I have lived in three different dormitories during the year 1948, and in none of these was this service extended to me, and I have talked with many residents of the different dormitories that are now in operation, and they did not have this service extended to them. However, I have found that certain residents of Boone Hall say that they had this service; and therefore, it may be possible that AEC was under the impression that their contractor, the James H. Moore Co., was supplying that service. In such case, the Moore company was not delivering in accordance with contract, for it was not a service that was generally extended to the residents of Oak Ridge dormitories.

Representative DURHAM. You speak about a contract. What contract do you mean? The contract with the dormitory residents?

Mr. MINOR. The contract between the Moore company and the Roane-Anderson Co. This document which you have in front of you was used by AEC in their study of comparability. In that, supposedly, they set down what they believed to be the facts in the case. And they must have believed that the dormitory residents were getting towel service three times a week. The only agency that could supply that service three times a week was the contractor who operated the dormitories, the James H. Moore Co.

Now, if they felt that the Moore company was supplying that—and he wasn't supplying it—perhaps he was not living up to his contract.

The next item was "Desk service 24 hours." This was on the basis of a 6-day week, with Sunday generally a day off for desk service.

We can now look at the column headed "Proposed," and we find at the head of the list "Linen service weekly." That is just about what we had before, so that represents no change.

We then come to "Maid service weekly," and this covers a decrease in maid service of 4 days per week.

The next item is "Towel service twice weekly." Since the maid assigned to each dormitory is expected to service one-fifth of the rooms in that dormitory each day, one wonders how it was proposed to give this service, if it ever was intended to supply it. It is not supplied and has not been supplied under the changes that were effective March 1.

The ensuing item, "Desk calls received 4 to 9 p. m., daily except Sunday," could also include mail service, for those are the hours for receiving mail. "Nightly watchman service to be provided 11 p. m. to 7 a. m." is the next item. The money spent for this service could well be saved; for, were one of the Oak Ridge dormitories to catch on fire during the absence of the watchman on his other rounds, it is quite unlikely that the building could be saved or many of the residents rescued if the fire were detected on the watchman's next round.

Now let us see what it is that we have found out in taking the first section of the "Comparison of rents charged and services supplied dormitory residents," as it was prepared for or by the Atomic Energy Commission. We have found that the rate-structure picture was incorrect by a wide margin, in that only one rate for single rooms was given, whereas there are four distinct rates, and only one rate was given for double rooms, whereas there are three rates.

Representative HOLIFIELD. At that point, Mr. Chairman, I would like to ask the witness to give us the rates.

Mr. MINOR. Going back to the single rooms, the rates are \$15, \$20, \$25, and \$50. For a double room, the rate is \$20, \$30, and \$50.

Representative HOLIFIELD. Of course, the heading at the top there says "Basic monthly rent."

Mr. MINOR. Well, you have three dormitories.

Representative HOLIFIELD. I assume that your \$15 for a single room is the minimum; and then, where larger rooms or additional services of some kind are rendered, they charge more, and that that is the case as to the \$20, \$25, and \$50 rentals.

Mr. MINOR. This is what I say: If you are going to compare the facilities here at Oak Ridge with facilities elsewhere that provide what is given here or more for \$25, you should quote \$25 for compara-

tive purposes. If you are going to quote rooms that rent for \$25 a month and have certain services, then you should use the \$25 rate here for comparative purposes; don't you think?

Representative HOLIFIELD. I assume that in a study of comparability you would contrast the \$15 single room with a similar room and take the cost of that room. You could not consider it from the standpoint of money. You would have to consider the type of quarters and services rendered.

Mr. MINOR. That would be an intelligent approach.

Representative HOLIFIELD. And I would say that in this chart, which uses a basic monthly rent, the comparison would be a comparison of quarters and services.

Mr. MINOR. But, if you look at the next item below, you will find that you are there dealing with a rate of \$26 and \$32.50, in comparison with \$15 and \$20; you are dealing with a fireproof structure as against a firetrap; and you are dealing with a picture in which in one instance you have membership included in your rental, and where you have swimming pools and athletic equipment available to you in the center of a city of 135,000 population. So, if you are going to make a portrayal of each and lay one thing alongside the other, you should have the whole picture to do it. And that is not presented there.

Well, we are now ready to consider the next entry in the AEC "Comparison of rents charged and services supplied dormitory residents."

This is the consideration of the Knoxville YMCA, where single rooms are listed at \$26 minimum and \$32.50 maximum. The Knoxville (Tenn.) YMCA has 104 single rooms, and their lowest weekly rate is \$6. Their highest rate is \$7.50, and their average or majority rate is \$6.50. They have 24 double rooms, and their lowest weekly rate is \$5.50. Their highest weekly rate is \$5.50, and the average or majority rate is \$5.50. Now, it must be understood that these rates include membership in the YMCA; and while these rates can be broken down in rates per day, and multiplied by 30 to reach the monthly rate, it can be readily seen that this monthly rate will be slightly less than \$26 for the minimum and slightly less than \$32.50 for the maximum.

At this point it is well to understand that the YMCA and the YWCA in Knoxville are brick, stone, and concrete, fireproof, and soundproof structures, each with fireproof interior stairwells and exterior steel fire escapes. They are modern structures, equipped with interior buzzers, interfloor telephones, and convenient-to-your-room floor phones that are available to all residents for Knoxville local calls at no charge to the resident. There are large, luxurious lounges and assembly rooms for the residents of the YMCA and YWCA. Clerks are on duty 24 hours per day, 7 days per week. The full use of swimming pool, athletic equipment, game rooms, and tennis courts, is included. The resident's mail is available to him 24 hours per day, 7 days per week.

These units are centrally located in a modern city of 135,000 population, that offers a wide variety and range of shopping and entertainment facilities that are not available in the five scattered villages that make up Oak Ridge.

Let us consider "Services supplied, present."

We find that for the Knoxville YMCA it states "Linen service weekly." This is only slightly in error, as the bottom sheet is removed

at midweek and a new top sheet supplied, and the linen change is made at the end of the week.

The next item, "Maid service daily," is correct, as is the next item, "Towel service daily." And it could be added that soap is supplied free. It is to be noted that desk service is supplied on a 24-hour basis and that janitor service is also provided. All of this is in modern, light, airy rooms that are well furnished, in structures that are equipped with modern plumbing, tile toilets, and lavatories that are well maintained, where each room is supplied with heat that can be controlled by the resident.

We should stop here for a moment and give great credit to the very active imagination that could consider all of this, at the figures given, and then consider that there was some basis of comparability between the Knoxville YMCA and our Army barrack dormitories here at Oak Ridge, with their cardboard partitions, inadequate maintenance, obsolete plumbing and lighting, and poorly controlled heating, which were rented at rates in excess of those charged by the YMCA prior to March 1.

We now come to the third item of comparability, the University of Tennessee type I de luxe accommodations. With your permission I would like to show you a picture of those de luxe accommodations as put out by the University of Tennessee.

This, gentlemen, is considered comparable to dormitories at Oak Ridge. The rates are on the preceding page. They include, of course, board and lodging. Each one of these wings has a lounge the size of this room here for that floor. There are foyers on each floor for each 10 residents. There is in the basement a mailroom with lockboxes such as are provided in the United States post office. And, of course, that is included in the rent, and there is no extra charge for it.

The individual's personal belongings are insured for \$200. These dormitories are equipped with within-the-building telephones, automatic elevators, large, luxurious, well-furnished lounges with modern, maintained-like-new furniture, ample floor coverings, combination radio and phonograph players in the lounge; and in addition there are assembly foyers for each 10 residents, that are well and tastefully furnished, on each floor.

In addition, there is a within-the-building post office, as I said, with a lockbox for each resident, at no extra charge, where he can obtain his mail at any time during the entire 24 hours of each day, 7 days per week.

These buildings are equipped with game and date rooms, all under the supervision of hostesses and house mothers. In addition, it must be considered that these buildings are located in the heart of a modern city of 135,000 population, with a wide range of shopping and entertainment facilities that are not available to the residents of Oak Ridge dormitories.

We note, of course, that in the comparison as given by AEC, the rates single, double, and triple, are covered at \$25 per person per month. However, the rates quoted by the university are based on room and board for a term of 6 weeks at rates of \$82.50 to \$92.50, which covers the location of the room in that range.

Of course, it is understood that the basic room rental of \$25 a person is made.

Under the heading "Service supplied, present" we can go along with what has been offered in AEC's comparison with the exception of "desk service 8 hours daily." The house mother in each section is on duty 24 hours a day, and is available for all day or night, 7 days a week. And, of course, it is pretty hard to understand how structures of that kind could have been used or compared with the Oak Ridge dormitories.

We go down a little further, and we have the type II and the type III dormitories, which are embraced in the four-story dormitories that are located under the university stadium.

This picture here is a slice through the stadium at the University of Tennessee. This horseshoe [indicating] is built clear around here at the present time; but that is the start of the dormitories at the stadium, which covers your types II and III dormitories, which you have listed there at \$15 and \$12 a month.

There are other pictures in there which you please might look over. They are pictures of the interior of various rooms in various dormitories.

When they came to the type II and type III dormitories there, they went overboard just a little bit in coloring the picture. Nothing was said, of course, about their being fireproof structures, or equipped with automatic elevators, interfloor communication, luxurious lounges, and so on. And under "Services supplied, present" they decided in the comparison to go overboard and picture it just a little blacker than it actually is. Maid service is supplied, and each section of the dormitory is under a house mother, or faculty member. And, of course, it was rather portrayed that none of that was available.

Now we are in a position to consider page 2 of the AEC "Comparison of rents charged and services supplied dormitory residents."

At this point, it is well to go back and consider what is offered in a table which attempts to make a comparison of fireproof structures and Army barracks with cardboard interior partitions. We have had, up to this point, examples of fireproof structures in large cities, with a wealth of services, at rents that compare favorably with what we are paying here.

Now, of course, we are going into the TVA section of the country, over at Norris. We will have to see what it is that we run into. This shows TVA, Norris, as the location, "Single" as the type of accommodations, and a basic monthly rent of \$20. I am going to come back to that \$20, but I will skip over it for the moment.

Here we must consider that the dormitory at Norris is located at a vacation paradise, a suburban retreat within easy motoring distance of Knoxville, where the sportsman has the fishing, swimming, and boating of Norris Lake within easy reach, while living in a rustic dormitory that has a restaurant on the ground floor and the concessionaire living in the dormitory. We look at "Services supplied, present," in order to find out how this picture was distorted, and we find that we can go along with "Linen service weekly" and with "Maid service for linen change," and "Towel service daily," but the last statement, "General utility serviceman takes some desk calls if he is available"—the person who inserted that really went to great lengths to stretch his powerful imagination; for, since the concessionaire who operates the dormitory lives in the dormitory and operates the restaurant and

fountain in the dormitory, he is available at all times to take phone calls for the residents.

So we have here solid, rustic dormitories, with fairly soundproof walls, at a well-advertised vacation spot, at a figure given to us in the comparison list of \$20 a month. But, gentlemen, I am not asking you to take my word for the picture. It is portrayed by the Office of the Housing Expediter, the Knoxville Area Rent Director. And it is not \$20 a month. And the services are much greater than we have here. And this letter in itself completely licks the entire argument of AEC. For this, gentleman, knowing all of the accommodations that are available in this neighborhood, clearly states that it is the only comparable picture that we have in the entire area. That rate is \$16.08 a month, not \$20. The Norris area has not been decontrolled.

Representative HOLIFIELD. What type of building is that Norris building?

Mr. MINOR. It has a wooden partition between the rooms. It is a rustic type of dormitory with wooden partitions instead of cardboard partitions.

Representative HOLIFIELD. How about the sides of the rooms and the furnishings?

Mr. MINOR. I have that in my brief case. Just a moment, sir.

Representative DURHAM. Would you like this letter to go in the record?

Mr. MINOR. If you please, sir.

Representative DURHAM. If there is no objection, we will put it in the record.

(The letter referred to is as follows:)

OFFICE OF THE HOUSING EXPEDITER,  
Knoxville, Tenn.

Mr. FREDERICK H. SWEETON,  
203 Canton Hall, Oak Ridge, Tenn.

DEAR MR. SWEETON: This is in response to your letter of March 26 requesting this Office to give you some information about comparable rents in this defense-rental area on your dormitory housing at Oak Ridge.

The most nearly comparable accommodations in this area would be the dormitory accommodations as disclosed by registrations filed in this Office by the Tennessee Valley Authority for dormitory occupants at Norris, Tenn. These registrations were filed in the area office on September 9, 1943.

One dormitory contains 60 rooms with 2 bathrooms, and the registered rent is \$3.75 per week for 1 person in occupancy. Another dormitory contains 21 rooms with 5 bathrooms and has a registered weekly rental of \$3.75 per week for 1 person in occupancy.

It is my opinion that these dormitories maintained by the Tennessee Valley Authority during that period of construction work at Norris Dam are as nearly comparable to the dormitory accommodations at Oak Ridge as I could find in this area.

This Office extends to you its facilities to assist you in any manner possible in the near future, and I hope this information will be of benefit to you.

Very truly yours,

HARRY S. HYMAN,  
Knoxville Area Rent Director.

Mr. MINOR. The sizes of the rooms are 9 by 9 and 9 by 12.

Representative HOLIFIELD. How does that compare?

Mr. MINOR. That is about the same, as far as room size is concerned.

Representative HOLIFIELD. How about the furnishings?

Mr. MINOR. Fairly comparable. It is just about an equal picture. There is not an awful lot of difference. Of course, their furniture

has been beaten around, just the same as ours has here. It has taken a whipping. Of course, there have been from time to time additions made to certain rooms, which perhaps would make that more outstanding than would otherwise be the case; but taking it generally, by and large, it would be about the same. In fact, as Mr. Hyman states there, that is the only comparable facility that we have in this neighborhood.

Representative DURHAM. Mr. Minor, I believe that I will ask you to read this letter, so that some of these other people who have not received a copy may hear it.

Mr. MINOR. This is addressed to Mr. Frederick M. Sweeton.

Representative DURHAM. Who is he?

Mr. MINOR. He is a resident in the dormitories and represents that particular dormitory, Canton Hall, on the central committee. He is their delegate to the central committee.

Representative PRICE. I notice there is no date on that letter.

Mr. MINOR. That is an odd thing. But it was received April 20.

Representative PRICE. What year?

Mr. MINOR. 1949; this year. It is one of the things like Mr. Wilson sometimes sends out, which also have no date. That letter of February 25 which came to your office, carried no date on it.

This letter is in response to your letter of March 26 requesting this office to give you some information about comparable rents in this defense rental area on your dormitory housing at Oak Ridge.

The most nearly comparable accommodations in this area would be the dormitory accommodations as disclosed by registrations filed in this office by the Tennessee Valley Authority for dormitory occupants at Norris, Tenn. These registrations were filed in the area office on September 9, 1943.

That was the date that all of us in this area that owned property that was for rent filed with the rent control office.

One dormitory contains 60 rooms with 2 bathrooms, and the registered rent is \$3.75 per week for one person in occupancy. Another dormitory contains 21 rooms with 5 bathrooms and has a registered weekly rental of \$3.75 per week for one person in occupancy.

It is my opinion that these dormitories maintained by the Tennessee Valley Authority during that period of construction work at Norris Dam are as nearly comparable to the dormitory accommodations at Oak Ridge as I could find in this area.

This office extends to you its facilities to assist you in any manner possible in the future, and I hope this information will be of benefit to you.

Very truly yours,

HARRY S. HYMAN,  
*Knorrville Area Rent Director.*

That, of course, in itself, coming from a person thoroughly versed in the rental picture of this entire area, who formerly had the Oak Ridge area under his control, is about as reliable a picture as could be portrayed.

Now we are in a position to consider the final item in the AEC table of comparison.

The last entry in this abortive attempt to show comparability by partial listing of important factors is TVA Watauga Dam. This is an isolated TVA operation located back in the hills of Tennessee between Elizabethton and Johnson City, somewhat off the beaten path. It was never intended to house very many people in the facilities that were made available. And the rates and services supplied were not intended to make dormitory residence on the project attractive. Yet

it is to be noted that the rates and services leave the Oak Ridge dormitories in a bad light when the complete rate structure and list of services of Oak Ridge dormitories are given in comparison.

This is a letter from the TVA authorities, under date of March 15, 1949, which covers what is available at Watauga :

There is no town of Watauga. Watauga Dam is located in an isolated section approximately 8 miles east of Elizabethton, Tenn. TVA established a temporary work camp near the dam site to be operated only during the active construction period. At present housing facilities at this camp are one dormitory for white men, capacity 104; one demountable dormitory for white men, capacity 14; and one dormitory for Negro men, capacity 42. Rooms in the dormitories are 9 feet by 9 feet cubicles which accommodate two men. Furnishings are double-deck steel bunks with cotton mattresses, cane bottom or similar straight chair for each occupant, a small rough table for writing, et cetera, a minimum of shelved storage space combined with space for hanging clothing. In some instances a partition has been removed making a 9-foot by 18-foot room for 4-man occupancy. Rental rates on these accommodations are \$6 per 14-day pay period for each occupant. For less than a pay period the charge is 50 cents per night, the total not to exceed the pay-period rate. Shower bath, lavatories, and sanitary facilities are provided in a central washroom located between the two wings of the dormitory. The demountable dormitory has some smaller rooms than indicated above which are furnished in like manner and used for single occupancy. The single rate is \$8.50 per 14-day pay period. For less than a pay period the rate is 70 cents per night, the total not to exceed the pay-period rate. Janitor service is provided but is limited primarily to sweeping out and general maintenance of cleanliness in dormitories and changing bed linens once per week.

A cafeteria and small community lounge are operated for employees on the project, and a library service is provided through a contract with the city of Kingsport and the State of Tennessee. One person is employed to plan and direct a recreational program.

That is signed by J. Ed Campbell, director, Reservoir Properties Division, Tennessee Valley Authority. That is the Watauga picture.

Apparently all that we have that is comparable, out of the entire picture portrayed there by AEC, is the Norris properties.

In summation, it is safe to say that the AEC comparison of rents charged and services supplied dormitory residents is far from being a factual document, due to the omissions, distortions, and the fact that in only one case is the truth reported with respect to the facilities that are used as a basis of comparison. Since the table of comparability fails to measure up to the actual facts involved, then the whole basis of dormitory rent charge falls of its own weight; for the only leg to which the change was anchored was the table of comparability, as stated in Mr. Carroll L. Wilson's letter that was transmitted to Mr. Borden on February 25, 1949.

In the fourth paragraph of this letter, we find that Mr. Wilson stated:

FEBRUARY 1949.

MR. WILLIAM L. BORDEN,  
*Executive Director, Joint Committee on Atomic Energy,*  
*Capitol, Washington, D. C.*

DEAR MR. BORDEN: Reference is made to your letter of February 19, 1949, concerning the dormitory rental problem at Oak Ridge.

The dormitories are operated by the James H. Moore Co. on a lump-sum contract. This contract has recently been renegotiated. Announcement on January 31, 1949, of the changes in services to be provided dormitory residents under the renegotiated contract resulted in the comment concerning the dormitory rental problem referred to in your letter.

The proposed new arrangements scheduled to go into effect on March 1, 1949, do not provide for increase in any rental charges to dormitory residents. Some of the dormitory services heretofore provided are being eliminated or curtailed as

indicated in the attachment enclosed. Under the new arrangements the Commission will receive an estimated annual revenue of \$65,424 from operation of the dormitories. Under the present agreement, which terminates on February 28, 1949, the Commission is making an annual subsidy payment of approximately \$73,968.36 for operation of the dormitories.

The rents charged, and the services provided under the new arrangement, have been set on a basis deemed by AEC management at Oak Ridge to be more nearly equivalent to rents and services charged for comparable accommodations available in surrounding communities. Attached is a table showing these comparisons. Rentals to be charged and services supplied are in no way related to whether the dormitories are operated by force account, by the prime contractor, or by a subcontractor, or to operating costs, contractors' fees, or profit. This is in accord with the Commission's new policy of adjusting rents and services for all living accommodations in AEC communities toward levels which will compare with those existing in surrounding communities.

No specific census indicating type of person and average income is available of the some 2,000 residents of the dormitories at Oak Ridge. However, careful estimate has been made of the type of personnel and earnings of the dormitory residents as follows:

(a) Types of personnel housed in the dormitories range from concessionaire to the highest technical and scientific worker. A high percentage of the residents are female and are predominantly engaged in clerical or teaching work.

(b) Estimates of income of the dormitory residents are—

Average annual earnings:	Present dormitory residents
\$5,000 or over.....	3.4
4,500 to 5,000.....	2.4
4,000 to 4,500.....	3.6
3,500 to 4,000.....	8.2
3,000 to 3,500.....	18.5
2,500 to 3,000.....	29.3
2,000 to 2,500.....	20.8
Under 2,000.....	13.6

This compares with \$3,150 average annual income for all residents of Oak Ridge.

Sincerely yours,

CARROLL L. WILSON, *General Manager.*

*Comparison of rents charged and services supplied dormitory residents*

Location	Type of accommodations	Basic monthly rent	Services supplied	
			Present	Proposed
Oak Ridge.....	(Single room.....	\$15.00	(Linen service daily.....	Linen service weekly.
	(Double room.....	20.00	Maid service daily.....	Maid service weekly.
			Towel service 3 times weekly	Towel service twice weekly.
			Desk service 24 hours.....	Desk calls received 4 to 9 p. m. daily except Sunday. <sup>1</sup>
			Watchman service: None...	Nightly watchman service to be provided, 11 p. m. to 7 a. m.
Knoxville: YWCA.	Single room:		(Linen service weekly.....	} None.
	Minimum.....	26.00	Maid service daily.....	
	Maximum.....	32.50	Towel service daily.....	
			Desk service 24 hours.....	
University of Tennessee.	Type I (deluxe):		Janitor service is provided..	} None.
	Single.....	25.00	(Linen service weekly.....	
	Double.....	50.00	Maid service 5 days per week.	
	Triple.....	75.00	Desk service 8 hours daily..	
University of Tennessee.	Type II: Large bedroom (triple only).....	45.00	Janitor service 6 days per week.	} None.
			Maid service: None.....	
			Desk service: None.....	
			Janitor service is provided..	
	Type III:		(Linen service: None.....	} None.
	Single.....	12.00	Maid service: None.....	
	Double.....	24.00	Desk service: None.....	
			Janitor is provided.....	

<sup>1</sup> Calls are received until 10 p. m. and matrons are on duty all night in women's dormitories.

*Comparison of rents charged and services supplied dormitory residents—Con.*

Location	Type of accommodations	Basic monthly rent	Services supplied	
			Present	Proposed
TVA: Norris.....	Single.....	20.00	(Linen service weekly..... Maid service: None (except linen change). Towel service daily..... General utility serviceman takes some desk calls if he is available.	None.
Watauga Dam.	Single..... Double..... Triple.....	18.20 26.00 31.80	(Linen service weekly..... Maid service weekly..... Desk clerk and janitor service: None. Towel service: None.....	

Therefore, since the table of comparability is not a sound basis, and there are no comparable facilities, the services which have been removed from the residents of the dormitories should be restored at the rate structure as it presently exists.

Representative HOLIFIELD. May we return to Mr. Wilson's letter, to the bottom comparison there, of type III, University of Tennessee?

I notice the rates are quite close to the Oak Ridge basic monthly rents.

Mr. MINOR. This is a picture of those dormitories [handing]. They are four stories high, and they are located in this wing of the stadium. Now, that stadium today makes a notch, so that these two join.

Representative HOLIFIELD. I notice there are three different types here, type I, type II, and type III. What is type III?

Mr. MINOR. That is the last type, isn't it?

Representative HOLIFIELD. Yes.

Mr. MINOR. The last type is where the student supplies his own linen and makes his own bed. However, he does not clean his own room.

Representative HOLIFIELD. And what size room is it, and how is it furnished?

Mr. MINOR. The room there is a little larger, in most cases, than what we have here. Those rooms are furnished with a bed, inner-spring mattress, and springs, night table, study table, chest of drawers, table lamp, floor lamp, ceiling light, and a clothes cupboard with doors on it instead of the hanging material which we have here.

In a majority of cases, the floor covering is asphalt tile. We have, of course, the bare wood floors.

Representative HOLIFIELD. You would say that it would be furnished better?

Mr. MINOR. Oh, yes. And it is much better maintained. Our furniture has taken an awful beating.

You can get some idea, by looking at these tables here, of the beating the stuff has taken over the years. You walk into one of those places, and you think, "My golly, they must have just unloaded the furniture off the vans." They are just brand new.

When you go into one of those lounges there, it is quite different from this. I noticed when I sat down over there, that the arms of the chair just about lifted off; and that is quite customary around Oak Ridge. You would think, if you went into one of those lounges, that

the furniture had just been unloaded from the furniture manufacturer's truck.

Representative HOLIFIELD. These rooms are provided by the university for students only?

Mr. MINOR. For students only. And that is like the YMCA. At the YMCA you have a limit; 30 years old. That is all they will accommodate. They won't take anyone over 30 years of age. But those facilities were considered to be comparable for working people. You can do a lot different with students. I was a young student myself once, as practically all of us were. As a young fellow, making a bed or doing something like that didn't work a hardship. But when you come home tired at night to a place as messy as you left it in the morning, it is a pretty cold reception, particularly when the majority of the people living in dormitories are away from home. After all, they should be given an inviting atmosphere, rather than one that is cold, indifferent, and just not very pleasant.

One of the greatest things in our American life is mail. We made every effort, in both of the last wars, to make sure that the soldier got his mail as quickly as it could possibly be rushed to him. We have done that up and down the country on construction jobs. That is something that anyone with any heart in him at all has honored to the extent of making extreme efforts to get the individual's mail to him. Here the mail is delivered to the dormitories at 10 o'clock. That is the time the clerk goes off duty in the morning.

And we have had this case happen: You would happen to see the man, and you would say, "Have you any mail in there for me?"

The reply: "Can't tell you anything about it now. I am going off duty."

Of course, that leaves a man without a chance to get his mail, if he happens to be going off work in the morning hours, or sometime, until such time as he can catch the clerk on duty to get his mail.

Representative HOLIFIELD. Are you giving us a typical case? Is it not a fact that most of the people have already gone to work at 10 o'clock in the morning, and they have had a chance to inquire for their mail, and they will not have another chance until after 4 when they return?

Mr. MINOR. Let's say it this way: When the man goes out in the morning, the clerk is not on duty. There is no clerk there when I clear out of the dormitory in the morning, in a dormitory located in this area.

Representative PRICE. What time do the clerks go on duty?

Mr. MINOR. Let me see. They have shifted that a little bit. He is on duty now from 4 in the afternoon until 10 o'clock at night.

Representative HOLIFIELD. Four to nine, the chart says.

Mr. MINOR. They have changed that, you see. They have altered that picture.

Representative PRICE. What are his morning hours?

Mr. MINOR. I wanted to work back to that. I think now he comes on about 7 or 7:30 and is on until 8 o'clock.

Mrs. EDWARDS (Mrs. Alice Edwards, teacher, Oak Ridge schools). Mr. Minor, I checked that for you. There is no clerk on duty in the morning when the night clerk goes off at 6 o'clock. The matron who

supervises the maids and checks the linens is on duty at 8 o'clock, from 8 to 10, but she is not near the desk.

Representative HOLIFIELD. I was going to ask you why it has been found necessary to lock the mail up during those hours when there is no one at the desk. I notice you have little squares to put the mail in. Has it been found necessary for safety reasons to do that? Why could they not be left in the boxes for the men to come pick up?

Mr. MINOR. Whether the postal authorities would permit that or not, I do not know. However, that has been the rule from March 1 on: that the clerk receiving the mail will lock it up when he is not on duty. He puts it out in the boxes in the afternoon when he comes on duty. When he goes off duty at 10 o'clock, he goes back through the boxes and ties the mail up and puts it in the basket and carries it back to his room. That, of course, has been a factor that just doesn't set too well and doesn't make for good relations. We have tried every way in the world to get something done about that, and, through Mr. Franklin and Mr. Ford, we were politely and in a nice way told to mind our own business.

Representative DURHAM. If I sum up your statement correctly, Mr. Minor—and if I am wrong, say so—you are not objecting so much to the present charge, the rental, as to the services rendered. Is that correct?

Mr. MINOR. That is correct in this way: If we get full service for the money we are paying, then we are right back where we started, and that is the best place to be.

Representative DURHAM. You do not consider the \$15 per month rental too high?

Mr. MINOR. No, sir; not with all services. By comparison, it might be, but the residents of the dormitories will not complain if they can have the services restored to them at the rental that they have been paying. With the services removed, the rental should be reduced.

Representative DURHAM. Does that complete your statement?

Mr. MINOR. That would complete it, sir.

Representative DURHAM. Mr. Price, have you any questions?

Representative PRICE. No questions.

Representative DURHAM. Mr. Holifield?

Representative HOLIFIELD. Let us pursue the question of availability of similar quarters in the surrounding area. Let us assume that a person does not want to stay in the dormitories at the present price, or proposed price, and he wants to move out of the community. How far would he have to go to get any type of room?

Mr. MINOR. Well, the closest approach that we would have would be the village of Clinton.

Representative HOLIFIELD. How far is that, please?

Mrs. EDWARDS. Seven miles.

Mr. MINOR. I was going to say 8 miles, but someone said 7, and I believe that is right.

Representative HOLIFIELD. Is there bus service to Clinton?

Mr. MINOR. There is. I might say this, if it would be of advantage to you: There are 10,000 people working on the area who clear in and out, back and forth; people who go in and out of Oak Ridge daily.

Representative HOLIFIELD. Let us assume a person moves to Clinton. Are there single rooms available in Clinton in quantity enough to supply the demand?

Mr. MINOR. I doubt it.

Representative HOLIFIELD. There are no comparable facilities in Clinton?

Mr. MINOR. There are no comparable facilities outside of TVA, at Norris.

Representative HOLIFIELD. And that is too far away from here, of course.

Mr. MINOR. And not sufficient.

Representative HOLIFIELD. Otherwise they would have to go to Clinton, if there were rooms available; and there are no rooms available in Clinton.

Mr. MINOR. There might be a few.

Representative HOLIFIELD. But I mean there are not enough for all practical purposes.

Mr. MINOR. No.

Representative HOLIFIELD. What is the bus rate to Clinton?

Mr. MINOR. Forty-five cents.

Representative HOLIFIELD. One way or round trip?

Mr. MINOR. Round trip.

Representative HOLIFIELD. The bus rate to Clinton is 45 cents a round trip. What is the next closest town?

Mr. MINOR. Oliver Springs.

Representative HOLIFIELD. How far is that?

Mr. MINOR. That would be about the same distance, about 8 miles.

Representative HOLIFIELD. And we will assume the bus fare is about the same.

Mr. MINOR. I would take it that it would be about the same.

Representative HOLIFIELD. Let us assume there are two men working on the job here in Oak Ridge doing the same kind of work. One is living in the dormitory here at \$15 a month. The other one cannot find quarters here and he has to go to Clinton or some other surrounding community and rent a room. He probably has to pay a higher price, although he gets a better room. He has to pay a rental that is somewhat higher. He also has to pay the equivalent of \$15 a month bus fare, 50 cents a day.

Mr. MINOR. I will have to differ with you in one respect. He would get that room for a lower rate than is paid here. When we started to question this dormitory situation here, we advertised for rooms outside the area and got numbers of answers to them; and the answers were offering beautiful rooms that were available at a lower rate than we were paying here. Some people, some few people, did avail themselves of what was offered at that time. Particularly at Oliver Springs, there were facilities for some of the women residents.

Representative HOLIFIELD. Of course, when they added the price of their bus fare to the price of the room, it made it quite a bit more expensive. You have a matter of convenience here. Let us try to take into consideration all of the factors.

Mr. MINOR. If you would cross off the matter of convenience, you have this: You have a greater diversification of entertainment and merchandising at Oliver Springs or Clinton than you have here. The only matter of convenience that you have here is your location near your job. For that you must pay the premium of merchandising limitations and entertainment limitations.

Representative DURHAM. What do you have at Oliver Springs in the way of recreation? [Laughter.]

Mr. MINOR. In any small community in Tennessee, you have local entertainment that is participated in by the residents of that particular section.

Representative PRICE. There are 35,000 people here?

Mr. MINOR. There are 35,000 people here, scattered in five different villages. We could say six; but there are really five scattered villages, and this community that you are sitting in here is the center of operations. This is the biggest community we have.

You start with your East Village. Then you come down here to your Jackson Square. Then you move up, and you have Middletown, Grove Center. Last but not least, on the straight line, you have your East Village, where you have a grocery store, a motion-picture theater, a drug store, and an eatery.

Representative PRICE. I did not mean to interrupt, Mr. Holifield.

Representative HOLIFIELD. I think it is well to find this out. You made the statement that they have superior recreational facilities there. And I notice, as we go around here, that you have some nice ball fields, and athletic grounds. You have bowling alleys, and you have theaters, or at least one theater.

Mr. MINOR. We have a theater in each one of the separate and distinct communities, with the exception of East Village, and there are two villages that don't have theaters, and three that do.

Representative HOLIFIELD. It seems to me that you are rather overrating the recreational features of a small place like Clinton or Oliver Springs in comparison to this area.

I also notice that you have a lot of civic clubs here, softball teams, bowling teams, and that sort of thing.

Mr. MINOR. That is true. But you have things of that kind in every community. You spoke of softball fields, and baseball fields. There is not a high school in any community without there being recreational facilities.

Representative HOLIFIELD. I am not saying that you have superior facilities here. But they are comparable.

Mr. MINOR. They are comparable. But the main citation here of comparability is directed to a city of 135,000 population. Here you have nothing to compare with it. If I want to go to buy a shirt, I have a choice of two places. If I happen to be in Knoxville, I have a choice of 20 places where I can buy it. The same thing is true as to the choice of theaters. If I want to go to a picture show here, I have to wait maybe 6 months before a picture comes along that I haven't seen 2 years ago.

Representative DURHAM. How about the public utilities, such as light, water, heat, and so forth? You have not mentioned that. Is that satisfactory?

Mr. MINOR. The picture as to your light is this: If a bulb burns out in one of your dormitories, maybe 2 days later you will get it replaced. That happens very frequently in the washrooms. You go in there in the morning to shave to go to work. You can't see, so you crowd into the other facility, in the other half. You have then 140 people sharing one washroom, with four washbowls, because the light is out, and it will take 24 to 48 hours to get the light replaced.

You step in to take a shower. Maybe the faucets work and maybe they don't. The hot water has been running in the end shower for a week, because the faucet can't be turned off. So you are very clever if you can adjust the valves so that you won't get scalded, and still can take a lukewarm bath. That is part of the water and electricity situation.

As to the heat proposition, if you happen to live in the S dormitories, which are along the highway down here, your room is heated with a pipe that has fins on it. There is no control within the room, and there is no control within the dormitory. If tonight it should turn cold, after being an extremely warm day, it would take until tomorrow night at least to get the heat turned on. That is the comparable picture. And to get that picture, you need to ask the residents within the dormitories themselves.

After the heat has been turned on tomorrow night, which is about the time that our weather starts to change to warm weather again, you will roast for 24, 36, or 48 hours, until a man comes around and turns it off.

Actually, Roane-Anderson, the operating company, knows all about operating controls, and some of these dormitories no doubt have had them on at night. But they don't function. You have to have the man come around and turn it on and turn it off for you. You can go around here on a warm day, just after a cold spell, and you will find all the windows open in the recreation room, or the lounge room, and the heat going full blast. About 10 minutes is all you can take it inside. You will have to get out, because there is no control of the heat.

Then there is the feature of those rooms in which they have the warm-air system. If you are located on the ground floor, you have pretty good control of your heat, and you are not too badly fixed, but if you happen to be in the upstairs back wing and somebody has opened a window a hundred feet or 60 feet from you, every time the blower starts, you have about 20 minutes of extremely cold air blowing on your neck. And there is no way you can duck it unless you stand directly under the register during the time the blower is on.

Representative DURHAM. I ask the question, Mr. Minor, for this reason: You realize, if you have had any experience in running a private home in the last 2 years, that services like that have increased tremendously in the matter of cost of labor. For instance, when I call a plumber now to fix a valve in my house, he charges me for a full hour, \$2.25.

Mr. MINOR. There is a picture here that we might consider at this time.

Representative DURHAM. I am trying to bring this out from the standpoint of the over-all picture.

Mr. MINOR. I understand. These dormitories could not be built today for what you originally paid for their construction, what they originally cost the Army. You will say that is a tremendous figure, but actually if you check your construction costs, you could not build them today for anything like that. However, the plumbing in them should have been replaced if the dormitories were to be used. And they should be used. But regardless of whatever plans are ahead for the future, or anything else, you cannot, with all the factors involved, go out and build what you have there for the money that was originally expended on them.

But, as we mentioned, as to the water and the light, when you go into the YMCA or when you go into the dormitories of the University of Tennessee, you open a spigot and the water actually comes out of it in fine shape. When you close the spigot, it actually closes off. When you regulate one, you really can regulate it. It is surprising to people going there from Oak Ridge to find that the turning-on-and-off process is such that they all turn exactly as they should; whereas here you try to open your spigot and you find you are turning it the wrong way. They are in reverse in most of the cases.

Representative DURHAM. How was the committee that you represent formed?

Mr. MINOR. Originally the thing was like Topsy. When this picture was portrayed in these notices that were put into the dormitory residents' boxes, the place was a hive of angry protest.

Representative DURHAM. Do you feel that it represents a majority of the residents of the dormitory?

Mr. MINOR. I was going to go ahead and tell you exactly about that. These are the memorandums that were issued at the outset of this thing by the Moore Co., the Roane-Anderson Co., and so forth. There is the original picture. And these are the latest rules which have been posted.

Now to get the picture of what took place in the formation of this: A group met at the American Legion. It was just an angry protesting mob whose toes had been stepped on; whose rights had been invaded. And nothing was said: "Here it is. Like it or lump it. You have got it."

So from that, there was a notice in the paper that a meeting was to be held at a given time and place for representatives of all dormitories to attend. And as a dormitory resident, belonging to no group, affiliated with no group, I went over to see what it was all about. It was not a case of whether I could well afford, which I could, to pay \$7.50 more. It was not a matter of affording it. It was that I didn't like something crammed down my neck, any more than you or any other good American would. And I heard various people offer suggestions and speak of their feelings on the matter. The chairman who was operating at the time was one of the councilmen of the community. They were asking for a suggestion. I made a suggestion as to how I would move, if it were me, in the case. And folks jumped up from all around the room and said, "That is the man we want for chairman of the central group."

An election was held from those representatives of the various dormitories who were there, and I was elected their chairman. I instructed those people at that meeting to go back to their dormitories and bring in from each dormitory a duly elected committee to represent each dormitory on that central group.

That, of course, is the way the thing has evolved. The various dormitories have had their acting committee people, who have attended; one, two, and sometimes three representatives from the individual dormitory have come to the Central Dormitory Committee meeting. They, of course, carried back to the dormitory where they lived, the portrayal of whatever moves the central group was making.

Representative DURHAM. You do represent the majority, then, of the dormitory residents?

Mr. MINOR. We feel that we do; yes, sir.

Representative DURHAM. You feel that you do.

Mr. MINOR. That is right; having representation from each dormitory, elected by that dormitory, we have every reason to feel that we represent the majority of the dormitory residents.

Representative DURHAM. Any further questions, Mr. Price?

Representative PRICE. How long have you lived at Oak Ridge, Mr. Minor?

Mr. MINOR. About a year and 2 months.

Representative PRICE. What would you say are the average monthly earnings of the people who live in these dormitories?

Mr. MINOR. Well, I might differ a little bit with the table that is given by Mr. Wilson, there. Mr. Wilson has attached to his letter a table showing what the estimated average earnings of the resident of a dormitory are. I think he is a little bit optimistic, because there are clerks, and there are people who work in homes, and there are people who work as sales clerks in stores, and there are bus drivers. Everybody lives in dormitories, from whatever walk of life. There are engineers, scientists, and so forth, all living in the dormitories.

So I would be a little bit inclined to get down around \$1,600 or \$1,800 a year, which I believe is quite a bit under what Mr. Wilson states there. After all, his is only an estimate, and so is mine.

Representative PRICE. In his estimate of income of the dormitory residents, he indicates that 13.6 percent of the dormitory residents have average annual earnings of under \$2,000 a year, and the next three categories, running from \$2,000 up to \$3,500, have about 68 percent.

Mr. MINOR. He clearly gives that as an estimate.

Representative PRICE. Yes; he only makes the claim that it is an estimate.

Mr. MINOR. That is all I am doing.

Representative PRICE. But we must assume that he has access to the pay rolls.

Mr. MINOR. In that case, it would be accurate. It would be a statement of fact, not an estimate.

Representative PRICE. What type of work do you do here?

Mr. MINOR. I am a civil engineer. I do estimating.

Representative HOLIFIELD. At the rates given here, according to the regular accepted schedules of rent charged in relation to income, I would say that your \$15 or \$20 a month rent was very cheap, compared to the amount that would be paid in a city, ordinarily.

Mr. MINOR. Well, I have been the owner of property in this section of Tennessee and in the central section of Tennessee, and when I rented the property to a man I never asked him what his income was, and he probably would have been insulted if I did. The income of the prospective tenant is not a part of a rental agreement.

Representative HOLIFIELD. No. That is true.

Mr. MINOR. I owned apartments and real estate in this section of Tennessee at the time that this plant was conceived.

Representative HOLIFIELD. Do you own property now?

Mr. MINOR. Not in this particular section.

Representative PRICE. Where is your home?

Mr. MINOR. Twenty-eight miles west of Nashville.

Representative PRICE. You are a native of this area, then?

Mr. MINOR. That is right. I am a Tennessean. I wasn't born in Tennessee. My people came from Virginia.

Representative HOLIFIELD. You do not live here in this city?

Mr. MINOR. I live on the area. I live in the same type of dormitory that the rest of them live in, with the exception that they have the word "hotel" stuck on it. But it is nothing but an S-type dormitory. I pay \$50 a month for a room that has never known paint except for the border around the ceiling.

Representative PRICE. I notice some mention of the \$50 rooms. Where are they?

Mr. MINOR. They are at Rutherford Hall.

I have an idea that this is the difference between a \$50 room at Rutherford Hall and anywhere else: On the days when you have hot water, you have no lights, and on the days when you have lights, you have no hot water. Yesterday and today we had no hot water. The 2 days before that, we had no lights. [Laughter.]

So that possibly is the difference.

I lived at Cambridge Hall down here last year, and that cost me \$25 a month, for a far superior room to what I get at Rutherford for \$50. And, of course, the only reason that I did not go back to Cambridge Hall was the fact that I could not get a room there. My room was vacant when I came back here to get it, but it had been blocked off. So it remained vacant.

Representative HOLIFIELD. These rates are the original rates?

Mr. MINOR. Those that were established by the Army. You will get some contradictions, perhaps, on that \$30 rate, but that rate was established by the Army for dual occupation of the Cambridge Hall.

Representative HOLIFIELD. It is true that throughout the Nation the rent-control authorities have recognized, and Congress has recognized, that certain percentage increases were due to the landlords for the same quarters. There have been several raises, 15 percent raises, and so on, throughout the last 3 or 4 years as a result of that recognition.

Mr. MINOR. Might I ask you this question, at this point.

Inasmuch as all the leading officials of AEC have stated that the only item that is to be considered is comparability, is that not the basis for any change of rate structure?

Representative HOLIFIELD. If they say so, I assume that you are right.

Mr. MINOR. You have the letters there, in which you have Mr. Lilienthal, Mr. Pike, Mr. Wilson, Mr. Williams, on record, and in the letter that the chairman has there is a transcript of our meeting with Mr. Ford, and you will find Mr. Ford saying the same thing.

(The letters referred to are as follows:)

UNITED STATES ATOMIC ENERGY COMMISSION,  
Washington 25, D. C., March 30, 1949.

HON. ALEXANDER WILEY,  
United States Senate, Washington 25, D. C.

DEAR SENATOR WILEY: Reference is made to your letters of February 23 and 24 which concern the dormitory situation at Oak Ridge, Tenn. These letters were transmitted to Mr. Tighe E. Woods, Housing Expediter, and have been referred through the Administrator, Housing and Home Finance Agency, to the Commission as a matter coming under its jurisdiction.

There are in operation at Oak Ridge 14½ dormitories which house a little more than 2,000 residents at Oak Ridge. The Roane-Anderson Co. operates the town of Oak Ridge for the Commission on a contract basis and receives an

over-all fee for this work that is not changed by adjustments in rents or services for such operations as the dormitories. Roane-Anderson on February 1, 1948, subcontracted the operations of certain dormitories in Oak Ridge to the James H. Moore Co. on a lump-sum basis after receiving competitive bids. Under the terms of the subcontract the Moore Co. is responsible for routine maintenance work but the Roane-Anderson Co. continues to perform certain major maintenance work. Renegotiation of this contract does not increase rental charges to dormitory residents but curtails some of the services previously provided and eliminates others.

The Commission has recently adopted the policy of charging rents and supplying services which approach those prevailing in the vicinity of Commission installations. This action of the Commission was taken in order to approach conditions existing in normal communities in the country and to reduce discrepancies in rents paid by employees living on and off the site. Careful study was made by the Commission of the rents charged and services provided for comparable accommodations in the vicinity of Oak Ridge. Specific action of curtailing or eliminating services to dormitory residents at Oak Ridge was based on the results of the study.

Some reduction of expense in operating the dormitories will result. However, the estimated savings in cost of operating the dormitories resulting from the curtailed services which became effective on March 1 will not accrue to the Moore Co. but to the Commission. Under the old basis of operating the dormitories prior to March 1, 1949, the cost to the Commission was estimated at approximately \$278,099 per annum. It is estimated that the new basis of operation will reduce this cost to approximately \$148,119 per annum.

Any further information concerning this situation will be supplied at your request.

The enclosures which were attached to your letters are returned with this letter as was requested.

Sincerely yours,

UNITED STATES ATOMIC ENERGY COMMISSION,  
DAVID E. LILIENTHAL, *Chairman*.

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UNITED STATES ATOMIC ENERGY COMMISSION,  
*Washington 25, D. C., March 30, 1949.*

Hon. R. E. JONES, Jr.,

*House Office Building, Washington 25, D. C.*

DEAR CONGRESSMAN JONES: Reference is made to your letter of February 21, 1949, enclosing a letter from W. H. Minor, chairman, Central Committee of Oak Ridge Dormitory Residents, concerning the Oak Ridge dormitory rental problem.

There are in operation at Oak Ridge 14½ dormitories which house a little more than 2,000 residents at Oak Ridge. The Roane-Anderson Co. operates the town of Oak Ridge for the Commission on a contract basis and receives an over-all fee for this work that is not changed by adjustments in rents or services for such operations as the dormitories. Roane-Anderson on February 1, 1948, subcontracted the operations of certain dormitories in Oak Ridge to the James H. Moore Co. on a lump-sum basis after receiving competitive bids. Under the terms of the subcontract the Moore Co. is responsible for routine maintenance work but the Roane-Anderson Co. continues to perform certain major maintenance work. Renegotiation of this contract does not increase rental charges to dormitory residents but curtails some of the services previously provided and eliminates others.

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Any further information concerning this situation will be supplied at your request.

Sincerely yours,

CARROLL L. WILSON, *General Manager.*

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UNITED STATES ATOMIC ENERGY COMMISSION,  
*Washington 25, D. C., March 31, 1949.*

MR. SAMUEL B. WARDEN,  
*Recording Secretary, Atomic Trades and Labor Council,  
Oak Ridge, Tenn.*

DEAR MR. WARDEN. Reference is made to your letter of February 21, 1949, to the President, Hon. Harry S. Truman, concerning the dormitory situation at Oak Ridge, Tenn. This letter was referred to the Atomic Energy Commission for reply.

There are in operation at Oak Ridge 14½ dormitories which house a little more than 2,000 residents at Oak Ridge. The Roane-Anderson Co. operates the town of Oak Ridge for the Commission on a contract basis and receives an over-all fee for this work that is not changed by adjustments in rents or services for such operations as the dormitories. Roane-Anderson on February 1, 1948, subcontracted the operations of certain dormitories in Oak Ridge to the James H. Moore Co. on a lump-sum basis after receiving competitive bids. Under the terms of the subcontract the Moore Co. is responsible for routine maintenance work but the Roane-Anderson Co. continues to perform certain major maintenance work. Renegotiation of this contract does not increase rental charges to dormitory residents but curtails some of the services previously provided and eliminates others.

The Commission has recently adopted the policy of charging rents and supplying services which approach those prevailing in the vicinity of Commission installations. This action of the Commission was taken in order to approach conditions existing in normal communities in the country and to reduce discrepancies in rents paid by employees living on and off the site. Careful study was made by the Commission of the rents charged and services provided for comparable accommodations in the vicinity of Oak Ridge. Specific action of curtailing or eliminating services to dormitory residents at Oak Ridge was based on the results of the study. Some reduction of expense in operating the dormitories will result. However, the estimated savings in cost of operating the dormitories resulting from the curtailed services which became effective on March 1 will not accrue to the Moore Co. but to the Commission.

Any further information concerning this situation will be supplied at your request.

Sincerely yours,

WALTER J. WILLIAMS,  
*Director of Production.*

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UNITED STATES ATOMIC ENERGY COMMISSION,  
*April 4, 1949.*

HON. LYNDON B. JOHNSON,  
*United States Senate, Washington 25, D. C.*

DEAR SENATOR JOHNSON: Reference is made to your referral of a letter from W. H. Minor, Chairman, Central Committee, Oak Ridge, Tenn., and facts pertinent to Oak Ridge dormitories. This letter and listing of facts concerned recent action by the Commission in eliminating or curtailing certain services in connection with the dormitory operations at Oak Ridge, Tenn.

There are in operation at Oak Ridge 14½ dormitories which house a little more than 2,000 residents at Oak Ridge. The Roane-Anderson Co. operates the town of Oak Ridge for the Commission on a contract basis and receives an over-all fee for this work that is not changed by adjustments in rents or services for such operations as the dormitories. Roane-Anderson on February 1, 1948, subcontracted the operations of certain dormitories in Oak Ridge to the

James H. Moore Co. on a lump-sum basis after receiving competitive bids. Under the terms of the subcontract the Moore Co. is responsible for routine maintenance work but the Roane-Anderson Co. continues to perform certain major maintenance work. Renegotiation of this contract does not increase rental charges to dormitory residents but curtails some of the services previously provided and eliminates others.

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Some reduction of expense in operating the dormitories will result. However, estimated savings in cost of operating the dormitories resulting from the curtailed services which became effective on March 1 will not accrue to the Moore Co. but to the Commission.

Under the old basis of operating the dormitories prior to March 1, 1949, the cost to the Commission was estimated at approximately \$278,000 per annum. It is estimated that the new basis of operating will reduce this cost to approximately \$148,119 per annum.

Any further information concerning this situation will be supplied at your request.

The enclosures which were attached to your letter are returned with this letter as was requested.

Sincerely yours,

UNITED STATES ATOMIC ENERGY COMMISSION,  
SUMNER T. PIKE, *Acting Chairman*.

So we have all of the leading officials of AEC stating that. The introduction of any additional figures, the addition of anything except comparability, seems to me to be lost motion. For they are on record. And I have read to you the statements of people here that comparability is the only thing.

Representative DURHAM. Well, Mr. Minor, we have given you about an hour and 10 minutes, and we have other witnesses to be heard.

I believe if there are no other questions, we will proceed with the next witness.

Mr. MINOR. Thank you, Mr. Chairman.

Representative DURHAM. I believe Mrs. Edwards is the next witness to be heard.

Will you tell us who you are, and whom you represent?

#### STATEMENT OF MRS. ALICE EDWARDS, SCHOOL TEACHER, JEFFERSON JUNIOR HIGH SCHOOL, OAK RIDGE, TENN.

Mrs. EDWARDS. I am Mrs. Alice Edwards, a school teacher, from Jefferson Junior High School, and I am representing women dormitory residents.

Representative DURHAM. Have you a prepared statement that you want to read to the committee?

Mrs. EDWARDS. Mr. Durham, I would like to continue the argument which Mr. Minor has started in presenting our ideas of comparability. Then, if I may, I would like to digress and talk about another angle of dormitory life in Oak Ridge, if you will allow me.

Representative DURHAM. He has covered comparability pretty thoroughly, and if you have something new to introduce, I would suggest that you proceed along that line, unless you feel that there is something that you can add to the matter of comparability.

Mrs. EDWARDS. I would like to add one point to what Mr. Minor said.

Representative DURHAM. You may proceed and then take up the other question that you have in mind.

Mrs. EDWARDS. One additional thought should be added, and that is related to the picture of comparability. The dormitories at the University of Tennessee are available only to the students at the university. The rooms at the YMCA in Knoxville are available only to people 30 years of age or under. The dormitories at Watauga Dam are available only to the workers on the dam. The dormitories at Oak Ridge, on the other hand, are open to all workers, students, and others, having business in or doing business in Oak Ridge.

In this respect, and in this respect only, they are similar, though not comparable to Knoxville hotels.

Representative DURHAM. Right at that point, Mrs. Edwards: Who selects the residents for the women's dormitories? If a store clerk comes in, and you have a room available, you rent it to her? If a teacher comes here, and you have a room, you rent it to her?

Mrs. EDWARDS. All single people, Mr. Durham, must live in dormitories in Oak Ridge. There is no other recourse. If we want apartments, and we are single, we are penalized for that.

Representative DURHAM. There are no special dormitories set aside for teachers?

Mrs. EDWARDS. No, and none for single people. They must live in the dormitories with the others.

Now I would like to present another point, which seems a very important point to those of us who live in the dormitories.

I think all people, all of us, should be concerned with the fact that the individual is the most precious thing on earth. This is the cardinal principle of democracy, the cardinal democratic concept. How could we, in the Oak Ridge dormitories, suffer injustice, discrimination, or class struggle, if the people in AEC, Roane-Anderson, and the J. H. Moore Co., set a high value on human beings? Why shouldn't we here in Oak Ridge be allowed to choose the type of housing that we wish to have? Why is a person told, when he makes application for housing, that he is not important enough; that his salary or his contribution in his job merits one kind of housing or another; or that he doesn't know the right kind of people, or the "right people," who might secure for him a better type of housing?

Representative DURHAM. Is that not kind of a characteristic of Government employment?

Mrs. EDWARDS. I do not know. But it is a characteristic here.

Why shouldn't my Government honor my ambition to live in the best house that Oak Ridge affords, if I can pay the rent, even if I work on the garbage force? Doesn't this practice, this class distinction in Oak Ridge revert to the feudal system, and does it not conflict with all American ideals and democratic principles for which two young men in my family and thousands of others like them gave their last full measure of devotion in our last war?

Dormitory residents in Oak Ridge have contributed a great service here during and since the war. They have worked long hours, many times in a dangerous situation. They return to their dormitory rooms, very small, unattractive, bare rooms, with uncomfortable furniture, either overheated or too cold, to rest, in extreme noise, so that the job may have a worker the next day.

The human touch is nonexistent in the life of an Oak Ridge dormitory resident. I think that we need to stress again the importance of saving money by correcting in Oak Ridge indiscriminate waste, duplication of service, 2 and 3 and often 6, 8, and 10 men piddling along on one small insignificant job, such as putting in a light bulb, putting out rat poison, screwing in or tightening a water faucet. A great many dollars are being wasted every day in Oak Ridge. We in the dormitories are paying the piper.

Our services have been taken away from us. If a fire should come, there would not be a chance, during the time that there is no clerk, of saving human lives.

A girl next door to me, a month ago went away and left her iron on in her room. She had been pressing where she shouldn't have pressed. We have a great many types of individuals in the dormitories. I smelled something burning. I rushed frantically into the halls to try to locate it. I happened to be present. The clerk was on duty but in a different place. We searched for her until she came running and unlocked the door. There was a ball of fire that greeted us. In 10 more minutes, my wall, where my room is located, and where my clothes are hanging in closets without doors, would have been in flames.

When we take off the service, we put every person, 2,000 people, in a dangerous situation. When we take away the maid service some people will clean their rooms. A great many people do not have time to do that. So we will have filth and disease and bugs and all the other things that make life in a dormitory unbearable.

Representative DURHAM. Does that complete your statement?

Mrs. EDWARDS. I have digressed to talk about another angle. I think Mr. Minor has completely covered the comparability angle, and others will pick up from there.

Representative DURHAM. Any questions? Mr. Holifield?

Representative HOLIFIELD. No questions.

Representative DURHAM. Mr. Price?

Representative PRICE. No questions.

Representative DURHAM. Thank you very much for your statement, Mrs. Edwards.

Mrs. EDWARDS. Thank you.

Representative DURHAM. Is there any more representation here of the dormitory committee?

We can give you 5 minutes, if you would like to come around, the two of you.

Have a seat and give your name to the stenographer.

#### STATEMENT OF MYER BENDER, REPRESENTING BOONE HALL DORMITORY RESIDENTS, OAK RIDGE, TENN.

Mr. BENDER. My name is Myer Bender.

Representative DURHAM. And whom do you represent?

Mr. BENDER. I represent the Boone Hall Dormitory residents. I have been living in Boone Hall for the past 2 years. Prior to that I lived in Covington Hall. and before that I was a member of the armed forces here in Oak Ridge.

I have watched the dormitory situation grow from its inception, almost. I have seen it grow from the time when this community was

trying to house 75,000 people, to a point where now we have a group of 2,000 residents able to live in dormitories which encompass the entire area; of which fact you gentlemen are surely aware.

There is in Oak Ridge sufficient dormitory space to house every available single person on this area if those persons desired to live there. The question has been raised whether we are not penalizing the individuals who live outside of the area by having rental rates which are comparable to those on the outside of the area, though these rates are made available in Oak Ridge, close to the working area. I say to you that the area which we live in has sufficient facilities to house those people, and that they are not being handicapped by such facilities. Consequently, any claims on that basis, I think, are unfounded.

Representative HOLIFIELD. You base that argument on the premise that if they wanted to, they could get space here and they go out as a matter of choice?

Mr. BENDER. Yes, sir.

Representative HOLIFIELD. In other words there are in existence now enough vacant dormitory rooms to give to these single people who are going outside to live.

Mr. BENDER. Yes, sir; more than three times enough.

I have here some questionnaires, which I do not intend to explain or to go into deeply, because I feel Mr. Minor has gone into it very well. It is a questionnaire which I would like you gentlemen to look at, and to comment upon, if you please, or to take with you; and to ask the AEC or the Roane-Anderson Co., or whomsoever you choose whether such a document as this is not a real study of comparability, and, if so, whether such a study was made. We have on numerous occasions asked the people involved to present truthfully to us the study of comparability which they have made; and the greatest amount of information we have been able to obtain, although this thing is certainly directly affecting us more than anyone else, is this brief resume of comparability which was sent to the several members of Congress, and which you have in your exhibits there.

Representative PRICE. Who circulated this questionnaire?

Mr. BENDER. This questionnaire was prepared by the central dormitory committee. And I must admit that we were unable to get enough information in it to present you gentlemen with a full report because of the fact that we were acting in an unofficial capacity. However, I feel that in any study of comparability it would be quite possible for any certified consulting firm to obtain this information, and I believe they should do that.

Representative PRICE. But to whom did you send the questionnaire?

Mr. BENDER. They were sent to various hotels, to YMCA's throughout Tennessee and Virginia. Some of them replied; others did not. We did not have complete information, and could not get complete information to compile a complete summary. It would not have been fair, because we didn't get answers to all of them. However, if such a survey is to be made, it should be presented to the dormitory residents so that they can better understand how this thing can come about. As it is now, I think Mr. Minor has shown very well that the issue of comparability has not been settled by this little summary which was prepared by Mr. Wilson, and therefore the situation is certainly not clarified as yet.

Representative HOLIFIELD. Your thought, in showing us this, is to demonstrate that if such a system were followed, they would have a true picture? And you infer that no such system was followed in the chart which was presented to us?

Mr. BENDER. I have no way of knowing that, sir, but I certainly don't think so.

Representative DURHAM. A copy of this will go in the record.

Does that finish your statement?

Mr. BENDER. Yes, sir.

Representative DURHAM. Thank you very much.

(The questionnaire referred to is as follows:)

OAK RIDGE RESEARCH GROUP  
QUESTIONNAIRE

NAME OF FACILITIES \_\_\_\_\_

O. No.??.....

CITY \_\_\_\_\_

TELEPHONE No. ....

STATE \_\_\_\_\_

INSTRUCTIONS

PLACE CHECK MARK ☒ OR ☐ IN SQUARE THAT APPLIES TO FACILITIES OFFERED.

INSERT FIGURES IN SQUARES THAT APPLY TO THE FACILITIES OFFERED TO INDICATE RATES,

SIZES OR NUMBER OF ITEMS OR SERVICES OFFERED, AS \$12.00 . 12x14 . 4 . 0, ETC

RATES	PER WK. SINGLE	PER NO. SINGLE	PER WK. DOUBLE	PER NO. DOUBLE	OTHER SPECIFY	OTHER		
AVERAGE ROOM SIZE	9 x 6	9 x 9	9 x 10	10 x 10	9 x 12			
ITEM WALLS	YES	NO	ITEM BUILDING EXTERIOR	YES	NO	ITEM CARPET OR RUG COVERED FLOOR	YES	NO
SOUND CONVEYING	<input type="checkbox"/>	<input type="checkbox"/>	WOOD	<input type="checkbox"/>	<input type="checkbox"/>	SHADES AT WINDOWS	<input type="checkbox"/>	<input type="checkbox"/>
SOUND PROOF	<input type="checkbox"/>	<input type="checkbox"/>	BRICK	<input type="checkbox"/>	<input type="checkbox"/>	VENETIAN BLINDS AT WINDOWS	<input type="checkbox"/>	<input type="checkbox"/>
PLASTER	<input type="checkbox"/>	<input type="checkbox"/>	STONE	<input type="checkbox"/>	<input type="checkbox"/>	DRAPES AT WINDOWS	<input type="checkbox"/>	<input type="checkbox"/>
PRESSED WOOD	<input type="checkbox"/>	<input type="checkbox"/>	OTHER INDICATE	<input type="checkbox"/>	<input type="checkbox"/>	HALL FLOORS BARE	<input type="checkbox"/>	<input type="checkbox"/>
PAINTED	<input type="checkbox"/>	<input type="checkbox"/>	IRON FIRE ESCAPES	<input type="checkbox"/>	<input type="checkbox"/>	HALL FLOORS LINOLEUM COVERED	<input type="checkbox"/>	<input type="checkbox"/>
PAPERED	<input type="checkbox"/>	<input type="checkbox"/>	ELEVATOR	<input type="checkbox"/>	<input type="checkbox"/>	HALL FLOORS CARPETED	<input type="checkbox"/>	<input type="checkbox"/>
FIREPROOF	<input type="checkbox"/>	<input type="checkbox"/>	ROOM COMMUNICATING SYSTEM	<input type="checkbox"/>	<input type="checkbox"/>	ROOMS CLEANED DAILY	<input type="checkbox"/>	<input type="checkbox"/>
PRIVATE LAVATORY	<input type="checkbox"/>	<input type="checkbox"/>	SIMPLE BUZZER	<input type="checkbox"/>	<input type="checkbox"/>	ROOMS CLEANED 3 TIMES / WK.	<input type="checkbox"/>	<input type="checkbox"/>
COMMUNITY LAVATORY	<input type="checkbox"/>	<input type="checkbox"/>	BUZZER AND ANNOUNCATOR	<input type="checkbox"/>	<input type="checkbox"/>	ROOMS CLEANED TWICE PER WK.	<input type="checkbox"/>	<input type="checkbox"/>
PRIVATE TOILET	<input type="checkbox"/>	<input type="checkbox"/>	ROOM TO DESK TELEPHONE	<input type="checkbox"/>	<input type="checkbox"/>	ROOMS CLEANED ONCE PER WK.	<input type="checkbox"/>	<input type="checkbox"/>
PRIVATE SHOWER	<input type="checkbox"/>	<input type="checkbox"/>	PHONE TO DESK AND OUTSIDE	<input type="checkbox"/>	<input type="checkbox"/>	IS SOAP SUPPLIED	<input type="checkbox"/>	<input type="checkbox"/>
COMMUNITY SHOWER	<input type="checkbox"/>	<input type="checkbox"/>	FLOORS WOOD FLOORS	<input type="checkbox"/>	<input type="checkbox"/>	CLERK ON DUTY 24 HRS. / DAY	<input type="checkbox"/>	<input type="checkbox"/>
PRIVATE TUB	<input type="checkbox"/>	<input type="checkbox"/>	CONCRETE FLOORS	<input type="checkbox"/>	<input type="checkbox"/>	CLERK ON DUTY 18 HRS. / DAY	<input type="checkbox"/>	<input type="checkbox"/>
COMMUNITY TUB	<input type="checkbox"/>	<input type="checkbox"/>	ASPHALT TILE OR LINOLEUM COVERED FLOOR	<input type="checkbox"/>	<input type="checkbox"/>	CLERK ON DUTY 12 HRS. / DAY	<input type="checkbox"/>	<input type="checkbox"/>
			SMALL RUG ON FLOORS	<input type="checkbox"/>	<input type="checkbox"/>			

(OVER)

## OAK RIDGE DORMITORY FACILITIES

PLEASE INDICATE UNITS OF THE FOLLOWING SUPPLIED IN EACH ROOM BY PLACING THE NUMBER OF UNITS IN THE PROPER SQUARE. PLACE A CYPHER IN THE SQUARE FOR ITEMS NOT SUPPLIED, AS 0.

ITEM	NO. OF	ITEM	NO. OF	ITEM	NO. OF
FLOOR LAMPS	<input style="width: 30px; height: 20px;" type="text"/>	2 DRAWER DRESSER NO MIRROR	<input style="width: 30px; height: 20px;" type="text"/>	DRESSING TABLE NO MIRROR	<input style="width: 30px; height: 20px;" type="text"/>
TABLE LAMPS	<input style="width: 30px; height: 20px;" type="text"/>	3 DRAWER DRESSER NO MIRROR	<input style="width: 30px; height: 20px;" type="text"/>	DRESSING TABLE WITH MIRROR	<input style="width: 30px; height: 20px;" type="text"/>
WALL LIGHTS	<input style="width: 30px; height: 20px;" type="text"/>	2 DRAWER DRESSER WITH MIRROR	<input style="width: 30px; height: 20px;" type="text"/>	BEDS PER ROOM	<input style="width: 30px; height: 20px;" type="text"/>
CEILING LIGHTS	<input style="width: 30px; height: 20px;" type="text"/>	3 DRAWER DRESSER WITH MIRROR	<input style="width: 30px; height: 20px;" type="text"/>	CHECK	BED SIZE
BED LAMPS	<input style="width: 30px; height: 20px;" type="text"/>	CLOTHES CLOSET WITH CURTAIN	<input style="width: 30px; height: 20px;" type="text"/>	2'x6" x 6'x0"	<input style="width: 30px; height: 20px;" type="text"/>
WALL MIRROR	<input style="width: 30px; height: 20px;" type="text"/>	CLOTHES CLOSET WITH DOORS	<input style="width: 30px; height: 20px;" type="text"/>	2'x8" x 6'x0"	<input style="width: 30px; height: 20px;" type="text"/>
WRITING TABLE SMALL	<input style="width: 30px; height: 20px;" type="text"/>	NUMBER OF PILLOWS PER BED	<input style="width: 30px; height: 20px;" type="text"/>	3'x0" x 6'x0"	<input style="width: 30px; height: 20px;" type="text"/>
WRITING TABLE LARGE	<input style="width: 30px; height: 20px;" type="text"/>	NUMBER OF WINDOWS PER ROOM	<input style="width: 30px; height: 20px;" type="text"/>	3'x0" x 6'x0"	<input style="width: 30px; height: 20px;" type="text"/>
2 DRAWER CHEST	<input style="width: 30px; height: 20px;" type="text"/>	NUMBER OF FACE TOWELS SUPPLIED PER WEEK	<input style="width: 30px; height: 20px;" type="text"/>	4'x0" x 6'x0"	<input style="width: 30px; height: 20px;" type="text"/>
3 DRAWER CHEST	<input style="width: 30px; height: 20px;" type="text"/>	BED LINEN CHANGED EVERY DAY	<input style="width: 30px; height: 20px;" type="text"/>	5'x0" x 6'x0"	<input style="width: 30px; height: 20px;" type="text"/>
4 DRAWER CHEST	<input style="width: 30px; height: 20px;" type="text"/>	EVERY 2ND DAY	<input style="width: 30px; height: 20px;" type="text"/>	OTHER - GIVE SIZES BELOW	
5 DRAWER CHEST	<input style="width: 30px; height: 20px;" type="text"/>	TWICE A WEEK	<input style="width: 30px; height: 20px;" type="text"/>	<div style="border: 1px solid black; width: 150px; height: 20px; display: inline-block;"></div> <input style="width: 30px; height: 20px;" type="text"/>	
		ONCE A WEEK	<input style="width: 30px; height: 20px;" type="text"/>		
		NUMBER OF BATH TOWELS SUPPLIED PER WEEK	<input style="width: 30px; height: 20px;" type="text"/>		

Representative DURHAM. We have one more member of the central committee to appear. Is that correct?

Will you come forward and state your name, please?

### STATEMENT OF ELIZABETH HILL, REPRESENTING RESIDENTS OF COLUMBIA HALL, OAK RIDGE, TENN.

Miss HILL. Miss Elizabeth Hill.

Representative DURHAM. Whom do you represent?

Miss HILL. I represent the residents of Columbia Hall.

Representative DURHAM. You may have a seat, Miss Hill, and proceed with your statement.

Miss HILL. As representing the residents of one of the Oak Ridge dormitories, and being familiar with the known history of the present issue, and having formerly lived in a college dormitory at the University of Tennessee, I, like many others, must take exception to the attempt to draw a picture of comparability between the facilities offered at Oak Ridge and the facilities that have been cited as comparable either in Washington, D. C., or in the Knoxville area.

The location alone would warrant a higher note of rent if, indeed, a higher note was asked; and, of course, a comparable note would be justified when measured alongside of the facilities offered at Oak Ridge. But even this is not true in the majority if not in all cases, for the rental asked is lower than or the same as we are paying here at Oak Ridge, while the facilities and services are far superior to anything that we have had or could hope to have.

Mail is one of the most important issues, and we do get it here at 10 o'clock in the morning. I believe Mr. Minor has already brought that out. But we can't get it until 4 o'clock in the afternoon. Many of us have already gone to work in the mornings when the mail arrives; and unless we are there between the hours of 4 and 10 we cannot get that mail, because the shift workers may not be able to do that if they work on the night shift.

Another annoyance that has recently been introduced is the \$2 fee for moving. I quote: "If the room to which you are assigned should prove to be unsuitable for any reason, and if you desire to move to a vacant room that promises to be more suitable, you are assessed a fee of \$2 if the move is approved."

However, if it is desired to close the dormitory in which you live, or if for any reason the dormitory operator wants you to move, you must move at your own expense, and there is no pay coming for the extra work that is involved to you of moving.

Representative DURHAM. How long have you been living here?

Miss HILL. I have been living here 8 months.

Representative DURHAM. What is your profession? Do you teach?

Miss HILL. I am a teacher.

Representative DURHAM. Any questions, Mr. Holifield?

Representative HOLIFIELD. No questions.

Representative DURHAM. Mr. Price?

Representative PRICE. No questions.

Representative DURHAM. Thank you, Miss Hill.

Miss HILL. Thank you.

Representative DURHAM. Does that complete your witnesses, Mr. Minor?

Mr. MINOR. Would you have a few minutes for one more?

Representative DURHAM. Yes; 5 minutes.

#### STATEMENT OF R. F. SMITH, RESIDENT OF BOONE HALL, OAK RIDGE, TENN.

Mr. SMITH. I am R. F. Smith, resident of Boone Hall.

I will make this as short as possible, since time is running out here. I do have a few figures that I would like to give, in the absence of any figures from AEC.

I have made a few estimates, and I think they are pretty good.

There are approximately 2,000 dormitory residents that pay an average of about \$17 a month per person, which would amount to \$408,000 in a year's time in the way of rental paid to the James H. Moore Co.

The cost of operation prior to March 1949 could not have been greater than \$333,132 per year, exclusive of maintenance costs.

This would leave a sum of \$74,000 to cover maintenance from the dormitory rental fees themselves for the year.

Representative HOLIFIELD. Are you including the cost of utilities in that figure?

Mr. SMITH. The cost of utilities is not included.

Representative HOLIFIELD. Then your figures are not an accurate reflection of the situation, if you have not taken into consideration the cost of the fuel, light, and water that is furnished you.

Mr. SMITH. As I understand from Mr. Moore's statement, those things seem to be supplied without any cost.

Representative PRICE. What is the source of your information on operating costs?

Mr. SMITH. I have based this, if you would like me to go into it, on the wages paid the maids, the wages paid the clerks, prevailing rates for laundry service, linen service, and so forth.

Representative PRICE. But what is the source of your information?

Mr. SMITH. The source of my information is contacts with different employees of the James H. Moore Co.—or at least previous employees of the James H. Moore Co.

Representative PRICE. Auditors? People who would have access to such knowledge?

Mr. SMITH. People that have worked for the James H. Moore Co. in the capacity of dormitory clerks, and also as maids.

Representative PRICE. Would they be likely to know such figures?

Mr. SMITH. I think they would probably know their rate of pay.

Representative PRICE. They would know their own rate of pay, but would they know the over-all operating costs?

Mr. SMITH. I was compiling the over-all operating costs from those particular items that I picked out.

Representative PRICE. Go right ahead. I was just trying to establish the source of your information.

Mr. SMITH. As I said, while the figures given are not taken from Government records, they cannot be greatly different from the actual cost.

This information that I have given you, of course, was for the period prior to March 1st of this year. Under present curtailed services, the cost of operation will not be greater than \$139,000, leaving a difference of \$268,000, or about 55 percent of the rent collected, to be paid out for maintenance and contractor fees by the James H. Moore Co.; the excessive amount to be accounted for is what I call incomparability.

That completes my statement.

Representative DURHAM. Thank you very much.

Mr. SMITH. Thank you.

Representative DURHAM. Does that complete your list of witnesses, Mr. Minor?

Mr. MINOR. Yes. I believe we have some people from the union here who want to speak.

Representative DURHAM. I believe the next witness is the representative of the Atomic Trades and Labor Council, Mr. Cooper.

Will you come around and have a seat, Mr. Cooper?

**STATEMENT OF TRAVIS COOPER, REPRESENTING ATOMIC TRADES  
AND LABOR COUNCIL, A. F. OF L., OAK RIDGE, TENN.**

Mr. COOPER. I am Travis Cooper, delegate from the Atomic Trades and Labor Council, A. F. of L.

Representative DURHAM. Do you live in a dormitory?

Mr. COOPER. Well, sir, I will bring you up to date on myself. I feel like I am a resident of Oak Ridge. I came here in 1944, the early part.

I lived in a dormitory during war conditions. At the present time I am in a house. There are not much better conditions in the houses than there are in the dormitories.

During wartimes, we had conditions in the dormitories about par to what they are now. The daily towel service, the daily maid service, wasn't there. You didn't have it then, and you haven't got it now.

We feel, as labor, that we helped build this place. We feel like these people are being shoved around. These conditions in these dormitories are rotten. If you gentlemen have been into them, you have seen what the walls are. You have seen the conditions they are living in. We feel that these people in the dormitories are putting themselves out to carry on a job which hasn't been completed yet; that there should be some inducements yet in Oak Ridge to keep these people here.

We people in Oak Ridge today have no voice whatsoever as to what goes on. It's "take it, boys, or leave it. That's it."

When we come down to the present comparability of this thing, we feel like somebody had reached out and grabbed hold of something to try to show up something. They have taken a town of 30,000 population, here, and have compared it with a city of 135,000 population, and they have taken these dormitories and tried to make them comparable to the YMCA accommodations.

You have to be "it" to get into the YWCA or the YMCA. You have to have the background to get into them. As for these people in the dormitories, we have good people there, and we have all kinds of people there. They are living there under all conditions, and when they take the watchmen off and take the maids off, you gentlemen can certainly see what these people are going into. They have no security of jobs. They have no security, when they come back at night, that the stuff in the rooms is going to be there. Every maid that has worked in there, every maid that has ever worked there, still has her key. These people can leave nothing in their rooms. Even their treasured things of life, their mementoes, and things like that, they must carry out. You don't know what is in the next room to you.

But we feel, as labor, that somewhere along the line, the people who have made Oak Ridge, who are making Oak Ridge, should have some concessions in this matter.

We feel, in this matter of comparability, that if you go out to a town of, say, 30,000, and look into this matter, you will get at the solution of it. Where that town is, I don't know. The nearest I can get to it is, let's say, Murray, Ky., a little town of twenty-thousand-some people, more or less, the headquarters of TVA in that section. It is a college town. It is a merchandising town. Check the dormitories within that college.

I am not going to give you the figures, but check them. Check the dormitories in that town, which is a college town. You have TVA workers in that town in dormitories. Check those. They have something there to live for. The rent is lower. Conditions are better. And you do have stability, which you don't have here.

As I say, under war conditions, in our dormitories here it wasn't much better than it is now.

We can't see any need to go into the argument as to whether two operating companies are needed in this thing; or as to Roane-Anderson, whose \$16,000 per month people are paid to operate this. But why should it be subcontracted to some other company to make their profit?

Representative DURHAM. Do you think it would be better to sell this out to private industry and let them run it?

Mr. COOPER. That is your business.

Representative DURHAM. If we are not running it right, we hope to work out the problem so that somebody else will run it right, you see.

Mr. COOPER. Well, if you put it in that light——

Representative DURHAM. We realize we have a job to do, and we are depending on you people, and what we are trying to do is to solve the problem.

Mr. COOPER. Well, solving the problem is certainly not taking these services away, or raising the rents on these people. You might just as well cut their salaries. That is what it amounts to.

Representative DURHAM. That is what I say. If we are running it wrong, we want somebody else to run it right.

Mr. COOPER. I am not saying you are running it wrong; but as far as the dormitories themselves are concerned, now, certainly somebody is wrong. [Applause.]

Representative DURHAM. What I am getting at is that this is a Government-owned project; and, of course, we have a responsibility, as you can understand, and a very serious one, and we want the people satisfied in every respect. Because we have to depend on the laborers to run this project. We have got to.

Mr. COOPER. Well, to get into these dormitories, now, all a man has to do is to be employed. That is the first thing. He has to be employed by someone. It doesn't make any difference who. I have a Negro maid. She is in the dormitory. There is no concession made. All are employed somewhere. But to disenfranchise these people from the thing they have built up, and helped build, and to take this away from them, to thereby cut their earnings, is just like taking bread out of their mouths.

Representative DURHAM. I suppose these are correct figures, showing \$3,150 as the average annual earnings here.

Mr. COOPER. I don't believe it will average that.

Representative DURHAM. Of course, I am not arguing with you.

Mr. COOPER. Being in a position to handle quite a few pay-roll checks weekly, and taking them average, week after week—I am not speaking of the big salaries; I am speaking of the hourly workers—I have taken our vouchers over the last 5 weeks, and I have run an average of 500 checks, and they average \$37.50 per week take-home pay.

Representative DURHAM. But it ought to be easy to get the over-all

average, because there is a record here, and it should be official, as to the over-all earnings. I am just quoting these figures as given here by Mr. Wilson. Of course, he is General Manager. That average is, of course, way above the average throughout the country, as you know. The over-all national average is around \$2,000 to \$2,100, I believe, at the present time.

Of course, in some cities, it would probably run above this, but very few in the country.

Representative PRICE. Have there been any wage increases here since the war?

Mr. COOPER. Yes, there have.

Representative PRICE. What has been the history of that?

Mr. COOPER. There was a voluntary wage increase of, I think, 15 percent back in 1944 or 1945, and there were different negotiated wage increases amounting, on the over-all, to about 5 percent, in the last year.

Representative PRICE. You indicate that there have been wage increases of about 20 percent. That was the hourly basis?

Mr. COOPER. I am speaking only of the hourly basis.

Representative PRICE. Has there ever been an increase in rental here?

Mr. COOPER. Yes. When you take away the privileges and take away the services, there is an increase, definitely.

Representative PRICE. Was that the first increase in the rental structure?

Mr. COOPER. I believe so; yes, sir. And speaking now of housing, when it comes to maintenance, that must be paid by the people themselves, who are definitely having to foot the bill.

Representative PRICE. Would you say the maintenance of these dormitories has been bad?

Mr. COOPER. Bad? That won't say it. It won't say it. And the gentleman there was speaking about the cost of people turning off valves, and so forth, \$2.25. They don't get that for turning off valves in these dormitories. The average is \$1.61½.

Representative DURHAM. That was a comparison from the outside, of course.

Mr. COOPER. The maintenance in these dormitories is bad. The maintenance in some of the houses is bad.

Representative PRICE. You mentioned something about there being a lot of keys in circulation to the rooms of the different dormitories, because of the help that may have been on and off at different times. What has been the record for thefts?

Mr. COOPER. That's security. You can't find out. [Applause.]

Representative PRICE. In your opinion, do you think there has been quite a bit of that?

Mr. COOPER. I know there has.

Mr. MINOR. I lost 12 shirts in the first 3 months that I was on the area, from the drawers in my room.

Representative PRICE. What about your police here?

Mr. COOPER. Very efficient.

Representative PRICE. Information as to that might possibly fit well into the record at this point.

(The information referred to is as follows:)

UNITED STATES ATOMIC ENERGY COMMISSION,  
Oak Ridge, Tenn., May 21, 1949.

#### GENERAL POLICE EFFECTIVENESS

Oak Ridge police have a long record of effective law enforcement. Most noted of the recognition afforded them is the Award of Merit of the National Safety Council to the city of Oak Ridge for 1945, 1946, 1947, and 1948. For the past 2 years Oak Ridge has been cited for the top traffic safety performance in the Nation. For 1948, the National Safety Council said the city of Oak Ridge was top or near the top in each phase of the traffic safety program (one of which is effective law enforcement); 1,253 days have passed since the last traffic fatality in Oak Ridge. Oak Ridge police also have maintained an excellent record of automobile recoveries, stolen-property recoveries, and cases solved.

#### DORMITORY THEFTS

Since June 1, 1947, there has been 30 thefts in dormitories reported to police. A total value of \$1,018.38 was placed on the property stolen in these cases. However, dormitory thefts represented less than 4 percent of all thefts in Oak Ridge and about 3 percent of all property stolen was involved in dormitory thefts. Of the \$1,018.38 stolen during the 2-year period, two thefts, one of \$364 and one of \$250 counted for about 60 percent of the property loss. The remaining 28 cases resulted in a loss of only \$404.38 or an average of about \$16 per dormitory theft. A total of 21 dormitories were in operation at some time during this period so there was an average of less than one theft per dormitory reported to the police each year. (There could have been additional thefts, but, if so, the victim did not report the loss to the police.)

Police closed 7 of the 30 dormitory theft cases with results while 400 of the 837 theft cases in the city were closed with results (23 percent as compared with 48 percent). This low figure of results obtained is offset by the fact that \$648.62, or 63 percent of the \$1,018.38, was recovered by police while only 56 percent of all property stolen in Oak Ridge was recovered.

For 1947, the last complete year for which figures are available, the publication, Uniform Crime Reports issued by the FBI, says that police recovered 24.7 percent of stolen clothing, 21.3 percent of stolen jewelry, 14.7 percent of stolen money, and 31.9 percent of other miscellaneous property. For the first 6 months of 1948 police over the country recovered 21.5 percent of stolen property other than stolen cars. It appears from these figures that property recovered after dormitory thefts is well about national averages.

J. M. RORIMER,  
For FRED W. FORD, *Director,*  
*Office of Community Affairs.*

Mr. COOPER. Gentlemen, speaking of the Oxford Hotel, in the past 5 weeks we had on this area some 25 or 30 people engaged in nuclear energy work from visiting countries, scientists. I could give you several of their names. Those people were put in the Oxford Hotel. You will notice that when you gentlemen came in, you went to the Guest House. Go down to that hotel. Go into these dormitories. Stay these overnight. Stay there a couple of days, without the big shots here knowing you are here. [Applause.]

Gentlemen, those people were in that hotel. Dr. Sanchez was one, one of the best recognized scientists of Europe, and Dr. Wahle from New Zealand was another. Those people were there. I met with them several different times, and talked with them. They went to the dormitories. They are awful.

That is all I have to say. We are labor. We are opposed to this. We don't think these people are getting a just break. And if they get this thing put over on them, you people haven't had any howl at all to what you are going to get. [Applause.]

Representative DURHAM. Thank you very much.

Have the CIO Chemical Workers a witness here this morning?

(No response.)

Representative DURHAM. We have as our next witness Mr. Spitzer of the town council.

Will you come around, Mr. Spitzer? Will you have a seat and give your full name to the reporter?

**STATEMENT OF ED SPITZER, PHYSICIST, MEMBER OF THE TOWN COUNCIL, EAST VILLAGE, OAK RIDGE, TENN.**

Mr. SPITZER. My name is Ed Spitzer. I live in East Village, here in Oak Ridge. I am a physicist.

I would like to point out, before delivering this prepared statement, that the town council is the representative body of all the people in Oak Ridge, including the dormitory residents.

It is my privilege to appear before you as a delegate from the Oak Ridge Town Council, to present for your consideration the views of the only elected body representative of the citizens of this community. In view of the time limitations my presentation must be brief, but I hope that this general statement will lead you to appreciate in some measure the problems of a people living without voice in a federally controlled and dominated community.

Oak Ridge, gentlemen, is a city of contrasts. On the one hand, we have a typically American population gathered together from all of the 48 States of the Union and placed in one city to spend their lives and contribute their knowledge in the interest of the scientific development of atomic energy.

Most of these people uprooted their families from permanent communities of which they had been a part for many years, communities steeped in the democratic tradition of self-government so typically a part of our American heritage. Thus, unlike many other cities in this country, Oak Ridge is made up of people who have been associated with almost all of the States. In contrast, these same people now find themselves living in a city whose government is devoid of any semblance of democratic participation in decisions which vitally affect their everyday lives. The privilege of municipal administration here is exercised by a bureau of the Federal Government, a bureau that has evidenced no interest whatsoever in determining the wishes of the people or even permitting the citizens a voice in matters directly concerned with their own welfare.

There are many examples typical of the point I wish to make. I will cite a few of these as follows:

First. Not long ago the American Industrial Transit Co., an AEC contractor, requested an increase in the bus fares in Oak Ridge. In a normal community such a request would be heard before a utilities commission and supporting evidence presented and debated by all parties interested in the proposal. In Oak Ridge, the Atomic Energy Commission was prosecutor, judge, and jury. It granted a major increase in rate to the American Industrial Transit Co. and publicly announced its decision before the people who would foot the bill were even aware that an increase was being considered. The point in question here, gentlemen, was not the decision itself, which may or may

not have been justified, but the fact that it was reached in secret behind closed doors without a hearing being granted the citizens.

Second. Last summer AEC announced, without discussion, its decision to remove the area gates. This decision provoked much comment because many of the citizens felt that inadequate protective measures existed by virtue of the absence of local police and ordinance-making powers. Their opinions were never heard. AEC had reached a decision and it could not be altered. We all realized that the gates must come down and the city opened sometime in the future, but we had no opportunity to discuss the timing in relation to municipal incorporation in order that we could be assured of the security of our families and homes.

Third. Recently AEC announced a master plan for the city of Oak Ridge. This plan specifies residential and commercial zones, recreation areas, and, most important of all, the type of housing to be constructed. Again, the people who would rent the houses and live in the zones were not given an opportunity to express opinions. The result of this situation may yet prove to be embarrassing to the Government. At the present time, for example, hundreds of thousands of dollars are being spent on expensive garden-type apartments. New little square concrete block houses are being built along the railroad tracks in a low-lying area which is not the most desirable location in which to live. The people were not given an opportunity to express the opinion that single-unit homes were preferable to an expensive apartment, particularly where a great many acres of available land lie idle awaiting development.

Fourth. The last example I wish to cite, gentlemen, is the vague announcement that residential rental rates will be increased. No one knows the basis of the increase or how much it will be. Two thoughts occur to the citizens on this problem. The first is that in a normal community the landlord must justify his rent increases to the Rent Control Board on the basis of increased cost of maintenance, and at the same time a hearing is given the tenant. In Oak Ridge, AEC, through the Roane-Anderson Co., is both the landlord and the rent-control agency. It prepares its own case, holds its own secret hearing, and reaches a final decision to increase rent on the basis of the evidence it has presented to itself. The tenant is given no opportunity to question the evidence regarding costs or extravagances in maintenance, nor is he assured that valid comparisons have been used as a basis for establishing new rental rates. All he does is pay the bill.

The failure of the Atomic Energy Commission to permit citizen participation in these vital decisions before such decisions are made and announced is not a new criticism. It has been voiced many times, and we get the same stock answer from AEC to the effect that participation will be granted through town meetings and town council. The answer is good, but the action is lacking. Not only has AEC failed to keep faith on this score, it apparently has failed to delegate sufficient authority to any of its officials in Oak Ridge to enable them to keep faith. Our questions on vital community problems are passed on up the line to Washington and then are either forgotten or receive a vague and verbose reply that tells nothing. When a decision regarding the town is questioned by the people AEC adopts the atti-

tude that it must justify its actions regardless of the consequences, rather than submit to a critical examination of its decisions on the basis of their merits. To meet this end, its public relations experts fly into the breach and the citizens end up right back where they started—with a question that has no answer, and a bureaucratic decision that cannot be altered because of the apparent embarrassment that might be caused to the man who made it.

In closing, I wish to emphasize one additional point to the committee. It has been said many times that the people of this or any other community cannot expect the privilege of self-expression and a voice in the management of the affairs of their town without assuming the financial responsibility that goes hand in hand with such privileges. In this connection it is important to note that taxes are always a part of the rental rate established for a tenant to pay. There are no property owners here—the Atomic Energy Commission is the landlord, and as long as it owns the real estate it is directly obligated for taxes to support municipal government just as is any landlord in these United States. As a tenant we pay for the right to a voice in community decisions each time we pay our rent. A policy that would deny us that right would also deny the same democratic privilege to any other tenant elsewhere in America.

Oak Ridge is our home. We have broken the ties elsewhere and established ourselves here, and we are raising our children here. We have just as important a stake here as have the citizens of any other community. We resent the manner with which the Atomic Energy Commission deals with our futures and our pocketbooks without discussing these matters with us and without permitting any semblance of voice until after its decisions become an accomplished fact. We feel that we deserve to be treated as self-supporting citizens in a normal community, sufficiently interested and educated to express an adult viewpoint. Gentlemen, we like our town. We like it very much. But, having lived here 5 years or more since it was founded, we feel qualified to express hearty disapproval of the manner with which its affairs are managed.

Representative PRICE. Mr. Chairman, I want to congratulate Mr. Spitzer, who happens to be a fellow townsman of mine, on his fine statement. [Applause.]

I assure you that in leaving East St. Louis he has indeed made a terrific sacrifice. [Laughter.]

Representative DURHAM. Mr. Spitzer, your brief dealt, of course, with a great many more problems than we are concerned with here today. In a lot of them I concur in your viewpoint; because this matter of being entirely Government controlled has worried me considerably. We realize that we have a very serious problem on our hands, because an operation involving this year around \$700,000,000 is no little industry to operate.

Your brief was more or less directed at the over-all problem, and not so much at the dormitory problem, which we are concerned with primarily here today.

Mr. SPITZER. The dormitory problem is just another example of the whole thing, the way it works. The decisions are made, and we have no part in the discussion, and then the decisions are given to us as facts. We feel that we are adults and should be treated as adults.

**Representative DURHAM.** I certainly agree with you on that. Your problem of participating in your community life to me is one that is quite serious and one that should be of course fully explored; and, as far as I am concerned, personally, that right of participation should be extended to you.

**Representative HOLFIELD.** Before you leave, Mr. Spitzer, I would like to add that the operation of all of these atomic energy towns is, by the very nature of the work itself, different from ordinary towns. I do not think there is a Member of Congress, particularly of the Atomic Energy Committee, who does not share with you a desire to extend to the inhabitants of these towns every citizenship right which they would have in a normal town. We have not been able, maybe through lack of wisdom on our part, to evolve a satisfactory solution for the over-all situation. We feel that in encouraging the Atomic Energy Commission to remove the gates from the town, and to move toward self-government, we are moving toward what you are seeking.

We intend, of course, to encourage them, just as quickly as we can work out certain other problems which are not apparent on the surface, to do that very thing.

I might also say that the very fact that members of Congress are down here to hear these complaints, and that we come down here unprejudiced, and uninstructed, or unadvised, you might say, by the Commission, as to a solution of this problem, demonstrates that there is some concern on the part of the Congress as to the people's problems down here. We will certainly weigh the different pieces of evidence that have been brought before us this morning, and we will try to come to a conclusion that is right and just. Because, after all, we are representing the people of the United States and not the Atomic Energy Commission or Roane-Anderson, or any other particular group. We represent the people. [Applause.]

**Mr. SPITZER.** There is just one thing that we want. When these decisions are made that affect us so vitally, we want to know that they are being made. Just let us know the discussions are going on before the decision is reached and they say "Here it is." We would just like to know how they are arriving at these decisions. Probably they are all right. They have very intelligent men working on the problems. But we would like to be treated as adults, and find out just how they arrive at their conclusions.

**Representative PRICE.** Mr. Spitzer, as to the matter of the dormitories, was the town council consulted at any time prior to the action taken in curtailing the services?

**Mr. SPITZER.** No. And we were told if there were any rent increases in Oak Ridge, we would be notified before the rent increases went into effect. We were not notified of it at all.

**Representative DURHAM.** Thank you very much, Mr. Spitzer.

**Mr. SPITZER.** Thank you.

**Representative DURHAM.** I believe the next witnesses are Mr. Ford and Mr. Franklin.

Will you come forward, please?

I understand you will speak first, Mr. Ford.

Please give your names and your positions to the reporter, if you will.

**STATEMENTS OF J. C. FRANKLIN, MANAGER OF OAK RIDGE OPERATIONS OFFICE, ATOMIC ENERGY COMMISSION; AND FRED W. FORD, ACTING DIRECTOR OF COMMUNITY AFFAIRS, AND CITY MANAGER, OAK RIDGE, TENN.**

Mr. FORD. I am Fred W. Ford, acting director of community affairs, and city manager.

Representative DURHAM. You may proceed. Have you a brief there?

Mr. FRANKLIN. I don't, but Mr. Ford has. If I may, I would like to suggest that all of the details of the dormitory situation be discussed by Mr. Ford. I would also like to make one or two small comments as to the general over-all AEC policy as to rent.

Representative DURHAM. You may proceed.

Mr. FRANKLIN. It is our policy, as has been indicated, to make rents in Oak Ridge roughly comparable to those of the area in the neighborhood of Oak Ridge.

The rent which we are now charging in the dormitories and the rent which we propose to charge in the houses—and there is an increase under way, which will be announced April 28—is a rent which goes only part way toward area comparability. It does not go all the way. We believe it is necessary to take a step to achieve at least partial equality of rents with the area, even if we are unable at the moment to go all of the way to area equality.

I feel that as to our rents, as to whether they are comparable or not, we have had expert advice which indicates that the rents we are proposing to charge in the housing and are charging in the dormitories, as I have indicated, are not yet equal to area rents, but are higher than the existing rents and the previous rents.

We propose to take this, one step at a time, as is reasonable and practical.

If there are arguments as to the rents being comparable to area rents, I would welcome, as an individual, any independent analysis. I believe they are comparable, or have a half-way comparability, let us say. They are not wholly comparable, and they are on the low side of comparability.

That is the approach that we have in the matter of rents.

I would like to make a remark as to the reason we use comparability of rents rather than the cost of operations as a determinant of rents. We have had in Oak Ridge high operating costs. They still are not as low as they should be, in my opinion, nor as low as would be accomplished by a private operator.

In the past year and a half, however, tremendous advances have been made in the reduction of operating costs. As I have indicated, we don't believe they are as low as they should be yet, and therefore I don't believe it would be logical to base rents on costs.

There is another reason, too, why I don't feel that we should base rents on costs, and that is that in operation by the Government there is no agreement on the accounting involved in a determination of costs as to whether, for example, one ought to include an allowance for all the depreciation on the buildings, for the investment, and for taxes.

For these reasons we think the best approach is comparability of rents rather than operating costs.

I would like to mention also the matter of advice to the people of the decisions we in the AEC are about to make. I concur with the idea that we ought to consult the people in all matters of government. And we are making every effort to do this in the area of municipal government.

I believe one has to distinguish between the governmental function on the one hand, however, and all of the things which in the normal town are functions of individual operators; as, for example, the landlord, or the operator of the store, or of any of the commercial facilities.

I believe, again, that all municipal costs—municipal decisions—ought to be discussed, and that we should make every effort to have the participation of the people in all governmental matters.

I do not think that one is able to carry that as completely to operation of the landlord function or operation of the stores or other commercial facilities. This is not done in any other American town and it is not consistent with the American way of operation.

Representative HOLIFIELD. Let us pause right there a minute, Mr. Franklin. In an ordinary town, where the landlord-tenant relationship exists, whether it is the owner of one house or a large development of a thousand or 1,100 units, it is not customary for the landlord to call his tenants together and consult with them as to whether he raises their rent, is it?

Mr. FRANKLIN. No, sir.

Representative HOLIFIELD. Therefore, the point you are making is that while you have a community here that is similar to a regular town, at the same time, and because of the peculiar ownership factor here—of the Government owning this property—there is no comparable procedure in other towns, where the landlords consult with the tenants on the raise of their rents.

Mr. FRANKLIN. No.

Representative HOLIFIELD. They determine to a certain extent their operational costs; and, taking it outside of the area of rent control, which is a Government interference with private conduct of the operations, the ordinary American way of doing things, they go ahead and arbitrarily raise the rent either a just amount or an unjust amount without consultation with the tenant.

In the areas where rent control exists, they go before the rent-control board and present their arguments, show their increased costs of operation, and their lack of profit on the investment, and they are either given or denied an increase in rent by the rent-control authority.

Mr. FRANKLIN. That is right.

Representative HOLIFIELD. We cannot resort to either one of those methods here, so we have to take something in between. You have taken an in-between course, which is an attempt to find comparable quarters and gage the rent here by the comparable outside quarters.

Mr. FRANKLIN. I agree with that, sir.

Representative HOLIFIELD. All right. The basis of reaching this comparable or equitable procedure is under attack. It seems to me that Mr. Minor has made a pretty good statement in his attack on this sheet which has been furnished us. He has shown, in what he has presented here, that you are using for comparison here a room with cardboard partitions, poorly furnished, with inferior telephone facilities and inferior sanitary facilities, nonfireproof, and with many

other points of difference. So it seems to me that it puts a duty upon you and Mr. Ford to justify your comparability chart here. [Applause.]

Mr. FRANKLIN. We will be glad to do so.

Representative DURHAM. On that point: I think it would be valuable to this committee, both now and in the future, probably, though I do not know how much trouble it would be or how much expense it would involve, to have something on the cost of operation. I would like to have that. [Applause.]

Let us have a little order, here. We are trying to get along.

If it can be done without too much expense to the local authorities and to the Commission, it is something that I would like to have. I do not know how much detailed work there would be in the whole procedure. There would be quite a bit of it, I am quite sure. But we are going to be faced with this problem at other places as well as here, and I think instead of just basing it on one thing we should base it on other things also.

Mr. FRANKLIN. I would be glad to have all of the cost information supplied. And I think we could address some remarks now as to comparability. Mr. Ford could do so, if you would care to have him.

Representative DURHAM. I think we had better stay on comparability, as long as we started out on that, and as long as that is all it has been based on. But you people are going to increase your rents, according to your statement, or you are going to ask for an increase. If the Commission would prepare for this committee the costs of operation on this, as well as comparability, I think we would like to have that.

Mr. FRANKLIN. Is that on the dormitory and the housing, Mr. Chairman? You wish both costs?

Representative DURHAM. Both costs.

Mr. FRANKLIN. We will supply cost figures as to both.

(The information referred to will be found in the appendix at p. 70.)

Mr. MINOR. Mr. Chairman, we have three sets of cost figures in the figures that I submitted to you this morning, all issued by AEC. Would another set, that differs from those, be of any value?

Representative DURHAM. We can get those from the Commission, then, if you will supply those to the committee, and they will go in the record, if there is no objection.

All right, Mr. Ford, you may proceed with your statement.

Mr. FORD. Relative to comparability: Under the current rent schedule for dormitory space, the Atomic Energy Commission, the Roane-Anderson Co., and the James H. Moore Co. feel that the charges are reasonable and the services rendered sufficient for those prices. Comparability surveys have been made in this connection.

In March 1948, as part of the rental structure in Oak Ridge, the Roane-Anderson Co. was directed by the AEC to engage the services of a nationally known consultant appraisal firm to review all Oak Ridge living accommodations. The firm of Tredwell & Goldstein, of New York City, was engaged to make the survey, including recommendations to the Roane-Anderson Co. as to rental rates and service policies.

Representative PRICE. How was this company selected?

Mr. FORD. By securing from the real-estate board a list of competent firms, and, by the process of elimination, selecting Tredwell & Goldstein of New York City.

Representative PRICE. What was the process of elimination? How did you eliminate?

Mr. FORD. I think Mr. Worrel could give you more definite information on that than I could. It came before I arrived here, sir.

Representative DURHAM. Do you know the cost?

Representative PRICE. What did the survey cost?

Mr. FORD. Mr. Worrel?

Mr. WORREL (L. D. Worrel, assistant project manager, Roane-Anderson Co.). The survey cost \$25,000, sir. That includes the entire housing and rental comparison study.

Mr. FORD. Since there were no large groups of dormitories in the communities adjacent to Oak Ridge with which Tredwell & Goldstein could compare living accommodations, and recommend rental charges based on comparability, they made their study in the following manner:

They arrived at the room-rent value on Oak Ridge residential units other than dormitories by comparison of these units with units in the surrounding areas. They then drew a comparison between dormitory accommodations on the basis of livability to other residential units in Oak Ridge. They then recommended that the cost of providing maid and linen services in the occupied dormitory rooms and the cost of furnishings be added to the recommended rental charge, which ranged from \$15 for regular single rooms with no bath, to \$22 for special large double rooms with connecting baths. If these recommendations had been followed, the rental schedule would have ranged from \$23.35 for regular single rooms with no bath, to \$38.70 per person for special large double rooms with connecting baths.

Representative PRICE. Right there: Is this chart the result of the survey of this company?

Mr. FORD. That was supplemental information given to our Washington office.

Representative PRICE. Was this the result of the survey made by this company?

Mr. FORD. It was not, sir. This is supplemental information on the dormitories which were in this area, asked for by the central office—our central office.

Representative HOLIFIELD. Then you exercised your own judgment as to comparing the Oak Ridge dormitories with the Knoxville YMCA and the University of Tennessee.

Mr. FORD. We brought all those in, to have every dormitory there was in the area, whether better than ours, the same as ours, or poorer than ours. We wanted all figures in, for all dormitories in the area.

After careful consideration by both the company and the Commission, it was believed that it would be more acceptable to dormitory residents generally if some of the services were eliminated rather than to have a raise in the rates. This decision was based on the knowledge that a great many dormitory residents, due to personal considerations, would prefer changes in services to a substantial rate increase. It was planned that the dormitory operator would designate dormitories where more complete services would be provided if

a sufficient number of dormitory occupants indicated willingness to pay an additional charge for such services.

A dormitory survey also was made in the Washington, D. C. area [Laughter] where there are very similar buildings, built by the Government and operated by the Government, and known as Arlington Farms. They were built at about the same time and are very similar in nature and house governmental workers. They are similar in construction to the Oak Ridge dormitories. The main difference is that each building has additional wings providing 610 spaces, while the dormitories in Oak Ridge contain an average of 143 spaces. There also are other buildings on the site, such as cafeterias, recreation halls, infirmary, maintenance and so forth, which we have too.

Representative PRICE. Mr. Ford, are you going to quote the rates?

Mr. FORD. Yes. The room rental schedule follows:

Twenty double rooms, \$16.50 each occupant.

Two rooms, large, double, \$22.50 each occupant.

Three rooms, large, double, \$24.50 each occupant.

Five hundred thirty-six rooms, single, \$24.50 each occupant.

Twenty-one rooms, single, corner rooms, \$28.50 each occupant.

The services furnished:

Rooms are cleaned once a week on an established scheduled day.

Rooms are dusted, damp-mopped, and bed linens changed.

Two bath towels and two hand towels are provided weekly on an item-for-item basis.

Room floors are waxed only when the executive housekeeper thinks it necessary.

Cleaning equipment is available on each wing floor for use by the residents.

Each room is thoroughly cleaned twice a year, walls washed down, and so forth.

Two sheets, one pillow case, each week; and two blankets, cleaned once a year by the maids, are given, and a bedspread is provided.

Curtains and bedspreads are cleaned when required, by the maids.

The windows are cleaned by maids and housemen each spring only.

Laundry rooms are on each floor, and electric irons are available.

The office desk is open from 7 a. m. to 11 p. m., and mail service is provided 6 days a week.

Small kitchens are available for limited use. Dishes, utensils, and refrigerators are provided. Hours are limited, and kitchens are cleaned up by the residents themselves.

Representative HOLIFIELD. This is a résumé of Arlington Farms?

Mr. FORD. Yes, sir. I have copies of this here [handing]. The furnishings are not as good as they are here at Oak Ridge. There is a small closet space for each. The corridors have a carpet runner, which we do not have here.

(The information referred to will be found in the appendix at p. 70.)

Those were the figures available when the negotiations took place between Roane-Anderson and the James H. Moore Co., and which they had at hand last fall when this revision or modification of the Moore contract was being made. Subsequently, there were investigations made in each of the dormitories in this area. They excluded neither good ones, nor bad ones, endeavoring to give a picture of all the dormitories.

As specified before, the type I, University of Tennessee, is known as the Melrose Dormitory. That consists of three buildings, broken down into seven units, housing 358 men, as follows: One hundred sixty-four men in single rooms, 9 by 12 feet, at \$75 per quarter, or \$25 per month per person, and 194 double rooms, 12 by 13 feet, at the same rate per person.

The buildings contain 47 well-furnished living rooms, 200 square feet each.

Each unit has a built-in kitchenette in one of the living rooms for special use by students, and an elevator. Each unit has a large social room, 783 square feet in size, and there is one recreation room, 1,500 square feet in size, to serve the 3 buildings. There are 47 bathrooms throughout the 3 buildings, each having 2 showers, 2 toilet facilities, and 2 washbasins.

Representative HOLIFIELD. How many does that figure out per person?

Mr. FORD. Eight persons to one.

Representative HOLIFIELD. Eight persons to one?

Mr. FORD. Right.

Representative HOLIFIELD. How does that compare with your S and H type dormitories?

Mr. FORD. We have four units to each of the dormitories.

Representative HOLIFIELD. In other words, you have four showers?

Mr. FORD. No; there are four units, each, in turn, having four showers.

Representative HOLIFIELD. So it would be 16 to 143.

Mr. FORD. We have four shower rooms, each containing four shower stalls, with shower curtains in the women's dormitories, and there are four toilet rooms in each, containing four toilet facilities and four lavatories, and with mirrors over the lavatories. In each case, it is 4 times that, or 16.

Representative HOLIFIELD. About one shower to nine rooms. Would that be 144 persons?

Mr. FORD. It is about the same ratio.

Representative HOLIFIELD. About the same ratio?

Mr. FORD. Yes, sir.

Mr. MINOR. Mr. Chairman, why don't you ask him—

Representative HOLIFIELD. We have given Mr. Minor the courtesy of permitting him to take the witness stand and present his statement. He should give this witness a chance to continue.

Representative DURHAM. You may proceed, Mr. Ford.

Mr. FORD. Maid service is furnished daily, linens, towels, and blankets are not furnished. The clerk service consists of a resident manager and one clerk, assisted by faculty and students. One-way buzzer systems are installed in the rooms, with pay telephone booths in each unit.

Draperies and bare pillows are furnished.

Each room has a built-in desk for each occupant, a chest of drawers, bookshelves, single wood beds with innerspring mattresses, one lounge chair, a desk chair, a one-drawer nightstand, and closet space.

Each occupant has a post-office box in the mail distribution room.

The second type, the stadium type spoken of before, houses 690 men, three to a room, with rates of \$45 per quarter, for each occupant, or \$15

per month. There are four floors, and three large toilet rooms, each having six tile-partitioned showers, seven toilet facilities, and seven wash basins with mirrors and six urinals. It has one large recreational unit only. There are two large living rooms on each floor. The bedrooms are 12 by 17 feet and are furnished as follows:

One wood doubled-deck bed, one single bed, one nightstand, two desks, one combined desk and chest of drawers, two chests of drawers with mirrors, three desk chairs, and one lounge chair. There is no desk service or maid service. The students make up their own beds. The janitorial service is furnished.

There is a two-way buzzer system.

Occupants are required to furnish their own bed linens, blankets, towels, and accessories, including pillows. The buildings are steel and concrete, and about 1 year old.

The third dormitory type is a temporary structure about 2½ years old, a prefabricated wooden frame building, consisting of rooming quarters only. There is no lounge or recreation rooms.

The double rooms are 8 by 11 feet, and rent for \$35 per quarter, or approximately \$12 a room per occupant. Rooms are furnished as follows:

One double-deck Army type bed with a Regular Army mattress, two writing tables, two chests of drawers without mirrors, and two desk chairs. Occupants are required to furnish their own bed linens, blankets, towels, accessories, and pillows. No buzzer systems or telephone facilities are available. No desk service or maid service is furnished. The students make up their own beds, but janitorial service is furnished.

At Norris—and these things came from a visit to Norris, and from the operator who runs the Norris Dam dormitory—there is one wooden frame two-story dormitory with hardwood floors, consisting of 20 rooms, 10 by 10 each, available for occupancy.

The dormitory was built in 1933. Forced warm air heats the rooms. The room rates are \$7 weekly, or approximately \$30 per month, with one bathroom available on each floor.

Representative HOLIFIELD. May I stop you there, please?

According to this chart that we have on the Norris dormitory, \$20 is the basic monthly rent, and the rent control letter gives it as \$16.08. Now you are quoting a figure of \$30 to us, I believe.

Mr. FORD. That is the figure which the concessionnaire gave to the people who went over there.

Representative HOLIFIELD. Well, there is something wrong there.

Mr. FORD. Evidently, on those two facts.

Representative HOLIFIELD. There are three figures here. One is prepared on this chart that has been given us, of \$20. The rent-control letter gives \$16.08. Now you are giving us a figure of \$30. Are we talking about the same quarters?

Mr. FORD. TVA and Norris quarters.

Representative HOLIFIELD. Which the Rent Control Director said was the only comparable structure in the area.

Mr. FORD. A telephone call elicited the information that you have there, sir. This was obtained by a visit there to see the actual services. And those are the figures that were given within the last week, by the operator of that dormitory.

Representative HOLIFIELD. I believe you should furnish to our committee verification of these figures. There is evidently something wrong.

Mr. FORD. We will get a sworn statement from the individual concerned; because none of the three figures tie in, one with the other.

Representative HOLIFIELD. That is right.

Mr. FORD. The dormitory is leased from the Norris Properties, Incorporated, by a young couple who furnish all services from management to janitorial. The rooms are cleaned daily when in use; linens are changed once a week, and clean towels are furnished daily. No buzzer system is furnished, nor is telephone service available, except in the mail office. General custodial service on the premises is available, but no desk clerk is employed.

Representative HOLIFIELD. May I stop you there and ask you a question in regard to the mail service? I notice you mentioned it in this particular section, right before you read this one.

How do they handle their mail service there? Do they leave it in open boxes for the residents to get their own mail, or do they lock it up part of the day?

This seems to be a matter of some importance to these people, and it seems that small lockboxes could be provided or some method whereby they could get their mail at all times. Do you know how they handle that?

Mr. FORD. I am not positive of that, sir. I do not have that information. I will get it for the committee. In fact, I will get the whole restatement of that, and a signed statement, in view of the three conflicting figures which have come from them.

Representative HOLIFIELD. You are basing this statement on information you say you obtained over the telephone from the concessionaire?

Mr. FORD. These figures I am giving here were based on people from our organization going to Norris and discussing it with the couple who operate the dormitories.

Representative DURHAM. As soon as you get the sworn statement, Mr. Ford, send it to the committee; and, without objection, it will be incorporated in the hearings.

(The sworn statement referred to is as follows:)

#### STATEMENT

APRIL 21, 1949.

My name is Archie Yarbrough. I operate the Towne Inn in Norris, Tenn., under lease from Norris Properties, Inc.

The Inn contains five (5) rooms downstairs and nine (9) rooms upstairs available for rental.

The five (5) downstairs rooms are reserved for permanent residents and are rented for seven (\$7.00) dollars per week for single occupants or a total of approximately thirty (\$30.00) dollars per month. Services furnished for this rental are maid service daily, change of bed linens once weekly, and daily change of towels.

The nine (9) upstairs rooms are rented to transients at a daily rate of two (\$2.00) dollars single and three (\$3.00) dollars double. Services are the same as for the downstairs rooms except fresh linens are provided for new guests.

No mail deliveries are made to the Inn.

Telephone service is maintained through one pay station located on the lower floor.

No desk service is maintained. Regular residents carry their own keys. The registry for transients is maintained in my rooms adjacent to the downstairs entrance.

ARCHIE YARBROUGH.

Witness:

WILLIAM E. SWAIN, Jr.

Representative PRICE. Is there any postal regulation that prohibits you from placing it in these open boxes while there is not an attendant?

Mr. FORD. I believe there is, but Mr. Moore could answer that question, if he is here.

Is there any postal regulation which prohibits putting mail in an open box?

Mr. WORREL. The post office will not deliver mail to the dormitories without putting it in the custody of someone in the dormitories. That is the reason mail cannot be put in the open boxes.

Mr. FORD. At the Watauga Dam construction site, discussed before, which is a TVA project approximately 150 miles northeast of Oak Ridge, three men's dormitories are in operation, with 88 rooms each, 9 by 9 feet in size. The dormitories are portable type, demountable frame buildings, about 6 years old. These rooms rent for \$18.20 a month when occupied by a single person, and \$13 per person per month when occupied by two persons.

When two persons occupy the room, a double-decker bed is furnished.

The single rooms have one Army-type steel cot, one table, clothes closet, and one chair. The double rooms have one double-decker Army-type steel cot, one table, a double clothes closet, and two chairs.

General janitor service is available, with clean bed linen furnished weekly. No towels or soap are furnished. There is no desk or room-clerk service, no telephone service except in two buildings about a block away, and no buzzer system. Floors are bare.

Janitor service is furnished from 7 a. m. to 3:30 p. m. daily, and watchman service is furnished by three public-safety men on 8-hour shifts, who patrol an area which also includes the administration building and dam site proper. No mail is delivered to the dormitories from the post office about a block away.

There are similar quarters and services available at the South Holston dam site, nearby, at the same rates.

In Knoxville, the YMCA is a reinforced concrete building with brick walls and bare cement floors in the rooms. The building, constructed in 1930, has 113 rooms, of which 100 are single and 13 double. All rooms are 8 by 12 feet. The rates range from \$26 minimum to \$28.50 maximum for regular rooms, depending on the location, with a discount of approximately \$1.10 if rent is paid in advance.

These rates are applicable to only members of the YMCA. Transient rate is \$1.50 a day.

Recreation facilities, including gym and swimming pool, are available to all occupants. Rooms are furnished with a steel dresser, a bed, a desk, an easy chair, and a straight chair.

Desk clerk service is given 24 hours a day, maid service daily, exclusive of Sunday, and watchman service from 10 p. m. to 6 a. m. daily.

Representative HOLIFIELD. Where is this?

Mr. FORD. This is the YMCA in Knoxville.

Representative HOLIFIELD. Oh, yes.

Mr. FORD. A two-way buzzer system is provided, with a telephone on each floor. No soap is furnished, except to transients. Each floor has a common washroom, which contains six lavatories, three showers, three toilet seats and urinals. Each common washroom serves from 39 to 43 men.

Representative DURHAM. Mr. Ford, we are not going to be able to complete this before we recess for lunch, and I think this is a good place to stop.

We will adjourn the subcommittee and meet here at 2 o'clock, if that is acceptable.

(Whereupon, at 12:30 p. m., the hearing was recessed, to reconvene at 2 p. m. of the same day.)

#### AFTERNOON SESSION

(The committee reconvened at 2 p. m., following the expiration of the noon recess.)

Representative HOLIFIELD (presiding). The subcommittee will come to order, please.

Mr. Ford, will you take the chair?

Let the record show that Congressman Durham had to leave for Washington on an early plane, and therefore cannot be with us for the rest of the hearing.

You may proceed, Mr. Ford.

Mr. FORD. In regard to comparability, there is just a reiteration of one item which I would like to make at this time. That is that prior to negotiations, and in the whole rent structure here in Oak Ridge, here were two main premises:

First, comparability of living quarters in Oak Ridge, one with the other; and second, adjustment toward the outside area.

The negotiations were carried on premised upon the Tredwell-Goldstein report on comparability, and the Washington information was obtained in order that a comparison of services rendered could be given; and later, so that any dormitory outside of Oak Ridge but in this area could be analyzed as to whether it was better or worse than ours, additional figures were obtained. But the original concept and the present concept is based upon comparability of housing facilities in Oak Ridge, one with the other, and adjustment toward those in the rent-controlled area on the outside.

Representative HOLIFIELD. May I ask a question there, Mr. Ford? How is it possible for you to compare the dormitories here in Oak Ridge with the dormitory information which you have here in the chart as to the YMCA and the University of Tennessee, when they are totally different in construction, and probably the only similarity is space?

Mr. FORD. Space and services rendered. And, as I said before, those are the only dormitories of which we know in the area. So, as to how they bear on the Tredwell survey, they are brought into the picture so as to include for factual information every dormitory there is within the surrounding area of Oak Ridge.

Representative HOLIFIELD. But the purpose of this chart is not to show that the Oak Ridge dormitory single rooms at \$15 are necessarily comparable with the Knoxville YMCA single rooms at \$26.

Mr. FORD. No; nor that they are comparable with the rooms at the University of Tennessee type-I dormitory. The purpose of that is simply to provide full information.

Representative HOLIFIELD. For purposes of comparison, and not to show, for instance, that you are \$11 cheaper here than they are at the YMCA at Knoxville, and not to convey the idea that theirs are the same kind of accommodations, and yet you are \$11 cheaper.

Mr. FORD. No, sir. It is to give an entire picture of this area, and of every surrounding facility.

Representative HOLIFIELD. As a matter of fact, if you stick to straight comparability, you almost have to confine your comparison to the Norris TVA type and the Oak Ridge type. They are similar in construction and in furnishings, and in services; and also in price, if we take the \$16.08 figure.

Mr. FORD. Right; if you take dormitories only.

Representative HOLIFIELD. That is all we are considering in today's hearing.

Mr. FORD. But negotiations with the Roane-Anderson Co. were premised on a comparability survey made by Tredwell & Goldstein, which compared all living spaces in Oak Ridge, one with the other.

Representative HOLIFIELD. Of course, that question is not under consideration, as to the differences which obtain there.

Mr. FORD. The dormitories were a part of that survey of all living spaces in Oak Ridge.

Representative HOLIFIELD. But we have no complaint before the committee as to the relative merits of the rentals charged for houses and for the dormitories.

Mr. FORD. Yet your dormitory spaces will have to be in line with your residential facilities offered.

Representative HOLIFIELD. That is a matter of internal relationship within the city here.

Mr. FORD. That is correct.

Representative HOLIFIELD. But, as far as establishing your dormitory rates, you are not basing your dormitory rates on that interrelationship with them; are you?

Mr. FORD. The relationship within was considered by Tredwell & Goldstein, and also similar FHA housing in the area surrounding Oak Ridge. So, when you take your dormitory rooms here in Oak Ridge and compare them with your housing facilities in Oak Ridge, and then compare the over-all package with that which exists in the surrounding area, you can see that they do have a relationship one with the other. You can't do for the dormitory what you are not doing for the residential, and vice versa.

By the way, this morning it was stated that the contract with Tredwell & Goldstein was \$25,000. It was \$20,000. The original arrangement was to include additional survey work, but it came down to housing facilities, including dormitories, and that contract was \$20,000 and not \$25,000 as stated this morning.

But this was their opinion, their expert opinion, and the lists which they made up of each unit in Oak Ridge, including dormitory units, were based upon the relationship one with the other, and with the outside area. Because all people living in Oak Ridge should be paying rents that are comparable, one with the other. That is the main basis on which that survey was made, and on which they arrived at the prices quoted this morning as to the dormitories. That is, they did not care to bring in all these surrounding ones, which we later got, simply to develop the matter and show the entire picture. They

did not consider those in their comparability survey. It was living facilities within Oak Ridge, one with the other, and with the outside area.

There was also this morning a question brought up relative to the facilities mentioned in that letter; and I believe that the committee was handed this morning a copy of the information which has been publicized here in Oak Ridge and of which a copy did go to the Washington office. I believe that should be a part of the testimony, if it suits your purpose. That is the old agreement, and the new, the old services and new services.

Representative HOLIFIELD. Without objection, this will be made part of the record, Mr. Reporter.

(The report referred to is as follows:)

DETAILS OF SERVICES FURNISHED BY JAMES H. MOORE & Co., UNDER SUBCONTRACT EXPIRING FEBRUARY 28, 1949, AND UNDER THE NEW AGREEMENT EFFECTIVE MARCH 1, 1949

#### OLD AGREEMENT

1. Furnish daily maid service in rooms, such as cleaning rooms and making beds. Cleaning halls, showers, toilets, and lobbies. Changing linens each week, furnishing four hand towels and three bath towels for each occupant weekly.

2. Furnish 24-hour desk-clerk service at each dormitory except Covington Hall. The clerk was responsible for handing out mail, telegrams, and calling the occupants on the buzzer system 24 hours per day.

3. Laundering and/or dry cleaning draperies, rugs, mattress pads, bed spreads, blankets, and closet curtains for each occupant as required.

4. Waxing and buffing floors in halls and public spaces once every 2 weeks. Walking spaces in rooms every 2 months and the entire floor in rooms twice each year.

5. Washing windows and door glass on outside every 2 months.

Cutting grass during growing season every 2 weeks.

6. Maintenance responsibility: None.

Repair all doors and windows, replacement of hardware and fabrication of keys; do all minor maintenance on doors, screens, furniture. Repair electric buzzer, lamp cords, and replace light bulbs and fuses.

#### NEW AGREEMENT

Furnish daily maid service such as cleaning showers, toilets, halls, and lobbies. Changing linens once each week, cleaning rooms once each week at the time the linen is changed. Furnishing two hand towels and two bath towels for each occupant weekly.

Furnish desk-clerk service at each dormitory between the hours of 4 p. m. and 10 p. m. daily except Sunday. The clerk is to be a resident clerk and supervise the housekeeping during certain hours in the morning and afternoons except Sunday.

Furnish matron service in each women's dormitory from 10 p. m. until 6 a. m. daily.

Furnish watchman service every hour in men's dormitories between the hours of 11 p. m. and 7 a. m. daily.

Laundering and/or dry cleaning draperies, rugs, mattress pads, bed spreads, blankets, and closet curtains for each occupant once per year. The above items are to be furnished clean for each new occupant.

Waxing and buffing floors in halls and public spaces once each month, walking spaces in rooms every 6 months and the entire floor in rooms once each year.

Washing windows and door glass on outside every 4 months.

Cutting grass as required.

Repair and replace faucets, water valves on individual fixtures. Repair registers to the heating system.

Not required to repair furniture but the furniture must be in acceptable condition when the contract is terminated or when the furniture is returned to the agent.

Mr. FORD. As to the reference made to daily linen service, that is incorrect. There was daily making of beds, except Sundays, and the furnishing of linens on one day each week. Towels were furnished once each week, four bath towels and three hand towels, as against two bath towels and two hand towels now being furnished to the residents of the dormitories.

There was also a listing of all the dormitories, their spaces, and their rates, which, if it suits the committee, I should also like to offer. That gives the name of each dormitory, its type, the number of single rooms, their rates, the number of double rooms, their rates, and the total spaces, showing the total of 1,971 spaces available in dormitories.

Then, at the foot of the chart, there is a summarization of the types of rooms, showing the number of single rooms at \$15 per month, the large single rooms in Bayonne Hall at \$20 per month, the large single rooms in Cambridge at \$20 per month, the double rooms at \$10 per space per month, the 28 rooms with connecting baths in Covington Hall at \$25 per month, the 34 double rooms with connecting baths in Bayonne Hall, at \$25 for a single occupant or \$15 for a double occupant, the 34 double rooms with connecting baths in Cambridge Hall at \$25 per month for a single occupant or \$15 for each double occupant, and the 34 double rooms with connecting baths in Cambridge Hall presently rented for \$25 by single occupants.

Representative HOLIFIELD. We will receive that for the record. (The chart referred to is as follows:)

*Break-down of type and number of spaces in active men's and women's dormitories, Apr. 16, 1949*

Dormitory	Type	Single rooms	Double rooms	Total spaces
Batavia.....	H-W	65 at \$15.....	38 at \$20.....	141
Beacon.....	H-W	65 at \$15.....	38 at \$20.....	141
Beaumont.....	H-W	65 at \$15.....	38 at \$20.....	141
Charleston.....	H-M	73 at \$15.....	38 at \$20.....	149
Canton.....	H-M	73 at \$15.....	38 at \$20.....	149
Clayton.....	H-M	73 at \$15.....	38 at \$20.....	149
Carlisle.....	H-W	65 at \$15.....	38 at \$20.....	141
Boone.....	S-M	59 at \$15.....	42 at \$20.....	143
Brockton.....	S-M	59 at \$15.....	42 at \$20.....	143
Casper.....	S-M	59 at \$15.....	42 at \$20.....	143
Cortland.....	S-W	52 at \$15.....	39 at \$20.....	130
Columbia.....	S-W	55 at \$15.....	42 at \$20.....	139
Covington.....	W	28 at \$25.....	Connecting baths.....	28
Bayonne.....	H-W	2 at \$15.....	34 at \$25.....	2
		46 at \$20.....		46
Cambridge.....	H-M	2 at \$15.....	34 at \$25.....	68
		48 at \$20.....		2
			34 at \$25.....	68

NOTE.—H-W denotes women's H-type; S-W denotes women's S-type; H-M denotes men's H-type; S-M denotes men's S-type.

#### SUMMARY

1. Seven hundred and sixty-seven single rooms at \$15 per room per month.
2. Forty-six large single rooms in Bayonne Hall at \$20 per month.
3. Forty-eight large single rooms in Cambridge Hall at \$20 per month.
4. Four hundred and seventy-three double rooms at \$10 per space per month, or for \$20 per room for single occupants.
5. Twenty-eight rooms with connecting baths in Covington Hall at \$25 per month.
6. Thirty-four double rooms with connecting baths in Bayonne Hall at \$25 per month per single occupant, or \$15 each double occupant per month.

7. Thirty-four double rooms with connecting baths in Cambridge Hall at \$25 per single occupant per month, or \$15 each double occupant per month.

NOTE.—The 34 rooms with connecting baths in Bayonne and Cambridge Halls are all used by single occupants.

Representative HOLIFIELD. At that point, may I ask you what your percentage of vacancy is now in your dormitories?

Mr. FORD. Mr. Moore could probably give that, or Mr. Worrel.

Mr. WORREL. There are slightly over 1,900 spaces available in the active dormitories, and about 1,811 of those spaces are occupied. That does not mean that there are 1,811 individuals in the dormitories, because some individuals rent two spaces.

Representative HOLIFIELD. But there is a vacancy of over a hundred?

Mr. WORREL. That is right, scattered through the 15 dormitories.

Representative HOLIFIELD. So if additional people wished to live in this area, in these dormitories, there are spaces available.

Mr. WORREL. That is correct.

Representative HOLIFIELD. You may proceed, Mr. Ford.

Mr. FORD. There is also an exhibit here which gives the furniture in each of the single rooms of the dormitories, in the double rooms, in the special dormitories, Bayonne and Cambridge Halls, in that smaller dormitory, Covington Hall; and this also shows the lobby and recreation rooms in each dormitory, the bathrooms in each dormitory, the toilets in each dormitory, the laundry facilities and kitchen facilities which are offered in the women's dormitories. Those are all enumerated in this document.

Representative HOLIFIELD. It will be made part of the record.

(The material referred to is as follows:)

APRIL 18, 1949.

#### DESCRIPTION OF DORMITORY ROOMS IN THE DORMITORIES OPERATED BY JAMES H. MOORE & Co.

##### SINGLE ROOMS IN THE H- AND S-TYPE DORMITORIES

The rooms are approximately 9 by 11 feet in size. Each room is equipped with a clothes closet with drapes. Rate per month \$15.

The furniture and furnishings are as follows: 1 Hollywood-type bed, single; 1 mirror; 1 chest of drawers; 1 desk; 1 floor or table lamp; 1 ceiling light; 1 chair with arms; 1 chair without arms; 1 waste basket; in some cases a throw rug, but this is not always furnished.

##### DOUBLE ROOMS IN THE H- AND S-TYPE DORMITORIES

The room is approximately 11 by 13½ feet and has a clothes closet with drapes for each occupant. Rate per month for each occupant \$10.

The furniture and furnishings are as follows: 2 Hollywood beds, single; 2 mirrors; 2 chests of drawers; 1 desk; 1 ceiling light; 1 floor or table lamp (in some cases two); 1 chair without arms; 2 chairs with arms; 1 waste basket; in some cases two throw rugs, but this is not standard.

##### BAYONNE AND CAMBRIDGE HALLS

There are 34 rooms approximately 10½ by 11 feet with connecting baths in each dormitory. These are single rooms and rent for \$25 per month.

Each dormitory has one room approximately 14 by 16 feet and one room approximately 12 by 16 feet. These rooms have connecting baths and rent for \$25 per month.

Cambridge Hall has 48 single rooms approximately 10½ by 11 feet that rent for \$20 per month.

Bayonne Hall has 46 single rooms approximately 10½ by 11 feet that rent for \$20 per month.

## COVINGTON HALL

This dormitory was originally constructed for nurses and was operated by the Oak Ridge Hospital until October 1, 1948.

Due to the excessive cost incurred in this operation, the Oak Ridge Hospital requested that Roane-Anderson Co. assume the responsibility for the operation of the dormitory.

Negotiations were completed with James H. Moore & Co. to operate Covington Hall effective October 1, 1948.

The services furnished by the subcontractor were the same as in all other dormitories with the exception of desk clerk services.

The desk clerk at Columbia Hall looked after the services in Covington, such as delivering mail, telegrams, and collecting of rent.

Roane-Anderson Co., made no subsidy payment to James H. Moore & Co. for the operation of Covington under the old agreement, and under the new agreement James H. Moore & Co. pays the agent \$100 per month for Covington Hall.

Under the new agreement there is no resident clerk or matron in Covington Hall; this service is furnished by the resident clerk and matron at Columbia Hall.

Covington Hall has 28 single rooms approximately 10½ by 11 feet with connecting baths that rent for \$25 per month.

## LOBBY AND RECREATION ROOMS

Each dormitory with the exception of Covington Hall has a lobby on the first floor and a reading or recreation room on the second floor. The downstairs lobby in each type of dormitory is approximately 16 by 18 feet. The S-type may be larger.

They have a 9-by-12- or 12-by-15-foot rug on the floor, chairs and settees equivalent to three settees, a large table, three floor lamps, one to three small tables, ash trays and in some cases extra pieces of furniture.

The upstairs recreation room is much larger and has quite a few chairs and a large table. Several floor lamps are in each room.

## BATHROOMS

In the semiprivate bath or connecting bathrooms, approximately 5 by 7 feet, there is a shower stall with a curtain, a toilet and lavatory, and a stool. There are four public bathrooms, one in each wing on each floor in the regular dormitories.

Each bathroom has four showers, coat hooks on the walls for hanging clothes, a bench, and the ladies' showers have curtains; the men's do not.

## TOILETS

There are public toilet rooms adjoining the bathrooms in each regular dormitory. Each room has four toilets, four lavatories, with mirrors and lights over each lavatory. There is a door to each toilet stall.

## LAUNDRY FACILITIES

Each of the 15 dormitories being utilized has a Bendix washing machine on which a 10-cent charge is made. These machines are furnished and serviced by a concessionaire.

## KITCHEN FACILITIES

In seven of the women's dormitories, kitchens for cooking purposes are provided. These kitchens are 16 by 30 feet each, and are furnished as follows:

- 36 food compartments, 16 by 24 inches with locks.
- 24 linear feet of linoleum-covered counter top, 2 feet wide.
- 18 linear feet metal-covered counter top, 2 feet wide, having places for six hot-plate receptacles.
- 3 kitchen sinks mounted in linoleum top drainboard.
- 3 tables.
- 12 chairs.
- 10 lights.

This service comes with the rent.

Two of the kitchens in women's dormitories have refrigerators.

NOTE.—When a single occupant rents a double room and pays the applicable rental rate, the occupant may request the entire furniture for the double room remain in the room, or he may request a subcontractor to remove part of the furniture.

The subcontractor will comply with the request in either case.

If the double room remains intact, and the occupant desires the linen for the double room, it is furnished.

If the occupant requests the extra furniture be removed, the occupant receives only the linen service for a single occupant.

The extra furniture is stored in a storeroom in the dormitory by the subcontractor.

Mr. FORD. I might also say that Rutherford Hall is not a dormitory, is not listed under these dormitories, and is under a separate concession, as a hotel; and the rates of \$50, for example, are for two persons, not one person.

Representative PRICE. Do they rent to one person at \$50?

Mr. FORD. Two persons are in that particular room which was spoken of this morning, a man and his wife.

I would also like to touch upon the "class distinction," as I believe it was referred to this morning, in the giving of spaces to persons here at Oak Ridge.

All spaces save dormitory spaces are allocated, there being a shortage of housing. That allocation is premised, first, on the importance of the employing group to the operation, the program of the AEC; and then assignments of housing under those allocations to the major employing groups are premised on the importance of the individual to their particular operation. Naturally, under that, Carbide & Carbon Corp. does receive a larger share, because they are performing the primary work for which Oak Ridge was instituted.

Representative HOLIFIELD. There is no discrimination practiced because of salary level?

Mr. FORD. The only thing which comes in relative to salary level would be, of course, the importance of the individual to the particular operation, whether it be Carbide or whether it be AEC, or whether it be Roane-Anderson or any other employing group within the area. The determination as to the more responsible positions is based entirely upon the opinion of the employing group, and it not made by AEC.

The salaries that were discussed this morning were premised upon a survey made by our personnel department some time ago, some 2 to 3 months ago, which in our opinion fairly substantiates what the pay levels are here in Oak Ridge. There may well be less of the so-called key employees in the dormitories than in the housing. But \$3,100 is the best estimate we have, because we do not have the pay rolls of many of the employing groups. That is, in the dormitories are the concessions, for which we do not have pay rolls. There are some contractors who are building within the area, who may have people within those groups housed in the dormitories. And there we do not have any pay rolls to guide us.

We do have access to some and the average has come from those which we have, which would be our main contractors, Carbide, Roane-Anderson, AEC, and such as that.

Representative PRICE. Mr. Ford, what were the factors involved in curtailing the services to the dormitory?

Mr. FORD. As stated this morning in connection with the Tredwell survey, the rates would have gone to \$23.50 per space as against \$15 currently paid. On discussion and after some contact with a few of the residents, it was determined that a decrease of service would be preferable to an increase in rent. The whole thing was premised on that, sir.

Representative HOLIFIELD. Do you mean by that that your decrease in services in these dormitories is the only adjustment you intend to make?

Mr. FORD. Yes, sir.

Representative HOLIFIELD. You do not intend to raise the price of the dormitory rooms?

Mr. FORD. No, sir.

Representative HOLIFIELD. It is just the decrease in the services. Now, how much do you save by decreasing these services?

Mr. FORD. About \$129,000 per year.

Representative HOLIFIELD. \$129,000 for all the dormitories?

Mr. FORD. That is correct, sir.

Representative HOLIFIELD. How many dormitories are there?

Mr. FORD. There are 14 large dormitories, and Covington Hall, the small dormitory. Those figures are shown in here; the same figures which were given to our Washington office, which, in turn, were given to your committee.

Representative HOLIFIELD. What does that average, per space? Do you have that broken down?

Mr. FORD. Savings per space?

Representative HOLIFIELD. Yes.

Mr. FORD. No. But roughly it would be dividing that by 2,000, which would be 65.

Representative PRICE. I believe some mention was made that for an additional \$7.50 per month—

Mr. FORD. That was \$6, sir. The other was an off-the-cuff remark made as to what those services would cost. I think the first statement was \$8, and then \$7.50. Later the figures were analyzed, and it was given out as \$6.

Representative PRICE. You referred to a forthcoming increase in housing rentals. Will the dormitories be included in that increase?

Mr. FORD. We had anticipated that the dormitory increase and the housing increase would be at the same time. We second-guessed the matter of when the increasing in housing rentals would come.

Representative PRICE. In other words, your dormitory status will remain the same.

Mr. FORD. The same as it is today; yes, sir.

Representative HOLIFIELD. As it is under the proposed decrease in services.

Mr. FORD. Under the decrease in services that has existed since March 1.

Representative HOLIFIELD. And that does exist at the present time.

Mr. FORD. Right, sir.

Representative HOLIFIELD. I notice that on the chart it says "proposed changes." But that change has been made.

Mr. FORD. The change has been made. It was made on March 1. A contract was entered into by the Roane-Anderson Co. and approved by the AEC.

Representative PRICE. What protection do you have in connection with fire hazard during a time when you do not have a clerk in charge?

Mr. FORD. In the women's dormitories there is a desk clerk there from 4 p. m., to 10 p. m., and a matron who is there from 10 p. m. to 6 a. m. The one who is in charge of the help in the dormitories lives there but is not on duty, except in the morning period putting the maids to work, and overseeing the work to see that it is performed correctly.

Representative PRICE. Is any responsible person on duty between 10 in the morning and 4 in the afternoon?

Mr. FORD. There is no one except the person who lives in the dormitory. But he or she could be out.

Representative PRICE. Have you given any thought to correcting the inconvenience in the matter of mail by possibly placing some boxes in there that could receive mail within the regulations of the Post Office Department?

Mr. FORD. We do not have the price of that, but there could be lock-boxes. That is done in some cases. And I believe the Post Office would put the mail in the lockboxes.

Representative HOLIFIELD. So that each individual could have a key to his box.

Mr. FORD. Their own keys to their own boxes. That would be the way in which the mail could be delivered. I can see no reason why the mail people would not deliver on that basis.

Representative HOLIFIELD. This seems to be a small adjustment that would not take a great deal of expense. I think the committee's judgment would be that it would be worthy of exploration on the part of the people in charge of your dormitories, to see if it can be effectuated without too much additional expense.

Mr. FORD. We will be glad to explore that.

There has been some discussion relative to different sets of figures.

Representative PRICE. Three sets of figures have been mentioned here. Could you tell us something about them?

Mr. FORD. The original computations made last fall were premised upon the operation of 18.6 dormitories, which were in existence at that time. Also it was made on the basis of there being desk service only between 4 p. m. and 9 p. m. The savings under those conditions would have been \$166,000 per year. I believe you gentlemen had that figure, and it was also published in the local press.

The population of the dormitories has been falling off continuously over a period of years, and dormitories have been put out of commission when the population got to the point where vacancies in other dormitories could take care of the people, allowing one dormitory to be closed.

At the present time, with 14 and a fraction dormitories—we consider Covington Hall a fraction—and then including the restoration, or the establishing of matron service between 10 a. m. and 6 p. m., naturally new figures come up. Our costs would not be as great. Neither would the amount of return be as great.

So that the figures which are reproduced in this statement, of which your secretary has a copy, are premised upon the present operations of the 14 large dormitories, and Covington Hall, based upon the matron service now being given. And we believe that those will be the figures which very closely will obtain.

Representative HOLIFIELD. From the best figures you have on the operation of these dormitories, can you tell the committee that you have been operating them at a loss?

Mr. FORD. The dormitories have been operated at a considerable loss.

Representative HOLIFIELD. How much of a loss per year has occurred?

Mr. FORD. It has come down with the decrease in the number of dormitories. It approached \$500,000 in 1948. The original 1949 budget, premised upon the dormitories shown in the exhibit when that budget was made, a year previously—

Representative HOLIFIELD. Which was how many?

Mr. FORD. At that time it was 22, I believe, when the 1949 budget was made. When we started the operation of the 1949 budget, it was 18 and a fraction. Eighteen and a half dormitories were in operation as of July 1, instead of the number which we anticipated the year before.

Representative HOLIFIELD. What did you anticipate that your operational loss would be?

Mr. FORD. For 1949?

Representative HOLIFIELD. For 1949.

Mr. FORD. \$460,000.

Representative HOLIFIELD. And that represented how many dormitories in operation?

Mr. FORD. I would want to verify that with the budget, which I do not have with me, but it was either 21 or 22 dormitories.

Also, sir, in the dormitory costs, there are four dormitories which are held for security purposes, ready for immediate use; and we have certain idle dormitories, on which watchman service is required, and a sufficient amount of maintenance service on the exterior must be performed to keep them in condition. Those also come as a part of the over-all cost of the dormitories.

Representative HOLIFIELD. That shows about \$21,000 loss per dormitory, in round numbers, if I have it figured right. Dividing 22 into \$460,000, gives you about \$21,000 per dormitory loss. Figuring 143 spaces to the dormitory, according to my figures, you show a loss in round numbers of \$146 per space.

Mr. FORD. You are computing how many dormitories?

Representative HOLIFIELD. That is arriving at your loss by dividing \$22,000 into \$460,000. That gives you approximately \$21,000 per dormitory. Then, dividing 143 spaces into that, which I understand is the average, you arrive at approximately \$147 per space. Then, when you reduce that to months, it comes to slightly more than \$12 a month loss per space in the dormitories.

Mr. FORD. If you do not consider utilities, depreciation, or any of those factors.

Representative HOLIFIELD. And your loss figure of \$460,000 did not include utilities?

Mr. FORD. Our utilities cost us on the average \$108,800 per year for the dormitories.

Representative HOLIFIELD. Have you reduced that to spaces or rooms?

Mr. FORD. No; I have not, sir.

Representative HOLIFIELD. Let us reduce that. Let us find out how you are operating here. The \$108,000 covers roughly 3,000 spaces. That is \$36 per space. So you add that to your \$147; and you are operating these dormitories at a loss of \$183 per space per year, in round figures. Is that right?

Mr. FORD. Right. That is on what we actually pay out, and not including any depreciation.

Representative HOLIFIELD. Does it include maintenance?

Mr. FORD. It includes maintenance; yes, sir.

Representative HOLIFIELD. It includes your janitor service and all operational costs?

Mr. FORD. All operational costs.

Representative HOLIFIELD. But it does not include depreciation or repairs?

Mr. FORD. It includes repairs; yes, sir.

Representative HOLIFIELD. It includes repairs, but not depreciation.

Mr. FORD. Yes, sir.

Representative HOLIFIELD. I think it is well for the people to know what the situation is here, because some of them may think you are making a lot of money on this at \$15 a space. [Laughter.]

Mr. FORD. As for the maintenance, on the original budget, sir, during the past 2 years, there has been more maintenance done than previously; because just following the war, for a 2-year period, we were very much behind in our maintenance, and the maintenance has been high. The maintenance this year will not be as large as budgeted for—(1) because there aren't as many dormitories in operation and (2) because we got further last year than had originally been anticipated. So there would have been a decrease on that basis along between the number of dormitories and the maintenance which had been done prior to July 1, of \$100,000, in our budget.

Representative PRICE. How does the subcontractor fit into that picture?

Representative HOLIFIELD. Before you take that up, I just want to make one statement.

According to your figures, here, you are getting \$15 per space in these dormitories, and in addition it is costing you \$15 more than the \$15. So according to my figures, it is costing \$30 per space for these dormitories, of which the occupant pays \$15 and the Government pays the other \$15.

Mr. FORD. That is correct.

Representative HOLIFIELD. The next thing that I want to inquire into is the subject which Mr. Price has brought up, and that is an analysis of your operational costs.

Do you wish to pursue that?

Representative PRICE. No. Go ahead. You are on that thought now.

Representative HOLIFIELD. How much of your operational costs are represented by supervisory salaries? Can that be isolated?

Mr. FORD. The amount paid out under the contract between Roane-Anderson and the James H. Moore Co.? The history of that is included in this statement here. Under the old contract we paid the Moore Co. a stated amount for each dormitory operated. Under the new contract the Moore Co. pays us for each dormitory operated, and

also performs the interior ordinary maintenance which used to be performed by Roane-Anderson.

As for the break-down of the costs, for example, let us take the first 9 months of this year. This is broken down into the same figures as were in the original budget, although the accounting set-up as of today divides them in a different manner. They were put in relation to this so as to be comparable exactly to the budget, as was requested.

In the administration of the dormitories, the Roane-Anderson Co., our agent, performs all of the extraordinary maintenance, structural repairs to the buildings, replacement of worn-out equipment or parts of the buildings, and administration of the Moore contract. Under those various headings, Roane-Anderson's costs for the 7 months from July 1 through January 1949 were \$20,737.

Representative HOLIFIELD. How many months was that?

Mr. FORD. That was the 7 months from July through January. That same figure for February was \$2,081, and for March \$3,050. The supplies and materials provided to the dormitories for the first 7 months were \$4,807.

Representative HOLIFIELD. Is that in addition to the supervisory costs? You are bringing in some other items now; are you not?

Mr. FORD. Right, sir.

Representative HOLIFIELD. Did the \$20,737, the \$2,081, and the \$3,050 include any materials or repairs, or was that strictly supervisory?

Mr. FORD. That was strictly supervisory, and a proration of the Roane-Anderson overhead for the entire operation.

Representative HOLIFIELD. Out of that amount has the Roane-Anderson Co. paid the salaries of the bookkeepers and others who take care of these dormitories, the bookkeepers and workmen? Or is this a net operational management fee?

Mr. FORD. This has nothing to do with Moore's direct operation within the dormitories.

Representative HOLIFIELD. I see. Then this is a supervisory managerial fee.

Mr. FORD. It is a proration to the dormitories of the Roane-Anderson overhead. Let us call it that. That is the entire office, from the project manager, Mr. McNeill, down through his comptrollers, accounting personnel and right straight down through their organization. The net overhead is prorated to every operation on the area under the Roane-Anderson direction. And this is the proration of that amount to the dormitory. As for direct expense in that, Roane-Anderson has a full-time person who inspects four dormitories each day. That rotates, going right straight through the dormitories, and starting over again, to make sure that the housekeeping function, repairs, and such, is being performed, and to report back on other things that are necessary.

Representative PRICE. I thought that was the responsibility of the subcontractor, Moore.

Mr. FORD. To do those things; yes. This is a check of Moore's performance by Roane-Anderson.

Representative HOLIFIELD. As I figure that, Mr. Ford, that is at the rate of \$3,221 per month average. I am using your \$20,737, your \$2,081, and your \$3,050 and dividing eight months into that. That is about \$3,200 a month.

Now, would you say—and I am asking strictly for information—that that is a fair operational expense, a fair supervisory expense? Would you say that the amount is a fair amount?

Mr. FORD. I do think so. It is a percentage of the entire operation, the cost of the entire operation. That is how you would gage it in normal contracting computations.

Representative HOLIFIELD. I think it is well to bring these figures out, so that the people will know exactly what it is costing.

Without going into it, it would seem to me that that would be a fair supervisory charge; without checking it against other like operations.

In relation to the rent charged, of \$15, if, as appears to be the case, only a very small fraction is going to managerial expense, it is evident that you cannot recoup this loss that the Government is incurring, out of the managerial fee.

Mr. FORD. You can't.

Representative HOLIFIELD. Even if you took it all.

Mr. FORD. Even if we took it all, right.

Representative HOLIFIELD. So the picture, as I see it, from these figures—and I intend to have it checked thoroughly later—is that each one of these spaces is costing the Government \$30 per month. They are in turn renting to the individual at \$15 a month. Therefore, the Government is sustaining a loss of \$15 on each space.

Mr. FORD. Would you care to have the rest of the break-down now?

Representative HOLIFIELD. What additional information do you have, may I ask?

Mr. FORD. There is the supplies and materials that I spoke of, \$4,800 during the first 7 months, and \$1,600 during February and March.

On maintenance our total for the first 7 months was, in round figures, \$82,600. In February it amounted to \$5,400. In March it amounted to \$2,200 in round figures.

Representative HOLIFIELD. Now I would like to question you on the contract by which the Moore Co. renders the actual service. As I understand it, the Moore Co. renders the actual service in the dormitories.

Mr. FORD. Correct, sir.

Representative HOLIFIELD. On a subcontract with Roane-Anderson.

Mr. FORD. Yes, sir.

Representative HOLIFIELD. The fee that has been mentioned is merely a supervising, auditing, checking, and proportional overhead fee for Roane-Anderson. Now, what is the fee paid the Moore Co. for taking care of these dormitories?

Mr. FORD. The Moore Co., under the previous bid—and I think I would have to go back here a little bit into the back history on the old contract.

Representative HOLIFIELD. Why do you go back?

Mr. FORD. To show what was, and what is, in the Moore contract, what changes have been made as of March 1 of this year.

Representative HOLIFIELD. I see.

Mr. FORD. In the contract, which expired at the end of February of this year, and through bid, they being 1 of 10 bidders, and being awarded the contract as for the best interests of the Government, the Government paid to the Moore Co. varying amounts for each dormitory operated by them.

Representative HOLIFIELD. On the basis of cost plus a fixed fee? Or on the basis of a negotiated total sum?

Mr. FORD. The specifications for operating the contracts were gotten out as to what the operation included. Those specifications were given out to 40 interested persons. Out of those, 10 submitted bids for the operation of the dormitories. Out of those 10 bids submitted, the Moore Co. submitted a bid by which the Government paid less to the operating company for operating the dormitories than any other bidder.

Entering into that were various amounts ranging from a hundred-odd dollars to nearly \$500 per dormitory, what the Government gave to the Moore Co, for the operation. The Moore Co. in turn collected the rentals, took any loss there was in the rentals, paid insurance, and provided the services. Their operation was with the rents collected and the amount received from the Federal Government.

Representative HOLIFIELD. They used the rents as far as they would go?

Mr. FORD. As far as they would go.

Representative HOLIFIELD. And then they were subsidized this \$15 per space loss by the Federal Government?

Mr. FORD. They were subsidized by the bid amount, not this amount here. Because Roane-Anderson Co. still performed those services under the old contract, except the minor maintenance.

Under the new contract, the Moore Co. pays for each of the men's dormitories operated \$300 per month to Roane-Anderson, and therefore to the Federal Government. They pay \$122.50 per month for each women's dormitory operated, with the exception of Covington Hall, that small one, for which they pay the Government \$100 per month. So that your net difference is between what they are now paying to the Government and what the Government previously paid them. That varies from \$100 to over \$800 a dormitory. And that is a major portion of the savings which were indicated previously. The balance of those savings was in the maintenance taken over by the Moore Co., minor maintenance taken over by the Moore Co.; and with a smaller contract, the proration of Roane-Anderson becomes smaller, so that your proration of the overhead of Roane-Anderson is about \$3,700 less under that arrangement than the old arrangement.

Representative HOLIFIELD. Does that decrease as you close each dormitory? It is on a sliding scale?

Mr. FORD. For example, if any one of these dormitories is closed, there will be no more payment made for that dormitory; and in turn neither Roane-Anderson nor anyone else will make any payment except to keep that dormitory exterior in shape, to prevent deterioration.

Representative HOLIFIELD. This proposed decrease in services you say will save \$128,000 to the Government. Whom does that benefit? Does that benefit Roane-Anderson, the Moore Co., or the Federal Government?

Mr. FORD. The Federal Government, sir. Every penny of saving goes to the Federal Government.

Representative HOLIFIELD. None of this saving is absorbed in additional profits by any one of the concessionnaires?

Mr. FORD. No, sir.

Representative PRICE. Did I understand you to say that the Moore Co. pays through the Federal Government about \$100 per dormitory for the privilege of operating the dormitory?

Mr. FORD. Three hundred dollars for the men's dormitories.

Representative PRICE. They pay that to the Government?

Mr. FORD. They pay it through Roane-Anderson Co. to the Government, correct.

Representative PRICE. Will you briefly explain to me how the Moore Co. makes its money, its profit?

Mr. FORD. The Moore Co. must, within the rents collected, less this amount per month for each dormitory, hire their staff, perform their maintenance services, and give the dormitories the services that are given. It must come out of that.

Representative PRICE. And how have they been coming out on that?

Mr. FORD. I don't know the exact figures, sir.

Representative PRICE. Can we get those figures?

Mr. FORD. On that incentive-type contract, we have not in the past; no, sir. That would have to come directly from the dormitory operator.

Representative PRICE. They are certainly operating with the idea of making a profit.

Mr. FORD. I certainly would.

Representative PRICE. I think that is a very important thing.

Representative HOLIFIELD. It is important, but the fact remains that they were awarded this contract in competitive bidding.

Mr. FORD. They were.

Representative HOLIFIELD. As the lowest responsible bidder.

Mr. FORD. Out of the 10 bids which were received by us or by the Roane-Anderson Co.

Representative HOLIFIELD. Now, a factor might enter in there, in the over-all consideration of this picture, as to whether the Moore Co. can afford to give additional service to these people within the terms of its subcontract. This reduction in clerical services at the desk: does that come out of the Moore Co.'s expenses, or receipts? Or does it come out of the Government's part?

Mr. FORD. The reduction there is the difference between the time when we paid Moore money each month for each dormitory, and the present situation where Moore pays us. From the analysis we have made, we believe that the Federal Government is receiving the entire benefit of the reduction in services; that the Moore Co. is not making additional profit through this decrease in service.

We get occupancy reports for each month, and we can make our estimates based on that daily occupancy as to the actual receipts he obtains from the tenants in those dormitories.

Representative HOLIFIELD. He is under obligation to carry insurance on these buildings?

Mr. FORD. Yes.

Representative HOLIFIELD. He is under obligation to make good any rents that are unpaid?

Mr. FORD. We get a rent paid for every day the dormitory is occupied. If the occupant is a week shy or a month shy, that decreases his income from that, to go against operating cost by that amount. And any insurance carried by him, any liability of any other nature,

any bonds, and so forth, must all come out of what he receives by way of rental collections.

Representative HOLIFIELD. Mr. Franklin, is the figure \$265,000 right for the amount you have estimated would be needed to subsidize the 15 dormitories in the new budget? Is that a correct figure?

Mr. FRANKLIN. I don't recall that figure of \$265,000.

Do you, Fred?

Mr. FORD. That \$265,000 in the new budget includes utilities. And based upon most recent estimates, here, right now it amounts to something on the order of \$257,000. What was that figure you had, there?

Representative HOLIFIELD. \$265,000. That is approximate.

Mr. FORD. At the rate we are going right now, including utilities, it will go to about \$257,000.

Representative HOLIFIELD. Do you have any questions, Mr. Price?

Representative PRICE. I have no questions.

Representative HOLIFIELD. Do you care to make any additional statement, Mr. Ford?

Mr. FORD. Somebody has gone over there to Norris Dam. But I was told out here that, as of last fall, the rate was \$3.75 per week per room. That was later changed. I think that was decontrolled. That was under the TVA. It was later changed, and the rate was made \$5, and the present rate is \$7. I think those three figures will cover it. But we will have a statement relative to that.

Representative HOLIFIELD. Assuming that information is correct, until we do get it verified, the three figures that were given this morning could be explained in this fashion: That the \$3.75 per week under rent control would have amounted to about \$16.08, considering the extra days in the month.

Mr. FORD. That is when it was operated by TVA.

Representative HOLIFIELD. That is when it was operated by TVA. Later on, you say, your information is that they raised that to \$5 per week.

Mr. FORD. \$5 per week; yes, sir.

Representative HOLIFIELD. Which would be \$21 plus, we will say. Then you say that they have now raised it to \$7.50 per week; is that right?

Mr. FORD. To \$7.

Representative HOLIFIELD. To \$7, which would be roughly \$30 per month. We are now referring to the quarters which the Rent Control Director said were the closest to these quarters in comparability of any quarters in the area.

Mr. FORD. Of dormitory quarters, right.

Representative HOLIFIELD. Both as to size and furnishings, and also type of construction.

Mr. FORD. Yes. There might be one other thing, sir.

Representative HOLIFIELD. I think it will be important to the committee to have those figures verified.

Mr. FORD. They are being verified at this very minute.

Representative HOLIFIELD. And we would like to have affidavits as to those figures. Because in your statement of comparability they are the only figures that I recognize, personally, as being a true comparison, or a fairly true comparison. As I understand it, this Norris

place is a smaller place than Oak Ridge. It is more isolated even than Oak Ridge; is it?

Mr. FORD. It is about 15 miles, I believe, east northeast from here. Representative HOLIFIELD. But they do have fishing and boating. [Laughter.]

Mr. FORD. Yes. We have tennis courts and golf and playing fields galore.

Representative HOLIFIELD. Do you have anything to add, Mr. Franklin?

Mr. FRANKLIN. I do not, sir.

Mr. FORD. A statement was made about these dormitories as to their being firetraps, and as to the fires which could take place and have occurred, and so forth.

I believe that the last report from our safety division might be of interest to the committee.

Representative PRICE. You are referring to your dormitories here, now?

Mr. FORD. Yes, sir.

Representative PRICE. What does the report say?

Mr. FORD. It gives the construction, the number of fire escapes, the height of windows on the second floor from the ground, 15 feet, which all fire ladders will reach, and the unusually large number of exit doors which are provided. There are at least nine in each. All are equipped with panic hardware, with doors swinging with the line of exit. Exit lights are properly placed to mark all exits.

In the H-type dormitories, there are 12 metal fire doors, and in the S-type dormitories there are six. These fire doors serve to prevent spread of the fire by sealing off the stairwell, and to protect this means of exit. Fire doors in H-type dormitories are also located to complete the firebreak, which has a 2-hour rating, provided between the wings of the building.

This firebreak consists of a masonry corridor. All fire doors are equipped with fusible links which close the doors when the temperature reaches 160 degrees Fahrenheit. Each S-type dormitory has a fire wall, cutting the building approximately in two, in order to prevent the spread of fire. This fire wall extends several feet on each side of the building and above the roof to prevent the spread of fire from sparks, and so forth.

Water supply is adequate, and fire hydrants are conveniently located to each building. All dormitories are located within one-fourth mile from fire department headquarters, a building which houses two fire companies, or one-third of the total city fire department strength.

On first alarms in dormitories, four fire companies, two-thirds of the total city fire department strength, respond. Each dormitory has a siren to warn occupants in the event of fire.

Each dormitory has the number and type of first-aid extinguishers, soda and acid, water pump, carbon tetrachloride, and carbon dioxide, specified by the Tennessee Inspection Bureau.

Inspections of the extinguishers, as well as all other fire-protective features, are made twice monthly by the Oak Ridge Fire Department.

So far as the fires are concerned, during the calendar year 1948, 40 fires in dormitories were reported to the Oak Ridge Fire Department. All were minor. Fire department apparatuses were sent in

only five cases, and the total damage from all fires was approximately \$200. All but three were out before the arrival of the fire equipment. However, some could have resulted in more extensive damage had they not been discovered in time.

Fire Department records indicate that, of these 40, nine were discovered by dormitory clerks. Of these, three were discovered during their hourly rounds. They reported them to the Oak Ridge Fire Department. Twenty-four were discovered by occupants.

Representative PRICE. Mr. Ford, a number of those were discovered by dormitory clerks, and you are going to be without the services of those clerks from 10 in the morning until 4 in the afternoon.

Mr. FORD. There were nine discovered by dormitory clerks.

Representative PRICE. Any one of the nine might have been a major fire. I would not feel too secure behind a favorable safety report, even from a State fire marshal. Because a fire, if it is not caught right at its inception, can spread very rapidly. I personally am greatly concerned about a situation in which a building of that character is unwatched at any moment during the day. I think that it is a very serious thing, something that you should give very serious thought to. Because you would have a catastrophe here, and somebody would be directly responsible for that. You have a chance now to think of that.

Mr. FORD. The buildings are not only in a fire-department patrolled area, but——

Representative PRICE. So was the hospital at Effingham. That was very close to a fire house.

Mr. FORD. I was going to say that it is also the case that they are close to the police in their tours.

Representative HOLIFIELD. Do they go through the buildings?

Mr. FORD. No; they don't go through the buildings.

Representative HOLIFIELD. They drive by?

Mr. FORD. They drive by. And that is 24 hours a day.

Representative HOLIFIELD. That is true, but an inside fire could very easily start during those hours.

Mr. FORD. An inside fire would ordinarily be detected by someone who lives there, and the maids are in there during the entire time that the dormitory residents aren't in there, because they are in there during their work during the entire morning, at least. You have probably 4 hours of the day, between 12 o'clock and 4 o'clock, when the one who lives there may not be there.

Representative HOLIFIELD. I believe you might save yourself some criticism in the future if you took into consideration those hours in which no one is responsible for guarding those dormitories. It could not amount to a great deal of expense, and it might save a lot of criticism in the future, if an internal fire should break out and destroy those dormitories.

I wanted to speak about the item of theft that was brought into the hearings this morning.

One of the arguments that was brought forward was that thefts had occurred, and frequently did occur. The inference, at least, was given that if you had someone on duty there at all times, these thefts might not occur. But as a matter of fact, these thefts have been occurring during the time when you did have a full clerical staff at the front desks.

Mr. FORD. That is correct, sir.

Representative HOLIFIELD. And so it is probably one of those things which will continue to occur regardless of whether you have a clerk at the front desk or not.

Mr. FORD. That is right. Because let us take an H-type dormitory, for example. There is a clerk at the front desk, but there is a wing going out like this [indicating] and he certainly can't see whether John Jones has a skeleton key going into Jim Smith's room. He certainly can't see that, sitting at a desk.

Representative HOLIFIELD. Is there anything further?

Do you have any further statement that you would like to make Mr. Ford?

Mr. FORD. I have nothing further. Thank you.

Representative HOLIFIELD. Mr. J. S. Thompson and Mr. R. H. Watkins have asked for the privilege of testifying before this subcommittee.

Are they in the room at the present time?

We will invite both of you to come forward and take chairs and identify yourselves to the reporter, please.

**STATEMENT OF ROBERT H. WATKINS, MEMBER, TOWN COUNCIL,  
OAK RIDGE, TENN.**

Mr. WATKINS. Mr. Chairman, my name is Robert H. Watkins.

The members of the dormitory committee asked me to come in and testify before you. I am a member of the Town Council of Oak Ridge. I represent the colored of the area.

Due to the fact that I have been asked to come in, I want to say something about what has been published in the paper about our area.

You will find that in the Negro area the living conditions are deplorable. They are bad. We have temporary hutments which were built during the war years and were occupied in August 1943. Those hutments house single men and women. We have also, in that area, some families. This past week there have been 101 of those temporary hutments that have been removed and torn down.

But I would like to say here that due to the work of this present administration, whom I have been very active in working with, in rectifying conditions over there, we find that things are going to be very much better. You will find that there have been contracts let to build houses. Some of them are being built and have roofs on them.

Representative HOLIFIELD. I might say, for the benefit of the witness, that we toured all that area this morning, and we saw the work of tearing down the hutments. We visited some of the hutments that are still there. We also visited the area where the families are being moved.

We visited the new concrete brick houses on the hill up there that are being built for your people.

You can report that the present administration is vigorously trying to correct the conditions that exist there.

Mr. WATKINS. I will say that. They have called us in on a number of occasions in planning. They had a number of houses that were to be built over there that were too expensive to our wage scale. I asked them personally to cut down on the type of houses they were

building, due to the fact that we did not want them to build a ghost town. They called in a group of us from that area, and talked it over before they made final plans for building.

I would like to state that in September of 1944 Colonel Hodgson was here with the Army and I wrote him a letter and asked him for two dormitories for women and two for men, a school, a church—all that goes to make a community worth living in. It seems we didn't get far then. But, as I say again, this administration is making every effort they can to rectify conditions over there, and make that part of the area equal with the other parts of the area.

Thank you.

Representative HOLIFIELD. I am very glad to have your testimony. We in Congress certainly are aware of the need of improvement in this area over there, and we are behind the administration in correcting a situation which probably would have been corrected long ago, if it had not been for wartime shortages and conditions.

Mr. WATKINS. Yes, sir. That is true, and thank you very much, sir.

Representative HOLIFIELD. Mr. Thompson, would you care to add anything to Mr. Watkins' testimony?

#### STATEMENT OF J. S. THOMPSON, OAK RIDGE, TENN.

Mr. THOMPSON. I have nothing to add other than the fact that we are not living in the past. We know that the conditions have prevailed over there, and that some things are being done about them. What we are primarily interested in there is the future of Negroes at Oak Ridge.

We would like to see Negroes with opportunities to live like other folk. In other words, we would like better jobs here, so that we can get the better type Negro into Oak Ridge.

If facilities are made available for such, we are quite positive that we could fill positions with competent Negroes if the positions are available.

Under the conditions that presently exist, with the type of living that we do, and the conditions that prevail, an effort is being made to make the conditions as livable as possible. If the conditions were better, we would have a better type of people here and we would have better relationships.

The fact remains that if you live like dogs, you will act like dogs.

As I said before, what we are primarily interested in is the future for Negroes at Oak Ridge.

Representative HOLIFIELD. I think you will find that your housing facilities will be improved, and also the school facilities for your children will be improved in the very near future. I understand plans are under way to improve those conditions.

We thank both of you gentlemen for your testimony.

Mr. THOMPSON. Thank you, sir.

Representative HOLIFIELD. Is there any citizen in this hall who would like to appear before the subcommittee and make a statement on some point which has been overlooked? The Chair will extend that courtesy to any citizen who has something worth while to contribute to this testimony.

Mr. Minor has asked for an additional 5 minutes.

Mr. Minor, will you please take the chair?

**FURTHER STATEMENT OF W. H. MINOR, CHAIRMAN, CENTRAL DORMITORY COMMITTEE, OAK RIDGE, TENN.**

Mr. MINOR. Thank you, sir.

Mr. Chairman, we have seen in the testimony that has been given here the break-down of the argument of comparability as it was advanced by Mr. F. W. Ford on the 23d of February in his meeting with the dormitory residents.

We have seen the break-down of the comparability argument which follows the same line, from the Honorable Chairman and Honorable Vice Chairman of AEC, the Production Manager, and the General Manager.

Mr. Ford had said that last March they started checking on comparability. The well and nationally known firm of Tredwell & Goldstein was employed to make that survey, at a given price, from New York.

I wonder what classification that firm is listed in the New York telephone directory. I am unable to find, in any telephone directory of the last 3 years, the name of Tredwell & Goldstein in real estate.

There has been an effort on the part of the officials of AEC to collect information in regard to comparability, since March of 1948; and here today they apparently do not have the facts available. They paid a large sum of money for the report of Tredwell & Goldstein, and I wonder if that report has been introduced into the record, as it applies to dormitories. It has been brought up and has been mentioned here several times.

One factor that has been overlooked entirely is the fact that with the maid service as it is, attempting to take care of one-fifth of each dormitory each day, after the maid has finished her work on Monday, a man could die in his room and would not be discovered for 7 days.

We have just gone through a picture where that happened, and it was 72 hours before the man was discovered dead in his room. That is rather deplorable. And, of course, we have the fire hazard, again.

In the majority of the dormitories, we have the hand pump for putting out a fire. Most of the upholstering in the dormitories is of material which, once it catches on fire, burns very rapidly. And it burns internally, into the cushion, so that when you come to put that fire out, it blazes up and makes quite a fire.

I happened to run into one of those things. That is why I am in a position to speak of it.

If a drunken person in one of those rooms happened to throw a cigarette in one of those chairs and climb into bed, in an hour's time, the walls would be a mass of flames.

I believe that a check with the insurance companies would indicate that the exterior doors to the wooden fire escapes are slightly smaller than they care to assume risks on in insuring the possessions of the tenants.

We came in here, of course, prepared to shoot at comparability, which was the one item outlined by all officials of AEC as being what they were aiming at; and not exact comparability, but something approaching comparability.

We believe that had the chart been factual there would have been no picture of true comparability.

We do believe that, of course—and we have to go back now to something that has been said, and then I will terminate right away—the

costs for maintenance are extremely high. We have painted two large buildings adjoining the city administration building. After they were completely painted, gutters and all that sort of thing, the Roane-Anderson Co. came in and they put on new painters, and now they have to be painted again.

Things like that are very high. Maintenance is very costly. And, of course, we pay \$16,000 a month for management. Good management cuts down maintenance costs.

There is a thought in there for you in the fact that last year, operating 18 dormitories, we paid as high as \$800 per dormitory to have them operated. This year, we operate fewer dormitories, and they pay us for the operation of them. It would seem that in the operation of many dormitories there would be savings.

There is just food for thought in that particular item.

I want to thank you, gentlemen, for your courtesy, and I want you to know that it is extremely appreciated by all of the residents of the dormitories.

Representative HOLIFIELD. We certainly appreciate the time that all of the witnesses have given to this problem, and their testimony before our subcommittee.

We will ask for further information on the Tredwell-Goldstein report. We will explore the fire hazard matter further, and we will inquire into the attitude of the fire insurance underwriters of the State of Tennessee in regard to the situation there.

As to the comparability chart here, I believe it has been testified by Mr. Ford that the information given in this chart has been furnished in most part as a matter of information as to surrounding facilities, without regard to their quality in comparison to the dormitory facilities here, with the exception of the TVA Norris facility, which the letter which you introduced from the rent director showed was possibly the only really truly comparable structure and operation in this vicinity.

Do you have any comment to make on the TVA Norris structure in comparison to this structure, as to whether it is a good comparison or not?

Mr. MINOR. One thing in addition might be said there. I called the rent director this morning, before we went into session, to find out if that area had been decontrolled. It has not been decontrolled. And that is the nearest approach that we have to comparability in the neighborhood.

Representative HOLIFIELD. We will assure the residents, and you as representative of the dormitory group that we will explore that phase of this comparison before making our decision known to the Atomic Energy Commission.

Thank you very much.

Mr. MINOR. Thank you, Senator.

I want to thank everyone who came down here.

Representative HOLIFIELD. Unless there is a further statement to be made by someone in the room, that will close the hearing.

Mrs. EDWARDS. May I make one more statement, please?

Representative HOLIFIELD. Mrs. Edwards.

Mrs. EDWARDS. We forgot to tell you that written into the new contract with Mr. Moore it is stated that dormitory residents get only one clean bedspread, and drapes for their closets, which are without

doors, per year. We get only one per year. If they are laundered, we must launder them.

I think that might be interesting.

Then I want to close with this: Isn't it rather appalling that Roane-Anderson makes so much money in order to lose so much money for the Government? [Applause.]

Representative HOLFIELD. I think that the Chair will allow the lady to have the last word, as usual. [Laughter.]

The meeting is adjourned.

(Whereupon, at 3:15 p. m., hearing in the above-entitled matter was adjourned.)

## APPENDIX

UNITED STATES ATOMIC ENERGY COMMISSION,  
Oak Ridge, Tenn., April 21, 1949.

### MANAGEMENT AND OPERATIONS OF DORMITORIES AT OAK RIDGE, TENN.

#### 1. Space utilized and services rendered

As of this date, 15 dormitory buildings are being utilized to house 745 single men and 745 single women who are employed in various capacities in the Oak Ridge area. There are eight dormitories for women and seven for men.

Twelve regular dormitories, depending on type, contain from 52 to 73 single rooms approximately 9 by 11 feet and from 38 to 42 double rooms, approximately 11 by 13½ feet. Two so-called special dormitories are similar to the regular dormitories except that each contains 34 rooms, approximately 10½ by 11 feet with connecting baths and from 46 to 48 single rooms, approximately 10½ by 11 feet, with connecting baths. Another so-called special dormitory, Covington Hall, which is operated in conjunction with Columbia Hall, and originally constructed as a nurses' home, has 28 single rooms, approximately 10½ by 11 feet with connecting baths.

Each dormitory, exclusive of Covington Hall, has a suitably furnished waiting room on the first floor and a recreation room on the second. With the exception of the special dormitories, all rooms of which have connecting baths, each dormitory has four shower rooms, each containing four shower stalls (with shower curtains in the women's dormitories) and suitable coat hooks on the walls for hanging clothes. In addition, they have four toilet rooms with each room containing four toilet facilities and four lavatories with mirrors and lights over each lavatory.

Each single dormitory room contains a clothes closet with drapes and the following items of furniture: One Hollywood type bed (single), one mirror, one chest of drawers, one desk, one floor or table lamp, one ceiling light, one chair with arms, one chair without arms, and one waste basket. In some cases a throw rug is furnished. The double rooms contain two or more of the furnishings usually found in the single rooms.

In the 15 dormitories being utilized, 767 single rooms are rented for \$15 per month, 94 single rooms for \$20 per month, 473 double rooms at \$10 per living space or \$20 for a single occupant, and 96 rooms with connecting baths at \$25 per month. These rates are the same as those established for the same living accommodations when the dormitories were placed in operation during World War II, and when highly subsidized inducements were necessary to attract working personnel to Oak Ridge.

Currently, the following services are furnished in the dormitories: (1) Public spaces, such as showers, halls, toilet rooms, lobbies, recreation rooms, are cleaned daily; (2) bed linens are changed weekly; (3) rooms are cleaned weekly; (4) two hand towels and two bath towels are furnished each week to each occupant; (5) desk clerk service for men from 4 p. m. to 10 p. m. and for women 4 p. m. to 10 p. m. daily except Sunday, including distribution of mail to boxes and room buzzer service; (6) matron service in women's dormitories from 10 p. m. to 6 a. m. daily (with the exception of Covington Hall, which has never had desk service, being operated in conjunction with Columbia Hall); (7) hourly watchman service in men's dormitories from 11 p. m. to 7 a. m. daily; (8) drapes, rugs, mattress pads, bed spreads, blankets, and closet curtains are laundered or dry cleaned once each year; (9) clean items are provided each new occupant; (10)

walking spaces in the rooms are waxed and buffed every 6 months and the entire floor once each year; (11) windows and door glasses are washed every 4 months; and (12) cutting of grass as required.

In seven of the women's dormitories, kitchens for cooking purposes are provided. These kitchens are 16 by 30 feet each and are furnished as follows: 36 food compartments 16 by 24 inches with locks, 24 lineal feet of linoleum, covered counter top 2 feet wide, 18 lineal feet of metal covered counter top 2 feet wide having places for six hot plate receptacles, three kitchen sinks mounted in linoleum-top drainboard, 3 tables, 12 chairs, and 10 lights. This service goes with the rent. Two of the kitchens in the women's dormitories have refrigerators. In addition, each of the 15 dormitories being utilized has an automatic washing machine on which a 10-cent charge is made. These machines are furnished and serviced by a concessionaire.

Services as specified were previously furnished on the following basis: (1) Desk clerk services were provided 24 hours a day, (2) rooms were cleaned daily and beds made except Sunday, (3) four hand and three bath towels were furnished to each occupant weekly, (4) windows were cleaned every 2 months, (5) waxing and buffing of walking spaces in the rooms was done bimonthly and other spaces semiannually.

## *2. Comparability of services and charges*

Under the current rental schedule for dormitory space, the Atomic Energy Commission, the Roane-Anderson Co., and the James H. Moore Co. feel that the charges are reasonable and the services rendered sufficient. Comparability surveys have been made in this connection.

In March 1948, as part of a study on rental structures in Oak Ridge, the Roane-Anderson Co. was directed by the AEC to engage the services of a nationally known consultant appraisal firm to review all Oak Ridge living accommodations. The firm of Tredwell & Goldstein of New York City was engaged to make the survey, including recommendations to the Roane-Anderson Co. as to rental rates and service policies. Furthermore, Roane-Anderson Co. representatives inspected dormitory facilities in the Washington, D. C., area to secure other comparative data.

Since there were no large groups of dormitories in the communities adjacent to Oak Ridge with which Tredwell & Goldstein could compare living accommodations and recommend rental charges based on comparability, they made their study in the following manner:

They arrived at the room rent value on Oak Ridge residential units other than dormitories by comparison of these units with units in the surrounding areas. They then drew a comparison between dormitory accommodations on the basis of livability to other residential units in Oak Ridge. They then recommended that the cost of providing maid and linen services in the occupied dormitory rooms and the cost of furnishings be added to the recommended rental charge which ranged from \$15 for regular single rooms with no bath to \$22 for special large double rooms with connecting baths. If these recommendations had been followed, the rental schedule would have ranged from \$23.35 for regular single rooms with no bath to \$38.70 per person for special large double rooms with connecting baths.

After careful consideration by both the company and the Commission, it was believed that it would be more acceptable to dormitory residents generally if some of the services were eliminated rather than a raise in the rates. This decision was based on the knowledge that a great many dormitory residents, due to personal considerations, would prefer changes in services to a substantial rate increase. It was planned that the dormitory operator would designate dormitories where more complete services would be provided if a sufficient number of dormitory occupants indicated willingness to pay an additional charge for such services.

A dormitory survey also was made in the Washington, D. C., area. The two-story buildings comprising the federally operated dormitories at Arlington Farms, in the Washington area, were built in 1942. They are considered to be of temporary construction and are similar in construction to Oak Ridge dormitories. The main difference is that each building has additional wings providing 610 spaces while the dormitories in Oak Ridge contain an average of 143 spaces. There also are other buildings on the site such as cafeterias, recreation halls, infirmary, and maintenance shops, all of similar construction.

The room rental schedule follows:

Twenty rooms, double, \$16.50 each occupant.

Two rooms, large double, \$22.50 each occupant.

Three rooms, large double, \$24.50 each occupant.

Five hundred and thirty-six rooms, single, \$24.50 each occupant.

Twenty-one rooms, single; \$28.50 (corner rooms).

The following services are furnished: (1) Rooms are cleaned once a week on an established scheduled day; rooms are dusted, damp mopped, and bed linens changed; two bath towels and two hand towels are provided weekly on an item-for-item basis; room floors are waxed only when the executive housekeeper thinks it necessary; cleaning equipment is available on each wing floor for use by the residents—brooms, mops, wax, etc.; each room is thoroughly cleaned twice a year, walls washed down, etc.; two sheets, one pillow case (each week), two blankets (cleaned once a year by the maids in between seasons), and a bedspread is provided; curtains and bedspreads are cleaned, when required, by the maids; basement facilities are available for washing and drying; windows are cleaned by maids and housemen each spring only. (2) Laundry rooms are on each floor and electric irons are available (no charge). (3) The office desk is open from 7 a. m. to 11 p. m., and mail service is provided 6 days a week. (4) Small kitchens are available for limited use; dishes, utensils, and refrigerators are provided; hours are limited and kitchens are cleaned up by residents.

The single rooms are slightly smaller than the single rooms at Oak Ridge, the double rooms approximately the same.

The furnishings in the rooms are inferior to those at Oak Ridge. For instance, the bed is similar to a cot in construction, light in frame with crossed wire for springs; the mattress is an inner-spring type; blankets are adequate; a small writing desk is included in the single rooms and a slightly larger table in the doubles; in single rooms, a three-drawer dresser and mirror is provided, and in doubles a five-drawer dresser; no rugs are included; residents are permitted to supplement their furniture but only upon approval of the hall director.

The small closet space has a door and a lock which is opened with the guests' door key; corridors have carpet runners the full length.

At the University of Tennessee there are three types of dormitories.

Type 1 is known as the Melrose Dormitory, consisting of three buildings, broken down into seven units. This type of dormitory houses 358 men as follows: 164 men in single rooms, 9 by 12 feet, at \$75 per quarter or \$25 per month per person; and 194 double rooms, 12 by 13 feet, at the same rate per person.

The buildings contain 47 well-furnished living rooms, 200 square feet each. Each unit has a built-in kitchenette in one of the living rooms for special use by students, and an elevator. Each unit has a large social room, 783 square feet in size, and there is one recreation room, 1,500 square feet in size, to serve the three buildings. There are 47 bathrooms throughout the three buildings, each having two showers, two toilet facilities, and two wash basins. Each bath accommodates eight students.

Maid service is furnished daily. Linens, towels, and blankets are not furnished. The clerk service consists of a resident manager and one clerk, assisted by faculty and students. One-way buzzer systems are installed in the rooms, with pay telephone booths in each unit. Draperies and bare pillows are furnished. Each room has a built-in desk for each occupant, a chest of drawers, book shelves, single wood beds with inner-spring mattresses, one lounge chair, a desk chair, a one-drawer night stand and closet space. Each occupant has a post-office box in the mail distribution room.

The second type is the Stadium dormitories, which house 690 men, three to a room, with rates of \$45 per quarter for each occupant or \$15 per month. There are four floors and three large toilet rooms, each having six tile-partioned showers, seven toilet facilities, and seven wash basins with mirrors, and six urinals. It has one large recreational unit. There are two large living rooms on each floor. The bedrooms are 12 by 17 feet and are furnished as follows: One wood double-deck bed, one single bed, one night stand, two desks, one combined desk and chest of drawers, two chests of drawers with mirrors, three desk chairs and one lounge chair. There is no desk service or maid service. The students make up their own beds but janitorial service is furnished. There is a two-way buzzer system. Occupants are required to furnish their own bed linens, blankets, towels, and accessories, including pillows. The buildings are steel and concrete and about 1 year old.

The third dormitory is a temporary structure about 2½ years old, a prefabricated wooden frame building, consisting of rooming quarters only. There is no lounge or recreation rooms. The double rooms are 8 by 11 feet and rent for \$35 per quarter or approximately \$12 a month per occupant. Rooms are furnished as follows: One double double-deck Army type bed with a regular Army mattress, two writing tables, two chests of drawers without mirrors, and two desk chairs.

Occupants are required to furnish their own bed linens, blankets, towels, accessories and pillows. No buzzer systems or telephone facilities are available. No desk service or maid service is furnished. The students make up their own beds, but janitorial service is furnished.

At Norris, Tenn., one wooden frame two-story dormitory with hardwood floors, consisting of 20 rooms, 10 by 10 feet each, is available for occupancy. The dormitory was built in 1933. Forced warm air heats the rooms. The room rates are \$7 weekly or approximately \$30 per month, with one bathroom available on each floor. Each bathroom has four shower stalls, four toilet facilities, and four lavatories with lights over each lavatory. The rooms are furnished with one three-quarter bed, a table, closet, easy chair, and straight chair. Floors are bare.

The dormitory is leased from the Norris Properties, Inc., by a young couple who furnish all services from management to janitorial. The rooms are cleaned daily when in use, linens are changed once a week, and clean towels furnished daily. No buzzer system is furnished nor is telephone service available except in the main office. General custodial service on the premises is available, but no desk clerk is employed.

At the Watauga Dam construction site, a TVA project approximately 150 miles northeast of Oak Ridge, three men's dormitories are in operation, with 88 rooms each, 9 by 9 feet in size. The dormitories are portable type, demountable frame buildings about 6 years old. These rooms rent for \$18.20 a month when occupied by a single person and \$13 per person per month when occupied by two persons. When two persons occupy the room, a double-decker bed is furnished.

The single rooms have one Army-type steel cot, one table, clothes closet, and one chair. The double rooms have one double-decker Army-type steel cot, one table, a double clothes closet, and two chairs.

General janitor service is available with clean bed linen furnished weekly. No towels or soap are furnished. There is no desk or room-clerk service, no telephone service except in two buildings about a block away and no buzzer system. Floors are bare. Janitor service is furnished from 7 a. m. to 3:30 p. m., daily, and watchman service is furnished by three public safety men on 8-hour shifts who patrol an area which also includes the administration building and dam site proper. No mail is delivered to the dormitories from the post office about a block away.

Similar quarters and services are available at the South Holston dam site nearby at the same rates.

In Knoxville the YMCA is a reinforced concrete building with brick walls and bare, cement floors in the rooms. The building, constructed in 1930, has 113 rooms, of which 100 are single and 13 double. All rooms are 8 by 12 feet. The rates range from \$26 minimum to \$28.50 maximum for regular rooms depending on the location, with a discount of approximately \$1.10 if rent is paid in advance.

These rates are applicable to only members of the YMCA. Transient rate is \$1.50 a day. Recreation facilities, including gym and swimming pool, are available to all occupants. Rooms are furnished with a steel dresser, a bed, a desk, an easy chair, and a straight chair.

Desk clerk service is given 24 hours a day, maid service daily exclusive of Sunday, and watchman service from 10 p. m. to 6 a. m. daily. Linens are changed once a week and bath and face towels once a day. A two-way buzzer system is provided with a telephone on each floor. No soap is furnished except to transients. Each floor has a common washroom which contains six lavatories, three showers, three toilet seats, and urinals. Each common washroom serves from 39 to 43 men.

### 3. Nature of contract

Under a general policy of the Atomic Energy Commission which encourages private enterprise to carry forward a great variety of functions in the community, the Roane-Anderson Co. has sublet the dormitory operations to the James H. Moore Co., which has had past experience in real-estate operations on an incentive contract basis.

The contract specifies that the James H. Moore Co. shall pay monthly to the Roane-Anderson Co. \$300 for each men's dormitory operated and \$122.50 for each women's dormitory operated except Covington Hall for which \$100 is paid. There is also set forth the manner in which the existing number of dormitories operated may be increased or decreased.

The specified services furnished by the Moore Co. to tenants have been already enumerated. The Moore Co. is permitted to furnish additional service upon application of the occupants at a price agreed upon between the Moore Co. and the occupant provided the prior approval of Roane-Anderson is first obtained.

The Moore Co. is made responsible for all minor maintenance which includes such items as (1) repair all doors and windows; replacement of hardware and fabrication of keys; do all minor maintenance on doors, screens, furniture. (2) Repair electric buzzer, lamp cords, and replace light bulbs and fuses. (3) Repair and replace faucets, water valves on individual fixtures; repair registers to the heating system.

The Roane-Anderson Co. is made responsible for all major maintenance and structural repairs and the replacement of worn-out fixtures and Government property furnished as a part of the building.

The rents charged are specified in the contract and cannot be changed without approval of the Roane-Anderson Co. The Moore Co. collects and retains gross receipts which are applied against the operation costs. The Moore Co. reports monthly to the Roane-Anderson Co. the occupancy of each dormitory operated.

The Roane-Anderson Co. inspects the premises and the operation of the business to insure that the Moore Co. provides the services and maintenance required by the contract.

All utilities are furnished by the Roane-Anderson Co. and include electricity, water, heat, sewage, refuse removal, and refrigeration service.

The estimated financial result to the Government under the new arrangements follows:

*Estimated Oak Ridge dormitory operation costs*

Dormitories	Fiscal year 1949 budget submission	Estimated 12-month total <sup>1</sup>		Savings
		Old basis	New basis	
Administration (RA general overhead)-----	\$31, 871	\$36, 997	\$33, 167	\$3, 730
Supplies and materials-----	8, 691	8, 307	8, 307	0
Routine maintenance-----	207, 046	82, 901	42, 251	2 40, 650
Nonrecurring maintenance-----	53, 405	61, 244	61, 244	0
Operation (subcontract services) <sup>2</sup> -----	159, 502	89, 427	3, 927	85, 500
Miscellaneous revenue-----	0	(777)	(777)	0
	460, 515	278, 099	148, 119	129, 980
Utility services (included under appropriate utility in the budget):				
Water-----		484	484	0
Electricity-----		6, 986	6, 986	0
Steam-----		101, 360	101, 360	0
Total, utilities-----		108, 830	108, 830	0
Total, estimated costs <sup>4</sup> -----		386, 929	256, 949	129, 980

<sup>1</sup> Estimates on the old basis are based on Roane-Anderson Co. experience for 7 months ended Jan. 31, 1949, after giving effect to the following changes in status of dormitories:

	Active	Standby for security	Idle
July 1, 1948-----	18½	4	16
Oct. 20, 1948-----	16½	4	18
Jan. 31, 1949-----	15½	4	19
Mar. 8, 1949-----	14½	4	20

The old basis is based on actual number of active dormitories in fiscal year 1949 as shown in the table above. The new basis is based on 14½ active dormitories for a 12-month period.

<sup>2</sup> Routine maintenance savings on new basis consist primarily of approximately \$234 per month per dormitory.

<sup>3</sup> This represents net operating costs to the Government and includes allowance either for payment to or payment from the operator together with costs of other subcontract services such as refrigerator service, boiler firing, fuel and fuel delivery, and refuse removal. The operator pays for his expense and retains a profit out of rental receipts received from dormitory residents. The operator has informed the Roane-Anderson Co. that during the 7 months through January 1949, his rental receipts totaled \$195,989.

The recent negotiations between the Roane-Anderson Co. and the operator, which modified the original lump-sum contract, involved adjustments of services and maintenance responsibilities provided by the operator and consequent adjustment of monetary considerations for the benefit of the Government. The adjustment of monetary considerations was negotiated on the basis of estimated cost of services to be eliminated and of the additional maintenance burden to be assumed by the operator.

<sup>4</sup> These costs do not include land rental, depreciation, or amortization on structures or equipment

#### 4. History of dormitory operations

Dormitories in Oak Ridge, as are all other buildings and property in the community, are Government-owned. Operation of dormitories is the responsibility of the Roane-Anderson Co., a cost-plus-fixed-fee contractor which carries out and supervises a wide variety of municipal and real-estate functions in Oak Ridge.

On December 11, 1943, the United States Army, through the Manhattan District, assigned responsibility for the operation of the Oak Ridge dormitories to the Roane-Anderson Co. At that time, 17 dormitories, housing 2,300 individuals, were in operation.

The number of dormitories increased until dormitory occupancy eventually reached a peak of over 13,000 in May 1945 when 80 dormitories were being operated.

The services provided dormitory occupants during this period were almost equivalent to the services that many hotels provide to their guests, in that daily, except Sunday, maid and linen service was furnished and 24-hour desk clerk and message services were provided.

The type of services maintained, combined with an extremely low rental schedule, created a condition that made it necessary for the Government to underwrite a large subsidy.

The fixing of a rent schedule at that time was influenced by the then prevailing conditions of security restrictions, unpaved streets, lack of curbs, gutters, drainage, sidewalks, and grass, inadequate commercial and recreational facilities, etc. The rental was set low to offset these conditions. As of this date, the Government has spent millions of dollars to correct or improve these conditions. Although many of the conditions that established the difference in rental rates have now been eliminated and living conditions in Oak Ridge have improved to a considerable degree, the rental rates have remained unchanged.

In the spring of 1945 it became apparent that the peak of the dormitory population and employment on the area would soon be reached. Discussions then were held regarding operational changes that could reduce Government costs. It was decided that every effort would be made to interest private business in operating the dormitories.

Competitive proposals were then taken for operation of either all or part of the dormitories on an incentive-contract basis. The operation of 12 dormitories was contracted to the Leatherman & Alley Co., of Old Fort, N. C., July 16, 1945. On August 20, 1945, the operation of the balance of the dormitories was contracted to the Galbreath & Moore Co., of Columbus, Ohio. Both contracts were let on the basis of the best bids.

Both the Leatherman & Alley Co. and the Galbreath & Moore Co. were required to furnish all personnel needed to provide such services as desk-clerk services, room assignments, custodial services, maid and linen services, firing of heating plants and maintenance of the heating equipment, minor maintenance on the structure and the equipment, exclusive of the furnishings, and other items. Roane-Anderson was responsible for major maintenance items, laundering and furnishing of linens, drapes and blankets, replacement of furniture and defective equipment, and other items.

Shortly afterward occupancy gradually decreased, due to some curtailment of production operations and the completion of the majority of construction projects. This made it possible to close some dormitories. On September 15, 1946, since only four of the dormitories operated by the Leatherman & Alley Co. were active, they were transferred to the Galbreath & Moore Co. contract, which was extended for a year and subsequently extended to January 31, 1948. On September 15, 1946, 40 dormitories were being operated and on January 31, 1948, at the expiration of the contract, on 21 dormitories were active. Each time the contract was extended, cost to the Government was decreased.

In November and December of 1947 specifications for the operation of 18 dormitories and three efficiency apartments were advertised. Competitive bids were taken December 3, 1947. Forty-nine private companies and individuals requested specifications and bid forms. Ten bids were received.

The James H. Moore Co. of Oak Ridge was low bidder and was awarded the contract by the Roane-Anderson Co. with the approval of the Atomic Energy Commission, which had taken over operations from the Manhattan District January 1, 1947.

After discussions in September and October of 1948, it was decided to negotiate contract modifications with the Moore Co. for dormitory operations subsequent to January 31, 1949, subject to securing a fair price, rather than to

take competitive bids. When this decision was reached, a final determination had not been made as to the rental schedule and service policy that would be followed after January 31, 1949. It was therefore not possible to complete negotiations with the Moore Co. at that time.

The decision to change dormitory operations was based on a stated policy of the AEC to reduce operation costs wherever possible and because it is obviously no longer necessary to offer highly subsidized inducements to attract personnel.

On January 18, 1949, representatives of Roane-Anderson and the Commission decided that the rental schedule would not be changed but services furnished dormitory occupants would be decreased, effective March 1, 1949. The company then completed negotiations with the Moore Co. and extended the contract then in effect through February 28, 1949, and reached an agreement on a modified contract to become effective on March 1, 1949, and expire on February 28, 1950. The Moore Co. notified dormitory residents January 31, 1949, that service policies would be changed March 1, 1949.

The decision to negotiate contract modifications with the Moore Co. rather than obtain competitive bids was based on the following: (1) It was believed that reductions could be effected by the Moore Co. with less inconvenience to the tenants and with less impact on production operations on the area than would result if the reductions in services became effective at the same time that a new and, in all probability, inexperienced operator, took over operation of the dormitories. It was, therefore, considered to be to the best interests of the Government to negotiate modifications, providing satisfactory terms reflecting a fair credit to the Government for the value of the contract changes could be obtained. (2) The contract had originally been awarded the Moore Co. as lowest bidder of 10 who submitted proposals after Roane-Anderson had completely canvassed the field for dormitory operators. (3) The Moor bid had been lower than the company's estimate. (4) It was the opinion of the company and the AEC that all bids that could be obtained by competitive bidding would reflect a higher cost to the Government than would result from negotiating on the value of the contract modifications with the Moore Co. This opinion was based on the fact that the operating costs of most service contractors, both nationally and locally, had increased since February 21, 1948.

Both the AEC and Roane-Anderson believed that the consideration provisions of the modified contract negotiated with the Moore Co. to become effective March 1, 1949, reflects a fair credit to the Government for the value of the contract changes. This opinion is based on estimates of the decrease in operating expenses of the Moore Co. that will result from the decrease in services provided occupants and the additional expenses incurred by the Moore Co. by the assumption of maintenance responsibilities not required by original specifications.

It has been and is the policy of AEC, wherever practicable, to contract with private enterprise, including small businesses, for the operation of services and facilities required by the Atomic Energy program. In keeping with this policy, the Commission has entered into an increasing number of contracts and sub-contracts including such a wide range as those with Carbide, Roane-Anderson, American Industrial Transit, Skidmore, Owings & Merrill, The Oak Ridger (daily newspaper), WATO (radio station), the theaters, the Guest House, grocery, meat market, drug, department, clothing stores, and so forth.

The modification in the Moore contract reflects the publicly announced policy of the AEC to adjust rentals and services in the towns operated by them toward comparability with those prevailing in the surrounding rent-controlled areas. In justice to the whole body of American taxpayers, the AEC feels that high subsidies can no longer be continued in housing operations.

After careful consideration by the company and the Commission, it was believed that it would be more acceptable to the dormitory residents generally to achieve a part of the necessary reduction in net loss to the Government by eliminating some of the present services rather than by raising the rates. An important factor in this decision was a knowledge that some dormitory residents, due to personal considerations, would prefer changes in services to a substantial rate increase.

Even at the present rates and newly specified services, the Government will continue to lose money on dormitory operations. The savings to be realized from the service changes which went into effect March 1 will go to the Government and will yield a substantial reduction in the net loss of the operation.

UNITED STATES ATOMIC ENERGY COMMISSION,  
Oak Ridge, Tenn., May 24, 1949.

MR. WILLIAM L. BORDEN,  
*Executive Director, Joint Committee on Atomic Energy,  
Room 4-A West Terrace, Capitol, Washington, D. C.*

DEAR MR. BORDEN: At the hearings on dormitory rentals at Oak Ridge, Tenn., on April 21, 1949, Hon. Carl T. Durham, chairman of the subcommittee, requested that the subcommittee be furnished information regarding the cost of family housing operations in Oak Ridge including the average revenue and the loss per unit per month.

The enclosed statement shows actual maintenance and operating costs and revenues for the 9 months of the current fiscal year ended March 31, 1949, together with an estimate of what the costs and revenue would have been if the recently announced new license agreement had been in effect during that period.

Under the terms of the new license agreement maintenance services furnished by the company to occupants of family housing units more nearly approach the services normally furnished by landlords. This will result in an estimated saving of \$3.52 per month, per housing unit, to the Government; however, the cost to the tenants for the routine maintenance which they will assume under the new agreement will vary from \$0.58 per month to \$1.75 per month, per unit. It should be noted that this is less than the estimated savings to the Government. There are several reasons for this difference, such as—

1. The average costs to the Government for fuse changes performed by Roane-Anderson Co.'s forces is \$2.18. This cost is high since an electrician and a truck are required. Also 24-hour maintenance service is provided. A tenant can purchase a fuse for 10 cents and should be able to change it himself in a few seconds.

2. The average cost to the Government for repair of leaky water faucets involving replacement of washers is approximately \$1.93 when performed by Roane-Anderson. Again the cost is high for the reasons given in No. 1 above. The cost to the tenant would be only a penny or two for a washer and 10 or 15 minutes of his time.

Under the new license agreement, revenues collected will increase approximately 18 percent. During the 9-month period reflected by the enclosed statement, the average monthly revenue per unit would have been \$43.63 instead of the actual revenue figure of \$37.

A great many savings have been accomplished during the current fiscal year prior to the announcement of the new license agreement. For example, average monthly housing costs of \$585,460 during the first 6 months of the fiscal year were reduced to an average of \$384,741 during January, February, and March, 1949.

We hope that this reply fully responds to Congressman Durham's request.

Very truly yours,

J. C. FRANKLIN,  
*Manager, Oak Ridge Operations.*

## OAK RIDGE OPERATIONS, FAMILY HOUSING COSTS, FISCAL YEAR 1949 (INCLUDING ELECTRICITY, FUEL, AND WATER)

*Comparative statement—Previous and new agreements—9 months (July 1, 1948–Mar. 31, 1949)*

	Previous license agreement (actual)	New license agreement (estimated) <sup>1</sup>
Operating and maintenance costs.....	<sup>2</sup> \$4,666,982	<sup>2</sup> \$4,378,982
Average operating and maintenance cost per month.....	518,554	486,554
Average operating and maintenance cost per month per unit (based on 9,098 units).....	<sup>3</sup> \$57.00	\$53.48
Revenue (97 percent occupancy).....	3,029,595	3,572,524
Average revenue per month.....	336,622	396,947
Average revenue per unit (based on 9,098 units).....	37.00	43.63
Net loss per unit per month (operation and maintenance only).....	20.00	9.85
Estimated amortization, interest, normal taxes (see exhibit A attached).....	32.97	32.97
Total, estimated loss per unit per month.....	52.97	42.82

<sup>1</sup> Column headed "New license agreement" represents estimate of what costs would have been during the 9 months ended Mar. 31, 1949, if the new license agreements had been fully in effect during that period. The estimated savings in maintenance and operating costs under the new license agreements is approximately \$32,000 per month, or \$3.52 per unit per month, to the Government. However, during the past 9 months under the previous license agreements reductions in cost amounting to an average of \$22.07 per unit (see footnote 3) have already been accomplished.

<sup>2</sup> The actual cost of fuel and fuel delivery has been adjusted to average monthly cost for the year for comparability purposes, since the revenue received from tenants is on a flat monthly basis. The actual cost for fuel was \$329,904 for the 9 months; however,  $\frac{1}{12}$  of the estimated annual cost of \$370,904 has been included in the operating and maintenance costs; \$4,119,782 was the actual cost of maintenance and operations, including fuel proration as noted above, and also including costs for such major maintenance items as prepaint repairs, painting, reroofing, and repairs to foundations, porches, and drainboards. To this has been added \$547,200 for electricity and water utilities, to arrive at the total cost of \$4,666,982 for operating and maintenance cost as shown above.

<sup>3</sup> The operating and maintenance costs for the 6 months of July through December 1948 averaged \$64.35 per month per unit, while the costs for January, February, and March, 1949, averaged \$42.28. The total costs adjusted as indicated above for fuel costs for the first 6 months was \$3,512,760, and for January, February, and March, \$1,154,222. Under new tenant-landlord maintenance policy, estimated costs, based on January, February, and March rate of expenditures, would have been approximately \$38.76 per unit per month.

NOTE.—Revenue and expense for refrigerators is included in the "Previous license agreement" column. This statement does not include hutments, farm houses, and trailer lots.

## EXHIBIT A

*Oak Ridge operations—family housing costs, estimates of amortization, interest, and normal taxes*

Total capital cost of 9,098 housing units (except hutments, dorms, farms) <sup>1</sup> -----	\$40,594,679
Obsolescence (wartime planning, etc.) <sup>2</sup> -----	5,661,448
Adjusted cost-----	34,983,231
Average purchase cost of land (residential), 3,200 acres, at \$45 per acre-----	144,000
Total-----	35,127,231
Weighted amortization over 15 years (annual charge) <sup>3</sup> -----	2,332,215
Cost of financing investment (1½ percent on midterm value) <sup>4</sup> -----	263,454
State and county taxes \$3 per \$100, 45 percent valuation (\$15,-807,254) <sup>5</sup> -----	474,218
Local taxes \$3.35 per \$100, 45 percent valuation <sup>6</sup> -----	529,543
Estimated amortization, interest, and normal taxes-----	3,599,430
Estimated annual carrying charge, per unit (9,098 units)-----	395.63
Estimated carrying charges per month, per unit (9,098 units)-----	32.97

<sup>1</sup> The total capital cost of housing is based on data contained in the narrative cost report, vol. IV, 1946, as prepared by Stone & Webster to the Manhattan district. The cost of construction includes only 9,098 units of specific type which were available for occupancy during the first 9 months of fiscal year 1949. Construction costs are initial costs and include no improvements made subsequently, except in the case of the H and S type efficiency apartments where only the cost of conversion was used. The cost does not include cost of site grading or utilities 5 feet beyond the building line, nor does it include costs of furnishings in furnished units or the costs of providing and installing ranges and refrigerators.

<sup>2</sup> The obsolescence is based on factors recommended by the architect-engineer firm of Skidmore, Owings & Merrill per letter dated Apr. 9, 1948. The obsolescence factor is necessary in order to take into consideration certain features in planning, space arrangement, type of equipment, etc., which, although suitable to wartime conditions, is less acceptable for peacetime living and therefore affects value regardless of physical condition.

<sup>3</sup> Amortization was computed separately for each type of building and weighted by the individual adjusted cost per unit. Data were based on appraisal of remaining economic life made in 1948 and published in the preliminary master plan for the city of Oak Ridge as prepared by the firm of Skidmore, Owings & Merrill. These data were then adjusted to the date of actual construction. Cost of land is not amortized.

<sup>4</sup> Cost of financing the investment at a nominal annual rate of 1½ percent interest over a period of 15 years was used.

<sup>5</sup> State tax is based on the 1948-49 tax rate for the State of Tennessee, which was \$0.08 per \$100 value based on 45 percent valuation. The county tax rate was based on the 1948-49 tax rate for Anderson County, which was \$2.92 per \$100 value based on 45 percent valuation.

<sup>6</sup> The local tax rate is based on the average for Nashville, Chattanooga, Knoxville, Johnson City, Jackson, and Kingsport, Tenn. This rate (\$3.35) was used, although the rate as recommended by the J. L. Jacobs & Co. report on survey of incorporation of municipal government in Oak Ridge, Tenn., dated January 1949, is \$4.75. The \$4.75 rate is based on furnishing comparable level of municipal services as now obtained and does not include normal landlord functions. Based on the J. L. Jacobs Co. report, 18.66 percent of the total cost of municipal functions should be borne by taxation from the residential real property included herein.

Estimated annual costs of municipal functions (9 months actual costs, \$3,323,763)-----	\$4,431,684
Annual costs to be borne by taxation on housing, 18.66 percent of \$4,431,684-----	826,952

Estimated local taxes of \$529,543 is \$297,409 less than the \$826,952 estimated municipal expenses to be borne by family housing in order to maintain the current kind of municipal services in Oak Ridge. A tax rate sufficiently high for this purpose would add \$2.72 per month per unit to the local taxes (item 6 of exhibit A).

NOTE.—Exhibit A has been prepared to show that under a normal landlord method of operation a certain return would have to be obtained through the rental revenue to offset certain fixed carrying charges over which the landlord had no control. Exhibit A does not include such normal items as maintenance of buildings, rental-collection expenses, vacancy loss, and overhead.

X



# SELECTION OF SITE FOR REACTOR TEST STATION

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## HEARINGS

BEFORE THE

## JOINT COMMITTEE ON ATOMIC ENERGY CONGRESS OF THE UNITED STATES

EIGHTY-FIRST CONGRESS

FIRST SESSION

ON

### SELECTION OF SITE FOR REACTOR TEST STATION

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APRIL 14 AND MAY 10, 1949

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# SELECTION OF SITE FOR REACTOR TEST STATION

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THURSDAY, APRIL 14, 1949

CONGRESS OF THE UNITED STATES,  
JOINT COMMITTEE ON ATOMIC ENERGY,  
*Washington, D. C.*

The committee met at 10:30 a. m., pursuant to call, in room 318, Senate Office Building, Senator Brien McMahon, chairman, presiding.

Present: Senator McMahon (chairman); Representative Durham (vice chairman); Senators Johnson of Colorado, Tydings, Hickenlooper, and Knowland; Representatives Price, Kilday, Jackson, Cole, and Hinshaw.

Also present: Senators Murray, Taylor, Miller, Ecton, and Watkins; Representatives Mansfield, D'Ewart, and Sanborn; and William L. Borden, executive director of the joint committee.

The CHAIRMAN. The committee will come to order, please.

This hearing is being held at the request of the congressional delegation from Montana, of which Senator Murray is the senior member. The two Senators and the House delegation joined in asking that this committee give the Montana delegation and the Governor an opportunity to present their reasons why they believe a mistake has been made in the decision of the Atomic Energy Commission to locate a very large atomic development near Pocatello, Idaho.

I might say for the record the joint committee had a very lengthy session with the Commission before the choice was publicly announced. At that time we received from the Commission the standards it had used in selecting the site, and we were told that the choice had narrowed down to three sites.

Subsequently thereto, the Commission, after weighing the factors involved, decided on the Pocatello site.

The committee has discussed this, and it is not the opinion of the committee that we should sit as a trial board, so to speak, to determine whether or not the plant should be in Idaho, or whether it should be in Montana or anywhere else. That is for the Commission, under the law, to decide. The duty of the joint committee is to see to it that that decision is not made capriciously, without reason and without evidence. And it goes without saying that it was not made as a result of undue influence, which is not alleged by anyone concerned with this proceeding.

Those two grounds would be the only reasons, as I see it, that would warrant the joint committee in interfering or attempting to interfere with the choice of the site by the Commission. I state this so the limitations of this hearing may be defined.

The Commission, as I have said, has appeared and has told us of the care they have used, the tests and standards which they have set

up. It was for them to weigh the evidence as to the sites against those tests and against those standards.

With that statement, we will be glad to hear the first witness. But I will ask if any member of the committee wishes to add anything before we proceed.

Does that cover the subject, gentlemen?

Mr. Loble, will you give your full name?

**STATEMENT OF LESTER LOBLE, ATTORNEY, HELENA, MONT.**

Mr. LOBLE. My name is Lester Loble. I am an attorney of Helena, Mont., here with the Montana delegation in the interest of Fort Peck and the establishment of the plant there and to present proof within the limitations prescribed by the chairman.

The spokesman for the Montana delegation will be, as I understand, Congressman Mansfield. We are going to present three witnesses. We have other witnesses, but we have confined our presentation to factual matter and have so restricted the material to be presented that it can, we believe, be covered by them. We have others who are available to supply facts and information, but they will not be called unless it is the request of the committee.

After the presentation of the statement of Congressman Mansfield, we shall call upon the Governor of the State of Montana, John W. Bonner, who sits at my right and is here to make a statement on behalf of the State of Montana. Then we shall call upon Gerry Skibbins, industrial engineer for the Montana Chamber of Commerce, who has spent a long time on this matter, Mr. D. P. Brown of the Great Northern Railroad, assistant freight traffic manager, and Mr. Paul Campbell of Fort Peck, or Glasgow, Mont., a hotel man there and a member of the chamber of commerce.

We have other witnesses here, including Mr. N. J. Holter, physicist, who is not a member of the Montana delegation, but has been requested to assist us in the interpretation of technical matters, and is a former senior physicist in charge of wave measurements with the Bikini expedition, who is here with us, but we are not calling any witnesses other than these three in our delegation, and our Governor.

If that covers it, I shall now call upon Congressman Mansfield. It is the wish of the delegation, as I understand it, that he speak on behalf of all of them in addressing the committee.

The CHAIRMAN. Before the Congressman starts, there has been handed to me a memorandum, which is very short and which I would like to put in the record.

(The memorandum is as follows:)

The Atomic Energy Commission hired the firm of Smith, Hinchman & Grylls, Inc., architects and engineers, 243 West Congress Street, Detroit, Mich., to make a survey report on the Fort Peck, Mont., and Pocatello, Idaho, sites in January. The following excerpts were taken from their report to the Commission dated March 26, 1949:

"The general conclusion favoring Pocatello was reached after a thorough consideration of the many factors involved in a selection of site for this project. In respect to all of these factors, except isolation, the area selected is believed to be superior to the Fort Peck site. Pocatello offers advantages as to climate; geology; availability of manpower, land, and materials of construction; transportation; and social-economic factors. Fuel, electric power, water, and con-

struction costs will be less at Pocatello, and in respect to drainage and security this site offers further advantages."

The factors referred to will be put in the record. I will not go through them all.

(The factors referred to as involved in the selection of the site are as follows:)

Factor	Site		Preferred
	Fort Peck	Pocatello	
Isolation.....	Very good.....	Good.....	Fort Peck.
Security.....	Good.....	Very good.....	Pocatello.
Climate.....	Poor.....	Fair.....	Do.
Geology.....	Good.....	Good.....	Do.
Drainage.....	Fair.....	do.....	Do.
Water supply.....	Very good.....	Very good.....	
Manpower.....	Poor.....	Fair.....	Do.
Materials.....	Fair.....	Good.....	Do.
Social factors.....	Poor.....	do.....	Do.
Land.....	Very good.....	Very good.....	
Costs.....	Fair.....	Good.....	Do.
Transportation.....	Poor.....	do.....	Do.
Electric power.....	Very good.....	Very good.....	Do.
Fuel.....	Fair.....	Good.....	Do.

The total project investment and the annual operating costs are:

	Project invest- ment	Annual operat- ing costs
Fort Peck.....	\$522,750,000	\$34,521,000
Pocatello.....	466,860,000	30,099,000
Difference.....	55,890,000	4,422,000

In just one factor, namely, that of isolation, Fort Peck was "preferred." In the factors of security, climate, geology, drainage, manpower, materials, social factors, costs, transportation, electric power, and fuel, Pocatello led Fort Peck. And the engineers found the total cost would be \$55,890,000 less on an investment basis at Pocatello and the annual operating costs would be less by \$4,422,000. The total project investment at Fort Peck was estimated at \$522,750,000, and at Pocatello \$466,860,000.

Mr. LOBLE. Our testimony, Mr. Chairman, will be largely directed to matters contained in that report, those things that you have read there. Smith, Hichman & Grylls, Inc., is, as I understand it, a private architectural firm that made this examination. That report has been furnished to us.

We might add, in passing, that one of the gentlemen on there, the chief geologist, I believe, is from Idaho, and when he speaks about climate, and so forth, we think we have things here that we can show to refute much that is said in that report.

May I now call upon the Congressman?

The CHAIRMAN. Go ahead.

Mr. LOBLE. Congressman Mansfield?

# STATEMENT OF HON. MIKE MANSFIELD, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF MONTANA

Representative MANSFIELD. Mr. Chairman and members of the committee, in connection with what Mr. Loble has just said, I would like to call to the attention of the committee that the first chance I had to see this report put out by this Detroit concern was yesterday evening in Senator Murray's office. At that time I read to the assembled Montanans the letter of transmittal from this firm, signed by a Mr. Grubb, as I recall, to the Atomic Energy Commission. I have not had a chance to go through that report as thoroughly as I would like to, and I just want to call that to the attention of the committee, so that they will understand why I am in ignorance of various parts of it.

I would also like to tell you that the first that I heard about this particular matter was on February 18, when I received a letter from the Governor of the State of Montana, dated February 14. His letter reads as follows:

DEAR MIKE: I notice in the Great Falls Tribune under date line Washington, February 10, it is proposed to build an atomic fuel plant in the West.

I am wondering if you know anything about it, and if we might have a chance to get the project.

With best regards,

JOHN W. BONNER, *Governor.*

I cite that to indicate a number of things.

First, of course, it was the first indication I had that there was a possibility of anything of this sort happening in Montana. I had not even heard a rumor prior to that time. Secondly, it indicates that the Governor was awake to his responsibilities and, on the basis of an article in a Montana newspaper, immediately contacted me and asked me to see what I could do in behalf of this project.

I got busy. And I might say too, for the record, that every member of the Montana congressional delegation, Senators Murray and Ecton, Congressman D'Ewart, and I, did everything we possibly could and have been doing everything we can in behalf of this project for Montana, because we feel that we have the ideal site in the Fort Peck-Glasgow area. We have plenty of power, and when the additional generators are put in we will have 105,000 kilowatts' capacity. We have all kinds of land. We have people who want this project. And we feel that we have the conditions which will make this project a success.

It is important to our State that we get this development, because while we have been treated very well in the matter of Canyon Ferry, Hungry Horse, and construction on the Missouri River in general, nevertheless we have to recognize the fact that during the war, because of a lack of industry there, we lost population. We were not considered during the war effort, and consequently our people went to the west coast to find employment.

The answer to Montana's development in my opinion—and I have worked on this policy in my 7 years in the Congress—is the development of cheap low-cost hydroelectric power. In my district alone we have one-tenth of the hydroelectric potential in the entire United States. This is a public power project, at Fort Peck; and these gentlemen would not be here if they did not see an opportunity to use this power. It is power obtained from facilities put in at the expense

of the people. This power was designed to do a number of things, as far as the Missouri River is concerned, and these things are being done, but it was also designed to be developed for plants of this kind.

I submit, gentlemen, that on the basis of the record, we have everything that you could possibly expect for a nuclear reactor plant of this kind. And I hope that it is still not too late to see to it that Montana is given a fair deal in this particular matter, and that we will be able, even at this late date, to get the nuclear reactor plant there. I speak, I know, for the full Montana congressional delegation, and with their wholehearted approval.

That is all, Mr. Chairman, unless the committee has questions.

The CHAIRMAN. Are there any questions, gentlemen?

Representative JACKSON. Mr. Chairman?

The CHAIRMAN. Mr. Jackson.

Representative JACKSON. I would like to say at the outset that my good friend Congressman Mike Mansfield from Montana has been most diligent in this matter, because I know that he has been pursuing me from time to time with a great deal of diligence in behalf of his great State. I would like to ask Congressman Mansfield this question: When did you first hear about the proposed atomic plant being considered in the West, and from what source?

Representative MANSFIELD. Mr. Jackson, as I have indicated in my testimony, the first indication was a letter from the Governor of Montana, who in turn got his information from an article which appeared in the Great Falls Tribune. His letter is dated February 14. I received his letter February 18. And I think I acknowledged it the same day, telling him that I would get busy on this and would do all that I possibly could.

Representative JACKSON. Thank you.

That is all, Mr. Chairman.

Representative COLE. Mr. Chairman?

The CHAIRMAN. Mr. Cole.

Representative COLE. Mr. Mansfield has given a very fine statement here. But I am curious to know what your recommendation to this committee might be, Congressman. What is there that this committee or the Congress can do in this controversy?

Representative MANSFIELD. I do not know, I will say to the gentleman from New York. But in response to a request from Mr. James J. Flaherty, president of the Montana Chamber of Commerce, the Montana delegation requested the chairman of this committee for a hearing, so that all the facts could be known, and so that, if there was any possibility whatsoever that we could still be considered, we could be given the consideration which we think we are entitled to.

Representative COLE. Is it your position, then, that the Commission did not give the Fort Peck situation ample and thorough consideration before it reached its decision?

Representative MANSFIELD. I am quite sure that the Commission through its experts, gave all these proposed areas consideration. I do feel, though, that on the basis of what information I have at my disposal we have just as good a site at Fort Peck as they have at Pocatello. Furthermore, we have the power right there at Fort Peck which can be used, and which at the present time is in part going out of the State. I want to see that power retained in Montana for the

building up of our State, giving opportunity to our people, and bringing in such projects as this nuclear reactor plant, which will furnish employment and give opportunities to the people in this area.

Representative DURHAM. I am quite sure the gentleman from Montana has been quite diligent in seeking this operation. Does the gentleman know how many sites were in this picture to begin with?

Representative MANSFIELD. Yes, sir. I saw the information yesterday. It may be in that letter which transmitted the report. I think there were 72 sites in the beginning, which were later reduced to 23, and then eventually reduced to 2; although in connection with those 2, Pocatello and Fort Peck, it would be well to state that on the basis of what Mr. Warner, chief engineer of the Atomic Energy Commission, and Mr. Lilienthal told us, there were 2 sites in the immediate vicinity of Pocatello which they considered a little better than ours.

Representative DURHAM. I bring that out because of the fact that there were other locations turned down also throughout the country, quite a number of them.

Representative MANSFIELD. Yes. I might say also, Mr. Chairman, if I may, that a lot of statements have been appearing in the press of Montana, allegations and the like. I have wherever possible taken those statements down, and I have tried to contact the proper authorities and to get answers to all these questions; which I will either put in the record of these hearings, or put in the record on the floor of the House, so that the people of Montana will know just what has been done by their delegation back here in behalf of this particular project.

The CHAIRMAN. Have you got them in such shape that you could put them into this record?

Representative MANSFIELD. Yes, sir.

The CHAIRMAN. I would like to have them, because I have seen several comments in a number of Montana papers that were absolutely without any foundation in fact whatsoever.

Representative MANSFIELD. I will be delighted to put them in the record, Mr. Chairman. And I am delighted also that this is an open and public hearing so that the people will know what is being done, or attempted as to this project.

(The material referred to is as follows:)

STATE OF MONTANA,  
OFFICE OF THE GOVERNOR,  
Helena, February 14, 1949.

HON. MIKE MANSFIELD,  
*Representative from Montana,  
House of Representatives, Washington, D. C.:*

DEAR MIKE: I notice in the Great Falls Tribune, under date line Washington, February 10, it is proposed to build an atomic fuel plant in the West.

I am wondering if you know anything about it and if we might have a chance to get the project?

With best regards,

JOHN W. BONNER, *Governor.*

HON. JOHN W. BONNER,  
*Governor, Helena, Mont.*

FEBRUARY 18, 1949.

DEAR JOHN: This will acknowledge receipt of your letter of February 14, which I have read with much interest.

I will look into the matter of a proposed atomic fuel plant to be constructed in the West and you may be assured that I will do all I can to see that Montana is considered as a site. As soon as I have any information, I will write you.

Must close now, but with best personal wishes, I am,

Sincerely yours,

MIKE MANSFIELD.

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UNITED STATES ATOMIC ENERGY COMMISSION,  
*Washington 25, D. C., March 25, 1949.*

HON. MIKE MANSFIELD,  
*House Office Building, Washington, D. C.*

DEAR CONGRESSMAN MANSFIELD: Recently members of the Atomic Energy Commission and its staff discussed with you considerations that have governed the Commission in its choice of a site for a reactor testing station. This letter supplements those discussions and replies to your letter of February 18, 1949.

Nuclear reactors are of extreme importance to the atomic energy program since improved forms of reactors will be the basic mechanisms for industrial power or, for example, for the propulsion of ships. During the past 2 years scientists and engineers of the Commission have been studying designs for nuclear reactors and conducting laboratory experiments to develop materials that will withstand the radioactivity, heat, and the corrosion encountered in reactor operation. This work includes studies of shielding and the design and operating characteristics of new types of reactors. The Commission has now reached the point where it must erect pilot models for field testing and development.

The testing and development of nuclear reactors under high level operating conditions requires a field station where such new type reactors could be built. Many of the same security, safety, and operating requirements that governed the selection of the Hanford site necessarily apply in the selection of the new field station; that is, it must have large areas, approximately 400,000 acres, of accessible yet isolated land, an adequate water supply and a minimum of valuable agricultural acreage or home sites. Avoidance of more than absolutely necessary displacement of persons from homes or income-producing property has also been considered. These basic requirements can be met only in the western part of the United States. The Commission staff in collaboration with the Department of Interior and the Corps of Engineers has made a thorough search of the United States for a site having the characteristics necessary for meeting the stringent requirements for such a station.

The two areas considered most desirable in the over-all survey were the Pocatello-Arco, Idaho, region and a region near Fort Peck, Mont.

Since the first of this year, the Commission has employed the engineering firm of Smith, Hinchman and Grylls of Detroit to make a detailed comparative evaluation of these locations.

The Pocatello-Arco area includes two sites, each of about 400,000 acres, one centered around the naval proving ground and the other adjoining to the southwest.

The Commission has concluded that the site centered around the naval proving ground is superior to either the adjoining site or the Fort Peck location. Consequently, the Commission has initiated discussions with the National Military Establishment intended to result in prompt acquisition of the land comprising the naval proving ground.

Sincerely yours,

UNITED STATES ATOMIC ENERGY COMMISSION.  
DAVID E. LILIENTHAL, *Chairman.*

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UNITED STATES ATOMIC ENERGY COMMISSION

WASHINGTON 25, D. C.

(No. 162. Information for the press for immediate release)

AEC SELECTS IDAHO SITE FOR REACTOR TEST STATION

The United States Atomic Energy Commission today announced selection of an area in Idaho, including the naval proving grounds at Arco, as the best site for

a new national reactor testing station. Negotiations are under way with the Navy for the transfer of the proving grounds to the Commission.

After surveying a number of sites throughout the United States, the Commission has concluded that the most suitable location for its purpose is the area in the Snake River plains of Idaho including the 173,000-acre Navy proving grounds.

The total area of the new AEC facility will be about 400,000 acres. All but approximately 20,000 acres of the desired area near Arco is Government-owned land. The new reactor testing station will compare in area with the Hanford plutonium production center on the Columbia River in Washington.

The Commission has authorized its staff to negotiate with Navy officials for the transfer and has transmitted to representatives of the National Military Establishment a request for the property, which now is in inactive status. Engineering surveys are nearly complete, but detailed boundaries for the test area have not been fixed. Other surveys are continuing to determine the availability for housing, schools and other community facilities for personnel of the station.

Preliminary studies indicate that 75 to 100 persons reside near the perimeter of the site. The boundaries, however, are not definitely fixed and it is the policy of the Commission to establish the station with the least possible interference with any residents. (March 22, 1949.)

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STATEMENT OF CONGRESSMAN MIKE MANSFIELD OF MEETING WITH MR. DAVID LILIENTHAL, CHAIRMAN, ATOMIC ENERGY COMMISSION, ON MARCH 22, 1949

At 11:40 a. m., Tuesday, March 22, 1949, I attended a meeting with Mr. Lilienthal's office in the building occupied by the Atomic Energy Commission. This meeting was attended by Governor Bonner, Senators Murray and Ecton, Congress Mansfield and D'Ewart, Gerald Skibbins, and James Sullivan; and the Atomic Energy Commission was represented by Mr. Lilienthal and Mr. Roger Warner, Chief Engineer of the AEC. Mr. Warner had also met with Senators Murray and Ecton, Mike Mansfield, and Gerald Skibbins on the preceding Tuesday, March 15.

Mr. Lilienthal stated, in response to a question, that the AEC had decided on March 1 that the Pocatello area, including the United States Navy's Arco Proving Grounds, was to be the location of the proposed atomic nuclear reactor plant. When I asked him why the congressional delegation from Montana had not been informed of this, he replied that he wanted to make the announcement but that the Navy had requested him not to do so. I asked him how long they had been working on the proposal of a new plant and he said 11 months. I told him that, in checking my files, the first word that I had about a proposal for a plant of this nature and the possibility of its being located in Montana was February 18, 1949.

I asked Mr. Lilienthal where the power for the proposed Pocatello plant would come from and Mr. Warner answered saying that the private power companies in the Pocatello region would expand, that power was now being furnished to the Arco Proving Grounds of the United States Navy by a private power line going from Butte and Salt Lake and that additional power would come from Anderson Dam in Idaho when completed. There are no plans to get any power from Montana for this Pocatello project except the small amount now going to the Arco Proving Grounds which, it is anticipated, will be continued.

We tried to induce Mr. Lilienthal to change his mind and to reconsider the possibilities of the Fort Peck-Glasgow area. We pointed out the many natural advantages which would accrue to such a location and assured him that the people of Montana and their Representatives in Congress and the State government would back a location for this area all the way. We pointed out that there would be sufficient power from Fort Peck to run the proposed plant.

Mr. Lilienthal informed us that there were two sites at Pocatello which were considered superior to the Fort Peck area. We asked him if these sites were not acquired would he then consider Fort Peck. He stated that they had every expectation of getting the first site they desired.

We left the meeting at 1:20 p. m., and this is my report to you of our conference with Mr. Lilienthal. Needless to say, I am keenly disappointed with the result.

HOUSE OF REPRESENTATIVES,  
*Washington, D. C., March 28, 1949.*

DEAR FRIEND: Because of the great amount of mail I have received on the proposed atomic energy plant for Montana, I am having Mr. David Lilienthal's letter to me—dated March 25 and just received—mimeographed and sent to all those who have written to me on the subject. This letter will, in many instances, follow up previous enclosures which have already been sent out.

With best personal wishes, I am,

Sincerely yours,

MIKE MANSFIELD.

(Accompanying the foregoing letter was a mimeographed copy of letter from David Lilienthal to Representative Mansfield, dated March 25, 1949, which is already a part of this record, on p. 7 herein.)

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UNITED STATES ATOMIC ENERGY COMMISSION,  
*Washington, D. C., March 29, 1949.*

HON. MIKE MANSFIELD,  
*House Office Building, Washington, D. C.*

DEAR CONGRESSMAN MANSFIELD: At the meeting you attended with the Montana delegation at the Commission offices on March 22, certain questions relative to the AEC power requirements for the proposed reactor test station were discussed.

You will recall it was stated at that time that we plan to obtain the power from the station from generating equipment installed at the station and from the Idaho Power Co. which will be supported by the plants of the Bureau of Reclamation, either existing or under construction in the Snake River Basin of Idaho.

As you know, the Idaho Power Co. purchases some power from existing plants operated by the Bureau of Reclamation and by the Montana Power Co. Both the Idaho Power Co. and the Bureau of Reclamation have new plants and facilities under construction along the Snake River in Idaho which we believe will be adequate to meet our needs projected over the next several years.

I am further advised by my staff that we have not entered into negotiations with the Bonneville Administration for power for the test station. We do not plan to obtain power from the Hungry Horse project or from the Montana Power Co. Furthermore, we do not expect to require special transmission facilities to bring in out-of-State power to the test station.

Very truly yours,

UNITED STATES ATOMIC ENERGY COMMISSION,  
DAVID E. LILIENTHAL, *Chairman.*

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HOUSE OF REPRESENTATIVES,  
*Washington, D. C., March 30, 1949.*

HON. BRIAN McMAHON,  
*Chairman, Senate-House Joint Atomic Energy Committee,*  
*United States Senate.*

DEAR MR. CHAIRMAN: We have received the following telegram from James J. Flaherty, president of the Montana Chamber of Commerce, Great Falls, Mont.: "Montana's labor, farmer, professional business and management groups are united in this appeal: We will not stand idly by while this State's water resources and the American people's tax dollars are squandered needlessly by the uneconomic location of the atomic laboratory in the Pocatello, Idaho, area. Our citizens and our representatives have been dealt a bust hand, off the bottom of a cold deck. Democrats and Republicans alike are up on their hind legs asking for another deal. Therefore, on behalf of all the people of Montana, would you assume personal responsibility for carrying this fight through to the finish? We respectfully suggest that you demand a fair hearing 2 weeks hence before the Senate-House Joint Atomic Energy Committee, in advance of their approval of funds for the atomic laboratory project. It would be fitting for Governor John Bonner to appear at this hearing along with technical experts of our choosing. If, by your determined effort, you are able to obtain a hearing of this kind before

the proper group, the weight of factual evidence in our hands all but guarantees that when the whole story is made clear the Fort Peck site will be chosen. The people of Montana will await your reply through public channels of communication. We are not asking for favors and our citizens are not on their knees. We are standing shoulder to shoulder as self-respecting Montanans who ask that you assume the leadership of this campaign and turn our last ditch stand into a victory.

"JAMES J. FLAHERTY,

*"President, Montana Chamber of Commerce."*

Mr. Chairman, we are sending Mr. Flaherty the following reply to the above communication:

"Reurtel. As always we will be more than happy to do all we can to see that Montana is still given every possible consideration as the site for the atomic nuclear reactor plant. We are today at your request asking Senator Brian McMahon, chairman of the Senate-House Joint Atomic Energy Committee for a hearing to take place 10 days to 2 weeks hence before the committee as you stated in your telegram, 'in advance of their approval of funds for the atomic laboratory project.' We are requesting at your suggestion that Governor Bonner be allowed to appear at this hearing along with technical experts of your choosing. We would also suggest that if we can arrange this meeting that you appear also. As soon as we hear from Senator McMahon we will let you know. In the meantime, please be assured that every member of the Montana delegation in the House and Senate has been 'doing everything in his power to help State of Montana receive this project. Regards.

"Senator JAMES E. MURRAY.

*"Congressman MIKE MANSFIELD."*

Mr. Chairman, we would personally appreciate your letting us know if it would be possible for your committee to schedule such a hearing within the next 2 weeks to hear the Governor of Montana and other individuals on the proposed atomic nuclear reactor plant now scheduled to be constructed in Idaho.

With best personal wishes, we are,

Sincerely yours,

MIKE MANSFIELD, M. C.

JAMES E. MURRAY.

WESLEY A. D'EWARD.

ZALES N. ECTON.

APRIL 4, 1949.

HON. DAVID LILIENTHAL,

*Chairman, Atomic Energy Commission,*

*Washington, D. C.*

DEAR MR. LILIENTHAL: Since the meeting of Governor Bonner and the entire Montana congressional delegation with you in your office on March 22, 1949, at which time you informed us that the Atomic Energy Commission had arrived at its decision to locate the proposed atomic nuclear reactor plant in the vicinity of Pocatello, Idaho, various statements have been released in the press which I think should be answered. I am therefore requesting that you answer insofar as you are capable of so doing the following statements:

1. Statement issued by Dr. Francis Thomson, president, Montana School of Mines, and Drs. Perry, Koch, and Nile, of the School of Mines faculty. (See copy of release issued by School of Mines to Associated Press and United Press on March 24, 1949, and newspaper articles on same statement in issues of Billings Gazette and Great Falls Tribune for March 25, 1949—both news articles enclosed.)

2. Statement by James Flaherty, president, Montana Chamber of Commerce, and carried in Billings Gazette on March 23, 1947, and other Montana papers on same date that:

(a) "Montana has been sold down the river in the selection of the site for the new national atomic research plant," and that—

(b) "if a political trade was made it was one of those 50-50 deals—1 horse and 1 rabbit—Montana winning the rabbit."

3. Mr. Gerald Skibbins said, according to the Billings Gazette, under date of March 26, 1949, that: "The final decision rests with the House-Senate Joint Atomic Energy Committee and the Congress, which must appropriate funds."

4. In the Billings Gazette for March 23, 1949, there appears this statement: "Flaherty said, \* \* \* We feel Montana was not represented at the hearing.

We feel sure when our Governor returns tomorrow he will give us the facts and will urge the Congress for a rehearing that Montana may present its case fairly."

5. In the same issue of the Gazette, March 23, 1949, the Glasgow Chamber of Commerce issued a statement which said: "We simply cannot understand why we were encouraged to go ahead, in view of the decision already made."

6. In the same issue of the Gazette, March 23, 1949, the statement issued by the Glasgow Chamber of Commerce stated: "We further believe that misinformation was given the Commission about the Glasgow-Fort Peck site by someone interested in something other than the best location for the atomic reactor station."

7. A story appeared in the United States News under date of April 1 that the latest site at Arco, Idaho, was selected, Montana interests were trying to get the new plant, and "Competing railroads also were active."

I would appreciate your returning the enclosures for my files.

Must close now but hoping to hear from you about these statements which I have called to your attention. With best personal wishes, I am,

Sincerely yours,

MIKE MANSFIELD.

P. S.—Would you also advise me by whose authority did the Commission act in the selection of the site for the plant and when this power was given to the Commission?

APRIL 5, 1949.

HON. DAVID LILIENTHAL,

*Chairman, Atomic Energy Commission, Washington, D. C.*

DEAR MR. LILIENTHAL: Since writing my letter to you on yesterday I have some more questions to ask about the proposed atomic laboratory. These questions are based on statements made in the Great Falls Tribune, Great Falls, Mont., under date of March 30, 1949. Will you please give me, as far as you are able, the answers to the six questions listed below?

1. Mr. Skibbins told a Kiwanis group here the proposed Fort Peck site for the laboratory would be more suitable, but the Atomic Energy Commission selected the Idaho location.

2. Arguing for the Fort Peck site, Mr. Skibbins said the 61,000 kilowatts necessary for the laboratory operation would be available immediately. Power at Pocatello would have to be brought in from some other major project, by use of transmission lines which would cost the Government huge sums, Skibbins added.

3. A deep-well water system which would cost about \$8,000,000 would have to be built at Pocatello while a small pump could be used to extract water from the Fort Peck reservoir, Mr. Skibbins said.

4. More skilled workers could be supplied by Montana, Mr. Skibbins declared.

5. About 90 percent of the required 400,000 acres of land needed for the laboratory is now owned by the Government at the Fort Peck site and the Glasgow Chamber of Commerce agreed to buy the rest of the needed land for the Government, Mr. Skibbins said.

6. The Navy owns 120,000 acres at Pocatello and the rest of the land would have to be bought from farmers in the area, Mr. Skibbins said. The Navy is not anxious to relinquish its hold on the firing-range land it holds, he added.

I would appreciate your returning the enclosed newspaper clippings with your answers.

Must close now but with best personal wishes, I am,

Sincerely yours,

MIKE MANSFIELD.

(The newspaper clipping referred to in the foregoing communication from Congressman Mansfield to Mr. Lilienthal from the Great Falls Tribune, dated March 30, 1949, is as follows:)

#### FAIR CONGRESSIONAL HEARING ASKED ON REACTOR STATION

HELENA, March 29.—A Montana Chamber of Commerce division consultant urges "a fair congressional hearing" before money is appropriated to set up an atomic reactor station at Pocatello, Idaho.

G. J. Skibbins, chamber industrial development division consultant, spent a week in Washington, D. C., trying to persuade the Government to locate the

multi-million-dollar plant at Fort Peck. He represented Gov. John W. Bonner, who also conferred in Washington.

1. Skibbins told a Kiwanis group here the proposed Fort Peck site for the laboratory would be more suitable, but the Atomic Energy Commission selected the Idaho location.

2. Arguing for the Fort Peck site, Skibbins said the 61,000 kilowatts necessary for the laboratory operation would be available immediately. Power at Pocatello would have to be brought in from some other major project, by use of transmission lines which would cost the Government huge sums, Skibbins added.

3. A deep-well water system which would cost about \$8,000,000 would have to be built at Pocatello while a small pump could be used to extract water from the Fort Peck Reservoir, Skibbins said.

4. More skilled workers could be supplied by Montana, Skibbins declared.

5. About 90 percent of the required 400,000 acres of land needed for the laboratory is now owned by the Government at the Fort Peck site and the Glasgow Chamber of Commerce agreed to buy the rest of the needed land for the Government, Skibbins said.

6. The Navy owns 120,000 acres at Pocatello and the rest of the land would have to be bought from farmers in the area, Skibbins said. The Navy is not anxious to relinquish its hold on the firing-range land it holds, he added.

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UNITED STATES ATOMIC ENERGY COMMISSION,  
Washington 25, D. C., April 12, 1949.

HON. MIKE MANSFIELD,

*House Office Building, Washington 25, D. C.*

DEAR CONGRESSMAN MANSFIELD: Your letter of April 4, forwarding a series of statements released in the press, raises a number of questions about the Commission's decision to acquire a reactor site at Pocatello, Idaho. Since these statements show some misunderstanding, both of the purpose of the new site and the meaning of the decision, we wish to outline here the main steps taken by the Commission since April 1948, when it was first recognized that a testing station for experimental reactors was necessary.

The requirements for such a station demanded an isolated area of at least 400,000 acres to minimize potential hazards. At the same time it was desirable that the site be near enough to surrounding communities to make possible accommodations of personnel at this project site. Other requirements included access to a steady flow of water and to an adequate source of power.

In cooperation with representatives of other branches of the Government, skilled in this type of work, the Commission staff considered over 70 areas that might meet these requirements. By process of elimination, with more detailed examination at each stage, this number was reduced from 70 to 23, and then from 7 to 2—the Fort Peck, Mont., site and the area at Pocatello, Idaho.

The Commission employed the engineering firm of Smith, Hinchman & Grylls, Inc., to make a comparative evaluation of these two sites. In this final analysis before selection, the Commission staff and the engineering firm employed specialists in geology, hydrology, meteorology, and sociology and refined the requirements to include new criteria for isolation, security, climate, geology, nature of drainage and water supply, sources of manpower, availability of materials, town and community development, construction costs, types of transportation available, availability of electric power, and fuel sources. After the Commission had reviewed the findings of the firm of Smith, Hinchman & Grylls and had considered carefully the data that dealt with problems of health, physical protection, and drainage, in the light of its over-all requirements, it authorized its staff to begin discussions for the acquisition of the area near Pocatello which includes the naval proving grounds. These discussions are now under way.

Because of the misinterpretations that have been made of the announcement by the Commission that it had selected this site, the meaning of the decision should be made clear. This decision was, first, a finding that the Pocatello site was the preferred site and, second, a recommendation that negotiations to obtain the naval proving ground should be opened with the Navy Department. At the time of the decision, it was by no means certain that the Department would or could surrender the area that it was using as a proving ground. The public announcement of the Commission made clear that while the Pocatello site was to be preferred, negotiations for its acquisition were still under way.

This general statement on the background of the Commission's decision is a preliminary to answers to the specific questions raised by the statements in the body of your letter. We answer, first, however, your postscript in which you ask by what authority the Commission acted in the selection of the site and when the authority was given it. The authority of the Commission to acquire land is based on the provisions of the Atomic Energy Act of 1946, particularly section 12 (a) (7) of the act, authorizing the acquisition of property. Its authority is further based on the language of its basic appropriation act for 1949, authorizing the purchase of land and interests in land.

In the following paragraphs, we comment on the seven statements you include in your letter.

1. Dr. Thomson suggests, in a reported statement, that the Missouri River would appear to be just as suitable to receive radioactive wastes as the Snake River. The Commission proposes to isolate, reduce, and store the radioactive wastes under inventory and, therefore, will not utilize a river in its waste disposal. In the remote possibility of accident, the porous soils of the Pocatello area offer better protection than the more impervious soils of Fort Peck, Mont. Considerations of such a possibility indicated that areas such as the one near Fort Peck, Mont., which consists of moderately impervious soils and is subject to rapid run-offs, are not so desirable as areas such as those northwest of Pocatello, which consists of porous soils with no surface drainage to the Snake River. It has been estimated by geology and hydrology specialists that radioactive material deposited on the Snake River plains near Arco would require more than 100 years to percolate downward 200 feet or more to the water table and pass through it to the Snake River. During this interval, a great deal of the material would be absorbed by the soils, diluted by the underground water flow, or lose its potency by radioactive decay.

2. James Flaherty, president of the Montana Chamber of Commerce, declared that the State of Montana had been "sold down the river" in the choice of the site. We have already pointed out that the survey was impartial, that it was made by independent agencies, as well as by the Commission, and that the decision was reached only after exhaustive analysis.

3. Mr. Gerald Skibbins was quoted as stating that the final decision rested with the Joint Committee on Atomic Energy and the Appropriations Committees of the Congress. It is, of course, true that Congress must appropriate the money needed for acquisition and development of the testing station. As stated above, however, the Commission has been granted authority by the Congress to acquire land as provided in the Atomic Energy Act of 1946 and in its appropriation for 1949. In this connection, a press release from the Joint Committee on Atomic Energy, dated April 5, reported Senator McMahon, chairman of the committee, as stating that "The joint committee does not believe it to be within its province to choose the site but only to ascertain whether or not due care has been used by the Atomic Energy Commission in making the site selection."

4. Mr. Flaherty was quoted in the Billings Gazette of March 23, 1949, as stating that Montana was not represented at "the hearing." Mr. Flaherty, presumably, refers to a meeting between the Commission and the Joint Committee on Atomic Energy. This meeting was called at the request of the joint committee. It was an executive session at which the Atomic Energy Commission informed the joint committee of the selection of a reactor site, in keeping with the provisions of the Atomic Energy Act that the Commission shall keep the joint committee fully and currently informed with respect to the Commission's activities.

5. In the same issue of the Gazette is the statement that "We simply cannot understand why we were encouraged to go ahead, in view of the decision already made." We have already indicated above the background and the nature of the Commission's decision. It was a finding that the qualifications of the Pocatello site best fulfilled the requirements for a test station, and a recommendation that discussions be initiated with the Navy Department directed toward its acquisition. Between the time of the decision and the date of the public announcement, negotiations with the Navy were started. The Montana congressional delegation met with representatives of the Commission and was notified that the Commission had selected a site in Idaho that met its requirements, and that negotiations to acquire it had commenced. Although the Commission will make every effort to obtain the Idaho site, it is still not entirely clear that this site will in fact be released to the Commission.

6. A statement in the same issue of the Gazette declares that the Commission was given misinformation about the Fort Peck site by "someone interested in something other than the best location" for the atomic reactor site. The impartial, detailed, and professional nature of the surveys conducted by private and Government agencies best qualified for this work has been indicated above.

7. The issue of the United States News of April 1 is quoted to the effect that in this site selection "competing railroads also were active." We know of no activity on the part of "competing railroads" that had any bearing on the choice of the site by the Commission. Without further explanation than is given in this article, the meaning of this statement is not sufficiently clear to make additional comment possible.

We will comment on the further statements forwarded in your letter of April 5 as soon as possible.

Sincerely yours,

UNITED STATES ATOMIC ENERGY COMMISSION,  
DAVID E. LILIENTHAL, *Chairman.*

UNITED STATES ATOMIC ENERGY COMMISSION,  
*Washington, April 13, 1949.*

HON. MIKE MANSFIELD,  
*House Office Building, Washington 25; D. C.*

DEAR CONGRESSMAN MANSFIELD: This is in reply to your letter of April 5 forwarding questions based on statements made in the Great Falls Tribune, Great Falls, Mont., dated March 30, 1949. Our comments on these statements should be considered in relation to the material included in our previous letter to you dated April 12.

1. Mr. Skibbins was reported to have told a Kiwanis group that Fort Peck, Mont., site for the laboratory was more suitable, but that the Commission selected the Idaho location.

To the extent that this is a representation of the Commission's judgment rather than that of Mr. Skibbins, this statement is incorrect. After an examination of detailed surveys and analyses it was the judgment of the Commission that the Pocatello, Idaho, location was better suited to the Commission's needs than the Montana site.

2. Mr. Skibbins was reported to have stated that: "The 61,000 kilowatts necessary for the laboratory operation would be available immediately. Power at Pocatello would have to be brought in from some other major project, by use of transmission lines which would cost the Government huge sums."

According to the present plans it is estimated that the power load for the reactor testing station, including requirements for processing, construction camp, and permanent housing, will be in the order of about 70,000 kilowatts. During the early years the total requirement is nominal. It increases at such a slow rate that by 1953 it is now estimated that not more than 20,000 kilowatts will be needed for all purposes.

In considering the qualifications for Fort Peck the Department of Interior indicated that our requirements could be satisfied during the next 5 years without additional generating capacity. The Department also indicated that power could be supplied from western Montana or by additional capacity installed at the Fort Peck Dam.

We are informed that enough power is presently available for the Pocatello site to handle the requirements during the preliminary construction phase. A transmission line is under construction along the Snake River which will hook up the many generating facilities operated by Idaho Power Co. It is contemplated that the capacity thus generated and distributed will adequately serve the reactor testing station after 1950. Thus as we stated in our letter of March 29, power for this project could be supplied from within the State of Idaho.

It is not planned to install any extensive transmission line other than what is required to obtain power from the new line along the Snake River, which will run about 25 miles in length.

In connection with the cost of power at the two sites, the Department of Interior is proposing a uniform rate for power in the Missouri River Valley and in the Northwest power pool, and according to this proposal the cost of generating and distributing power from Fort Peck will be about 5.5 mills per kilowatt-hour. Our surveys show that in the Upper Snake River where power generation plants are larger and less costly, transmission lines are shorter. The costs there are

expected to run at about 3.5 mills per kilowatt-hour. Assuming a consumption of 400,000,000 kilowatt-hours per year, the total annual cost at Fort Peck amounts to \$2,200,000 and at Pocatello amounts to \$1,400,000.

3. Mr. Skibbins is reported to have said that: "A deep-well water system which would cost about \$8,000,000 would have to be built at Pocatello while a small pump could be used to extract water from the Fort Peck reservoir."

Present estimates of the cost of a system for obtaining and distributing water at the Fort Peck and Pocatello sites, which were made by Smith, Hinchman & Grylls, indicated that approximately \$10,000,000 would be required at either site. Furthermore, we were informed by the Bureau of Reclamation that there might be an operating charge for the surface water impounded behind the Fort Peck Dam.

4. Mr. Skibbins is reported to have declared that more skilled workers could be supplied at the Montana site than at the Idaho site.

The surveys conducted for the Commission by Smith, Hinchman & Grylls indicated that in 1948 the construction workers within a 200-mile radius at the Montana site numbered about 25 percent of those in an equal area at the Idaho site, although there was a shortage at each site.

5. Mr. Skibbins further declared that 90 percent of the required 400,000 acres of land at Fort Peck is now owned by the Government and that the Glasgow Chamber of Commerce agreed to buy the rest of the Government. This estimate of that proportion of Government land at Fort Peck, cited by Mr. Skibbins, is the same as that presented by the surveys of the Commission.

6. Mr. Skibbins stated that the Navy owns 120,000 acres at Pocatello and that the rest (280,000 acres) would have to be bought from the farmers in the area. He further stated that the Navy is not anxious to relinquish its hold on the firing range land it now holds.

The proportion of Government-owned and non-Government-owned lands at Pocatello as stated by Mr. Skibbins is incorrect. We are advised that the Federal Government presently holds about 93 percent of the land at the Pocatello site. About 4 percent is privately owned. The remainder is State property. Negotiations with the Navy for the transfer of this land are in progress.

In conclusion, we would like to refer again to the detailed, impartial, and professional nature of the surveys which were conducted in connection with the choice of a site for the reactor testing station. The sole interest of the Commission was to obtain the site best suited to the requirements of its program.

Sincerely yours,

UNITED STATES ATOMIC ENERGY COMMISSION,  
DAVID E. LILIENTHAL, *Chairman*.

The CHAIRMAN. Are there any more questions?

Senator Tydings?

Senator TYDINGS. I would like to ask if all of the press in Montana support the point of view which you have expressed.

Representative MANSFIELD. Yes, sir.

Senator MURRAY. Mr. Chairman, I wish to add that I am in full accord with everything that Congressman Mansfield has just stated. We were very active as soon as we learned about this matter, and we had several conferences with the Atomic Energy Commission in an effort to understand the situation and present to the Commission some facts that we thought they might not have given due consideration to in determining the location of this site. I still feel as Congressman Mansfield does, that the site in Montana would be the more favorable site to be selected for this purpose. It is an isolated tract, and I think that we have all of the conditions there which are necessary for operation of this plant in Montana with full safety and security.

Representative PRICE. Mr. Chairman?

The CHAIRMAN. Mr. Price.

Representative PRICE. As to the summary which the chairman placed in the record at the outset of the hearing, in the comparison of the factors on electric power both Fort Peck and Pocatello are rated the same.

Do you know what the source of power at Fort Peck-Glasgow is?

Representative MANSFIELD. It is the Fort Peck project.

I will say to the gentleman from Illinois that that project, which was built during the depression days, generates at the present time, I believe, somewhere around 70,000 kilowatts, but it will, with an additional generator, be able to generate in excess of 100,000 kilowatts of power. It is my understanding that the most power which this new site would need would be in the vicinity of 70,000 kilowatts.

It is my further understanding that insofar as the Pocatello site is concerned, they would very likely in the beginning have to use a few Diesels, and Idaho Power & Light will have to expand its facilities. Furthermore, they are anticipating power from the Anderson Ranch Dam in southwest Idaho, when that is completed.

Representative PRICE. That is all I have, Mr. Chairman.

Senator HICKENLOOPER. Mr. Chairman?

The CHAIRMAN. Senator Hickenlooper.

Senator HICKENLOOPER. Mr. Mansfield, you say that you have not had an opportunity to go through the report of Smith, Hinchman & Grylls, Inc.

Representative MANSFIELD. Yes, sir. I saw it last night for the first time, and I just had a chance to glance over a very few pages, and was not able to go into it in any detail whatsoever.

Senator HICKENLOOPER. Have any representatives of yours had an opportunity to go through that report in any detail?

Representative MANSFIELD. It is my impression that Mr. Skibbins, consultant to the Montana Chamber of Commerce, requested Senator Murray to try and get hold of that report, so that he could have a chance to study it and answer any arguments which he thought were not correct.

Senator HICKENLOOPER. I make that suggestion because if there are facts in the record which would dispute this selection of site, I think they would be pertinent. With the kindest feeling, I can understand your zeal for acquisition of utilities in your own State, but I just wanted to submit to you that State pride in a location for a project would hardly be sufficient to overturn scientific investigation and finding. I do not mean to say that you do not have more than that, but I am just wondering if your delegation is prepared to call attention to findings which you dispute, backed up by facts which would indicate that the Fort Peck site is in fact a better site.

In other words, I think you probably understand that this committee, whatever lack of authority you may have in determining these things, still would be interested in the best over-all site for this project.

Representative MANSFIELD. May I say to the gentleman from Iowa, who always has had the kindest feelings toward me personally, which, I want to assure him, are reciprocated, that if we got down to a choice of either Pocatello or Fort Peck, it is our conviction that we have a great deal in our favor. And it is my hope that those gentlemen who have had a chance to go into this report in detail will be able this morning to justify the position we are taking before this committee.

Senator HICKENLOOPER. I suppose I should apologize for even posing this in the nature of a question, but I should assume that if

impartial examination of these two sites did show that Pocatello had an advantage to the Government, and to the project over the Fort Peck site, that probably would be the site we would have to support: the one that would be the most advantageous. Therefore, I ask the question, if there are specific items of dispute in which your delegation believes that it can show that this report is wrong. If you have others here who could do that, I would personally be interested in hearing them.

May I ask one other question?

Is the only report that you have seen on this matter the report of Smith, Hinchman & Grylls, Inc.?

Representative MANSFIELD. Yes, sir.

Senator HICKENLOOPER. Have you seen any other surveys or reports that have been conducted in regard to the Fort Peck site?

Representative MANSFIELD. No, sir; although I did hear in this meeting in Senator Murray's office last night, with the Montana delegation, that there was a report put out by General Pick of the engineers, about which I know nothing, and which I heard of for the first time at that meeting last evening.

Senator HICKENLOOPER. Do you know whether an attempt has been made to get that report?

Representative MANSFIELD. Senator Murray, I understand, has been bending every effort to get that report, so that it can be gone into.

Senator HICKENLOOPER. I think that is all.

Representative MANSFIELD. May I say one more word?

Senator Tydings asked me if the Montana press was behind this question. I said "yes," emphatically. I want to add to that that there is not one person in the State of Montana that I know of who is against this proposition. We are all united, and we all want it.

The CHAIRMAN. Well, that does not come as any great surprise to me.

Representative PRICE. Mr. Chairman, may I say something?

The last hearing I sat in, there was a community that did not want any part of anything like this.

Representative MANSFIELD. We are different.

Representative DURHAM. When was this report first made available to the Senator's office?

Representative MANSFIELD. I believe it was either yesterday or the day before that this report was made available from this Detroit concern to your office, Senator Murray.

Senator MURRAY. We got it just a couple of days ago, and we turned it over to Mr. Skibbins as soon as we had the opportunity.

Representative DURHAM. When did you request this report? When was the report requested?

Senator MURRAY. About a week ago, I guess. We got it promptly. We did not get the engineers' report, because that is confidential, and they were trying to have it reclassified so that it could be made available to us.

Representative MANSFIELD. That is the Army engineers?

Senator MURRAY. Yes. That report was made to the Secretary of the Army, and therefore we had to work through that channel in order to get access to it.

Representative DURHAM. I just wanted to be sure that the report was made available.

Senator HICKENLOOPER. I would like to ask Senator Murray if he has any opinion as to what the Army engineers' report concluded, that he can express at this time.

Senator MURRAY. I think their report is purely factual and does not make any determination of the issues.

Of course, I understand that the Army has expressed itself to other agencies of the Government with reference to the conditions in both sites.

The CHAIRMAN. Mr. Mansfield, thank you very much indeed. We were glad to see you, and we are glad you have had an opportunity to state your views.

Representative MANSFIELD. I want you to know that we appreciate the opportunity to state our views, too.

Mr. LOBLE. May I introduce the Governor of the State of Montana, John Bonner, who is here on this mission to present, on behalf of the State of Montana, our position.

#### STATEMENT OF HON. JOHN W. BONNER, GOVERNOR OF THE STATE OF MONTANA

Governor BONNER. Mr. Chairman and gentlemen of the committee: I want to thank you for the courtesy of permitting us to appear here. I know that you are all busy. But we consider this a matter of vital moment not only to the people of Montana, but to the United States as well.

To begin let me say that we do not approach this matter from the standpoint of selfish interest at all. We bear in mind at all times the security of the people of the United States and the welfare of all the people of the United States. But at the same time we feel—and I express the opinion of all the people of Montana—that due consideration was not given to Montana in the selection of this particular site.

I was interested in the question asked by a member of the committee as to the engineers' report. I am referring now to those from Detroit. We have gone into that. And permit me to say also that this is my second trip to Washington in regard to this project. I was here approximately 2 weeks ago.

A question was asked as to the engineers' idea as to the site, and I can only answer this: I have not had access to the engineers' report, but I did talk with General Pick, Chief of the Army Engineers, who is very familiar with the waters of the United States, and particularly those in the West. And he told me that in his opinion the Fort Peck site was the site that should be taken.

The CHAIRMAN. Who told you this?

Governor BONNER. General Pick, Chief of the Army Engineers. And he told me further that he felt we were on the right track, and that we were entitled to it.

I might say also that this was my first visit with General Pick. I had never met the General before.

We are here not just in loyalty to the State of Montana; we are here because we believe that Montana has the better site for this atomic plant at Fort Peck. The people of Montana feel that way also.

We do not just base that opinion on loyalty to the State. Mr. Skibbins, who is here today, has been working on this for a consider-

able period of time, and we have had others making an investigation as far as this plant is concerned.

I know that the committee is busy, but we could go on to tell you about Fort Peck, the power that is available there, the lands that will be donated free to the United States of America, the saving to the people of the United States of America in freight rates if the plant is located at Fort Peck.

In regard to the press of the State of Montana, it is behind this project. And let me tell you further that I happen to be a native of my State, and I do not believe, in my lifetime, at least, I have ever observed such a united front for a project as we have in this instant case. It is not just one particular group. And, as you know, I need not tell you that our State, our people, are always mindful of the security of the United States. They do not think that they know everything in the world, but they do feel that in this particular instance due consideration was not given to the State of Montana.

I am not going to argue the social factors here today—that is one thing that was put in there—or the climate. I know that when the name "Montana" is mentioned to a lot of people, they think of it as a land of snow. But I think if you investigate the climatic conditions of last winter, you will find Montana, as far as the Western States are concerned, in the best position. You will find, I think, that in and about Pocatello they were snowbound, while our roads were open.

Permit me to say further that we are closer to Washington, D. C., than is Pocatello, Idaho. And while I do not claim to be a military expert, nevertheless I know that as far as atomic energy is concerned, from the standpoint of a defense proposition, there can be no reason why these plants should be laid out in one grid as required by the situation at Pocatello, rather than being scattered, as would be the case at Fort Peck.

That is something that should be considered from the standpoint of the security of the United States. For example, in the case of the projects like Hanford, and as would be the case in Pocatello and that area, if you had some disaster occur in war, they could be destroyed by the enemy; or if you should have an earthquake there, you have lost your whole group of defenses.

On the other hand, if you have them scattered, as would be the case at Fort Peck, the chances, in either case, would be much better.

Mr. Chairman, and gentlemen of the committee, that is all I have to offer. We do have Mr. Skibbins here, and he will have some facts to present to you.

We sincerely believe—or would not be here—that on the record and on the facts we have a preferable site to that of Pocatello, Idaho.

Thank you, Mr. Chairman.

The CHAIRMAN. Governor, speaking about location, I remember a hearing that I attended about a year ago when Mr. Martin of the Glenn L. Martin Aircraft Corp. was here. Senator Reed of Kansas suggested it might be better if he moved his plant from Baltimore to his State of Kansas, because it would be less vulnerable to enemy attack. Mr. Martin replied that if you take a look at the map, not a mercator projection map but a polar projection air map, you find that if you put the plant in Kansas it would be closer to probable attack than where located in Baltimore.

So as far as the exact location is concerned, I do not think there is much choice from a defense standpoint.

Governor BONNER. Well, I may be in error, and if I am you should correct me; but I think this very committee said it would be within 24 hours of Chicago.

The CHAIRMAN. By rail?

Governor BONNER. By rail.

The CHAIRMAN. Of course, either one of them would be.

Governor BONNER. Montana is closer.

The CHAIRMAN. What is Montana, by rail?

Mr. LOBLE. On the main line of the Great Northern it is much less from Glasgow to Chicago. I understood it was 24 hours from eastern industrial centers, and that is true. That is the fastest western line, the Great Northern.

Of course, we have other lines; but that is right on the main line.

The CHAIRMAN. How much difference is there?

Mr. LOBLE. I think it is substantial. I understand Arco is on a branch line that they cannot even haul cattle on, on account of the condition of the line. The branch line runs finally to the main line. It is much quicker from Glasgow on a straight run to the East than it is from any other place.

Governor BONNER. That is one of the things that we were interested in, Mr. Chairman, in connection with those different facts given by the Commission, you see.

The CHAIRMAN. I want to thank you very much, Governor. I am glad you came along to tell us about it.

Representative COLE. May I inquire, Mr. Chairman, in view of the fact that the Governor has said that the Chief of the Army Engineers has expressed a preference for the Fort Peck site, if his group intends to have General Pick come down to express his viewpoint.

Governor BONNER. We are trying to get the general; and I will try again. I would like to have him here.

Representative COLE. Governor, you also made reference to the fact that there would be ample available free land for this site. Does that mean that all of the land which the Commission would feel would be necessary for the site would be free to the Government?

Governor BONNER. That is my information, yes. And I do not know whether you have been there, but I might say also that Glasgow is a very fine town and community, and would have all the facilities, to begin with.

Of course, I realize that regardless of what site was selected, you would have to have more buildings.

The CHAIRMAN. Any other questions, gentlemen?

Senator ECTON, you and Mr. Mansfield may feel free to ask questions if you wish.

Senator ECTON. Not at this time, Mr. Chairman. But as a member of the Montana delegation, I certainly want to express my appreciation to you and to your committee for providing the opportunity for the Montana Governor and the other representatives from our State to have this hearing.

I think you are acquainted with the fact that a couple of weeks ago Mr. Lilienthal informed all of us that due to the process of elimination, on scientific evidence collected over the past 12 months, the

Atomic Energy Commission had decided on the Idaho site. We informed Chairman Lilienthal, I believe, at that time, that Montanans were a persistent group of people, and that we hated to be nosed out in the race when we were apparently so close to winning it.

We appreciate very much the fact that you and your committee are taking time off from a very busy session and from your numerous duties to give us this opportunity to present our case to you.

The CHAIRMAN. Thank you very much, Senator.

Mr. LOBLE. Mr. Chairman, the next witness is our principal witness, Mr. Skibbins.

I might say, before I call him, that the earthquakes that occurred in Idaho and in Washington yesterday were purely a coincidence in reference to this hearing; they were not by prearrangement.

The CHAIRMAN. There is no damage, however, at Hanford, I understand.

Senator HICKENLOOPER. You are absolutely certain that the heat generated by this hearing did not contribute to the earthquakes?

Mr. LOBLE. I am not certain of that, Senator. We live in an earthquake country, which we have now transferred over to Hanford and Bonneville and over to Washington.

Mr. G. J. Skibbins is an industrial engineer of the Montana Chamber of Commerce. He was a pilot in the last war, and received the Purple Heart. That is not of very great importance here, but I mention it because we are very proud of him in Montana. He has worked intensely, day and night, on this matter for us.

What he is going to present is factual in nature. He has examined the report of Smith, Hinchman & Grylls, Inc., which we think is entirely erroneous. There are many so-called factual matters in there that we know are not factual matters.

The CHAIRMAN. I have asked Mr. Loble to go ahead and testify, and then submit whatever information and exhibits he wishes to submit later, which I understand is your procedure.

Mr. Skibbins?

**STATEMENT OF G. J. SKIBBINS, INDUSTRIAL CONSULTANT,  
MONTANA CHAMBER OF COMMERCE, HELENA, MONT.**

Mr. SKIBBINS. Mr. Chairman and gentlemen, I would like to say that everything I am going to say to you here today I believe is the absolute truth.

You gentlemen are concerned entirely with the manner of procedure in arriving at this decision, and not in anything else, although you realize that the people of Montana think that this is a fine project.

I will confine my remarks to the point, namely: How is the decision arrived at? Is there an evidence that was used to make this decision that is erroneous? Or is there complementary evidence which can be introduced at this time which would indicate that a reevaluation might be necessary?

I might say, because of the fact that we have gathered so much evidence, and because it all points in exactly one direction, that that is the maddest bunch of polecats that we ever saw out there in Montana, and everyone is very, very much stirred up.

Well, let's get down to cases.

On the subject of land cost, the Smith, Hinchman & Grylls, Inc., report indicates costs of \$1,500,000 in the Pocatello area. At the Fort Peck site they have indicated in their maps, there, a block of 400,000 acres, but in the manner in which that block was made, a large amount of private land was included. That block can be reanalyzed and can be arranged in a different pattern to include, instead of 400,000, a steady large square block of 457,000 acres, the ownership of which is 95 percent Government land, and 5 percent private land, and not 83 percent Government land as indicated in the Smith, Hinchman & Grylls, Inc., report.

Of the 5 percent private land, there are 30 folks down there who inherited the land from their grandfathers, and maybe they throw a few cows or some sheep out in that area, and it is not good for much else. There is to our knowledge not a soul living in that area of 457,000 acres. The private land is guaranteed to you by the Glasgow Industrial Committee, which will buy it up, because it isn't worth much anyhow, and they will turn it over to the Atomic Energy Commission.

In other words, instead of the item in the Smith, Hinchman & Grylls report, indicating a cost of \$1,500,000 for land at Fort Peck, the cost is zero. And there is a saving of \$1,400,000 if the plant were located at Fort Peck, because that is the cost they list at Pocatello.

I am going to switch very fast, here, to one subject after another.

As will be testified later by a competent authority in freight rates, whose testimony is to my mind almost beyond question, the savings in freight rates are going to run to \$20,000,000 at this site. That is a lot of money. You will also find, as we cite the testimony of the Smith, Hinchman & Grylls report, that they show a 5-percent advantage for freight coming into the Arco area.

Now, it is incomprehensible why competent railroad authorities were not consulted to decide exactly what this freight advantage would be.

I am submitting as part of my testimony an analysis prepared by the Board of Railroad Commissioners of the State of Montana, an analysis of class rates going into Pocatello and to Glasgow from the logical industrial points in the East, from which the equipment that will be used there will be shipped, and it shows advantages up to 52 percent, with the bulk of them lying between 20 and 30 percent. That means that in a large freight bill there is going to be an awful lot of money involved on this point.

(The statement referred to is as follows:)

STATEMENT OF H. ROBERT GUSTINE, ASSISTANT RATE CLERK FOR THE BOARD OF  
RAILROAD COMMISSIONERS, STATE OF MONTANA

There are attached exhibits A, B, and C, showing class rates from Eastern Trunk Line, Central Freight Association, and Western Trunk Line territories to Pocatello, Idaho, and Nashua, Mont. (railhead for Fort Peck, Mont.).

Exhibit A is a statement showing class rates in cents per 100 pounds from Eastern Trunk Line, Central Freight Association, and Western Trunk Line territories to Nashua, Mont. This statement shows the base rates and also those rates as increased under the *ex parte* increases. The increased rates are also subject to an additional 5-percent increase, with the exception of the rates from St. Paul, Minn., which are subject to a 4-percent increase, under authority granted in *ex parte* 168.

Exhibit B is a statement showing class rates in cents per 100 pounds from Eastern Trunk Line, Central Freight Association, and Western Trunk Line territories to Pocatello, Idaho. This statement shows the base rates and also those rates as increased under the ex parte increases. The increased rates are also subject to an additional 5-percent increase, with the exception of the rates from St. Paul, Minn., which are subject to a 4-percent increase, under authority granted in ex parte 168.

Exhibit C is a statement showing class rates in cents per 100 pounds from Eastern Trunk Line, Central Freight Association, and Western Trunk Line territories to Pocatello, Idaho, and Nashua, Mont.

It also shows the percentage of decrease in rates to Nashua under Pocatello. The percentage of decrease to Nashua varies from a high of 52 percent from St. Paul to a low of 8 percent from Milwaukee, Wis. This exhibit shows that a considerable amount of freight revenue can be saved in shipping to Nashua, Mont., instead of Pocatello, Idaho.

In all of the exhibits the class rates shown are first, fifth, and class A to E, inclusive.

The rates fifth class and lower would apply to all carload commodities.

EXHIBIT A.—Statement showing class rates in cents per 100 pounds from Eastern Trunk Line, Central Freight Association, and Western Trunk Line Territories to Nashua, Mont.

	Rate	Classes							Per-cent
		First	Fifth	A	B	C	D	E	
To Nashua, Mont., from—									
St. Paul, Minn. ....	Base rate .....	263	99	118	85	79	59	46	+4
	With increases .....	279	143	170	122	114	85	66	
Chicago, Ill. ....	Base rate .....	322	121	145	105	97	72	56	+5
	With increases .....	493	185	223	161	149	110	86	
Milwaukee, Wis. ....	Base rate .....	309	116	139	100	93	70	54	+5
	With increases .....	474	178	213	154	143	108	83	
Nashua, basis Glasgow:									
Indianapolis, Ind. ....	Base rate .....	344	129	155	112	103	77	60	+5
	With increases .....	526	198	238	171	158	118	93	
Cleveland, Ohio. ....	Base rate .....	362	136	163	118	109	81	63	+5
	With increases .....	554	209	250	181	168	124	96	
Pittsburgh, Pa. ....	Base rate .....	378	142	170	123	113	85	66	+5
	With increases .....	579	218	260	189	173	130	101	
Trenton, N. J. ....	Base rate .....	425	159	191	138	128	96	74	+5
	With increases .....	651	244	293	211	196	148	114	
New York, N. Y., same as Trenton, N. J.									
Boston, Mass. ....	Base rate .....	438	164	197	142	131	99	77	+5
	With increases .....	671	251	301	218	200	151	118	
Portland, Maine. ....	Base rate .....	444	167	200	144	133	100	78	+5
	With increases .....	680	256	306	220	204	154	120	

Tariff authority: From St. Paul, Chicago, Milwaukee Transcontinental Freight Bureau, Tariff No. 57-B; from Indianapolis, Cleveland, Pittsburgh Central Freight Association Tariff No. 491-D; from Trenton, New York, Boston, Portland, Maine, Trunk Line, Tariff Bureau, Tariff No. 107-C.

4 percent and 5 percent are X-168 increase.

EXHIBIT B.—Statement showing class rates in cents per 100 pounds from Eastern Trunk Line, Central Freight Association, and Western Trunk Line territories to Pocatello, Idaho

	Classes							X-168 increase (percent)
	First	Fifth	A	B	C	D	E	
To Pocatello, Idaho, from—								
St. Paul, Minn.: .....								
Base rate .....	400	150	180	130	120	90	70	4
With increases .....	576	216	259	187	173	130	101	
Chicago, Ill.: .....								
Base rate .....	409	153	184	133	123	92	72	5
With increases .....	626	234	281	204	189	141	110	
Milwaukee, Wis., same as Chicago. ....								

**EXHIBIT B.—Statement showing class rates in cents per 100 pounds from Eastern Trunk Line, Central Freight Association, and Western Trunk Line territories to Pocatello, Idaho—Continued**

	Classes							X-168 increase (percent)
	First	Fifth	A	B	C	D	E	
<b>To Pocatello, basis Batise Springs:</b>								
Indianapolis, Ind.:								
Base rate.....	423	158	190	137	127	95	74	-----
With increases.....	646	243	291	210	195	145	114	5
Cleveland, Ohio:								
Base rate.....	452	170	203	147	136	102	79	-----
With increases.....	693	260	311	225	209	156	121	5
Pittsburgh, Pa.:								
Base rate.....	469	176	211	152	141	106	82	-----
With increases.....	719	270	323	233	216	163	125	5
<b>To Pocatello, basis Batise Springs:</b>								
Trenton, N. J.:								
Base rate.....	518	194	233	168	155	117	91	-----
With increases.....	791	298	356	258	238	179	139	5
New York, N. Y.:								
Base rate.....	525	197	236	171	158	118	92	-----
With increases.....	804	301	361	261	243	181	141	5
Boston, Mass.:								
Base rate.....	535	201	241	174	161	120	94	-----
With increases.....	819	308	369	266	246	184	144	5
Portland, Maine:								
Base rate.....	545	204	245	177	164	123	95	-----
With increases.....	835	313	375	271	251	189	145	5

Tariff authority: From St. Paul, Chicago, Milwaukee, Transcontinental Freight Bureau, Tariff No. 57-B. From Indianapolis, Cleveland, Pittsburgh, Central Freight Association, Tariff No. 491-D. From Trenton, New York, Boston, Portland, Maine, Trunk Line Tariff Bureau, Tariff No. 107-C.

**EXHIBIT C.—Statement showing class rates in cents per 100 pounds from Eastern Trunk Line, Central Freight Association, and Western Trunk Line territories to Pocatello, Idaho, and Nashua, Mont., with differentials and percentages favoring Nashua over Pocatello**

	Classes							Ex parte 168 in- crease (percent)
	First	Fifth	A	B	C	D	E	
<b>From St. Paul, Minn., to—</b>								
Pocatello, Idaho.....	576	216	259	187	173	130	101	4
Nashua, Mont.....	279	143	170	122	114	85	66	4
Rate differential.....	297	73	89	65	59	45	35	-----
Percentage decrease.....	52	34	34	35	34	35	35	-----
<b>From Chicago, Ill., to—</b>								
Pocatello, Idaho.....	626	234	281	204	189	141	110	5
Nashua, Mont.....	493	185	223	161	149	110	86	5
Rate differential.....	133	49	58	43	40	31	24	-----
Percentage decrease.....	21	21	21	22	21	22	22	-----
<b>From Milwaukee, Wis., to—</b>								
Pocatello, Idaho.....	626	234	281	204	189	141	110	5
Nashua, Mont.....	474	178	213	154	143	108	83	5
Rate differential.....	52	56	68	50	46	33	27	-----
Percentage decrease.....	8	24	24	25	24	23	25	-----
<b>From Indianapolis, Ind., to—</b>								
Pocatello, Idaho.....	646	243	291	210	195	145	114	5
Nashua, Mont.....	526	198	238	171	158	118	93	5
Rate differential.....	120	45	53	39	37	27	21	-----
Percentage decrease.....	19	19	18	19	19	19	18	-----
<b>From Cleveland, Ohio, to—</b>								
Pocatello, Idaho.....	693	260	311	225	209	156	121	5
Nashua, Mont.....	554	209	250	181	168	124	96	5
Rate differential.....	139	51	61	44	41	32	25	-----
Percentage decrease.....	20	20	20	20	20	21	21	-----
<b>From Pittsburgh, Pa., to—</b>								
Pocatello, Idaho.....	719	270	323	233	216	163	125	5
Nashua, Mont.....	579	218	260	189	173	130	101	5
Rate differential.....	140	52	63	44	43	33	24	-----
Percentage decrease.....	19	19	20	19	20	20	19	-----
<b>From Trenton, N. J., to—</b>								
Pocatello, Idaho.....	794	298	356	258	238	179	139	5
Nashua, Mont.....	651	244	293	211	196	148	114	5
Rate differential.....	143	54	63	47	42	31	25	-----
Percentage decrease.....	18	18	18	18	18	17	17	-----

**EXHIBIT C.**—Statement showing class rates in cents per 100 pounds from Eastern Trunk Line, Central Freight Association, and Western Trunk Line territories to Pocatello, Idaho, and Nashua, Mont., with differentials and percentages favoring Nashua over Pocatello—Continued

	Classes							Ex parte 168 in- crease (percent)
	First	Fifth	A	B	C	D	E	
From New York, N. Y., to—								
Pocatello, Idaho.....	804	301	361	261	243	181	141	5
Nashua, Mont.....	651	244	293	211	196	148	114	5
Rate differential.....	153	57	68	50	47	33	27	
Percentage decrease.....	19	19	19	19	10	18	19	
From Boston, Mass., to—								
Pocatello, Idaho.....	819	308	369	266	246	184	144	5
Nashua, Mont.....	671	251	301	218	200	151	118	5
Rate differential.....	148	57	68	48	46	33	26	
Percentage decrease.....	18	19	19	18	19	18	18	
From Portland, Maine, to—								
Pocatello, Idaho.....	835	313	375	271	251	189	145	5
Nashua, Mont.....	680	256	306	220	204	154	120	5
Rate differential.....	155	57	69	51	47	35	25	
Percentage decrease.....	19	18	18	19	19	19	17	

Tariff authority: From St. Paul, Chicago, Milwaukee, Transcontinental Freight Bureau, Tariff No. 57-B; From Indianapolis, Cleveland, Pittsburgh, Central Freight Association Tariff No. 491-D; From Trenton, New York, Boston, Portland, Maine, Trunk Line Bureau, Tariff No. 107-C.

Disposition of fractions on percentages:

Fractions of less than  $\frac{1}{2}$  are dropped.

Fractions of  $\frac{1}{2}$  or more are carried to the next whole number.

#### AFFIDAVIT OF H. R. GUSTINE

STATE OF MONTANA,

County of Lewis and Clark, ss.:

I, H. Robert Gustine, do hereby certify that I have prepared the foregoing exhibits A, B, and C, and that the rates shown thereon as taken from the Transcontinental Freight Tariff Bureau, Tariff No. 57-B, Central Freight Association, Tariff No. 491-D, and the Trunk Line Tariff Bureau, Tariff No. 107-C, and L. E. Kipp's Tariff of Increased Rates and Charges, all of which are approved and legally on file with the Interstate Commerce Commission, Washington, D. C., the same showing the differential of rates from Eastern Trunk Line, Central Freight Association, and Western Trunk Line Territories to Pocatello, Idaho, and from the same points to Nashua, Mont., are true and correct to the best of my knowledge and belief.

H. ROBERT GUSTINE.

Subscribed and sworn to before me this 11th day of April 1949.

[SEAL]

H. L. GUSTINE,

Notary Public for the State of Montana, residing at Helena, Mont.

My commission expires February 3, 1952.

Mr. SKIBBINS. An unusual factor in fuel costs at the Fort Peck area has been completely overlooked, although it was brought to the attention of the organization by competent people in Montana when this survey was being made. That factor is this: When they were building the Garrison Dam, they uncovered a heavy coal seam and got 5,000,000 tons of mighty good coal in that area, which they have learned how to store to last a good many years. It will not slack in a few days or a few months. That 5,000,000 tons cannot go into the normal channels of trade and supply, because it will put all the coal operators out of business in North Dakota.

The folks out there are very much interested in it. The Government doesn't know what to do with it. And it is extremely peculiar that that 5,000,000 tons was not mentioned as the source of fuel for the project, which it would be if an interest were displayed in the

Fort Peck area. Presumably that 5,000,000 tons would merely be turned over to the Atomic Energy Commission at Fort Peck. The cost and freight has been estimated by the two railroads concerned, in advance of any definite final decision, as from \$2.90 to \$3 per ton to deliver it from Garrison to Fort Peck.

This means that the 500-ton-a-day requirement of this particular B. t. u. coal, 7,000 B. t. u. coal, could be laid into Fort Peck at a cost of \$1,500 a day.

Now, the very best and most favorable estimate on Pocatello goes up to \$2,000 a day. That means \$500 a day saved on fuel.

I am also reliably informed by Montana sources and coal operators that other mines could deliver their coal at Fort Peck—but were not asked for a rate on it—at never more than half the per ton cost or per B. t. u. cost at Pocatello. Annual fuel savings of \$182,500 every year that this plan is in operation, may be made on this single item, because of the fact that the entire eastern half of Montana and a good section of North and South Dakota are underlaid with coal.

On the subject of housing, there is no way for the Commission—although it would very much like to, and it is not to be blamed—to completely avoid responsibility for housing and community facilities, except with the wholehearted cooperation of the community involved. On the subject of housing, we have gotten together the Montana Contractors Association, Glasgow contractors and banks, and a group of Spokane, Wash., mortgage and building companies, who have urged most strongly their ability to construct for the Atomic Energy Commission, using their own funds and the sources known to them, a 500 or more home subdivision for the city of Glasgow, which will be available to the people working at the AEC installation on a rental and not on a purchase basis.

A great deal has been done on this housing problem. I notice that releases regarding Arco say that the local communities are expected to absorb the housing. We are making a definite offer that the people who are responsible for housing in Montana and in the Northwest will build for rental as many houses as are required in the Fort Peck area. The land is owned by the city. It does not have the situation that you have in Arco where land was worth \$100 and \$1,900 the next day for the same lot. This land is going to be turned over by the city at a very, very low rate, which is the way the job should be done. Because we do not believe in wildcatting of that kind in Montana.

On the subject of employment, screening, and labor turn-over costs, in Montana the Unemployment Compensation Commission has set aside the sum of \$60,000 to construct an employment office at the AEC site in the Fort Peck area. In addition, the Commission will allocate funds from its annual budget to completely staff this office with trained labor recruiters who can screen and produce all of the applicants required for AEC positions, in construction and in permanent operation.

I won't go through the entire subject here, other than to say that the chairman of the commission has surveyed every office in the State, and in the last 3 months they have found that they can guarantee 10,000 men for this project, all of them from the State of Montana; and over and above that is your drifting and transient labor, which has caused so much difficulty in most of the construction projects in the Northwest.

The Commission is able to screen and take care of the whole job of employment in that area, it feels, because there are so many Montana people who require work. There is a situation there where you have 4,500 veterans who were on unemployment-compensation rolls last month, and who can only expect seasonal employment. And those are the fellows that I had the privilege of fighting alongside of in this war. That situation is apparent to us.

We had 12,000 unemployed last month. We are deeply concerned about the fact. The people who know something about labor in Montana say that we can provide the type of labor that is not going to be leaving every few days, and is not going to be switching from job to job. I understand that the turn-over costs within the Commission are \$350 per person, and we feel that that factor should be considered very carefully; especially when we know that the labor will stay there, because we are going to give them the houses. And they are not going to stay in any other area unless those houses are provided.

There are several other costs that are interesting.

Let us take the matter of fencing. At Pocatello there is the necessity for constructing utility posts, security fences, and an overhead steam-transmission line, according to the Smith, Hinchman & Grylls report. This will have to be slow digging in hard lava. At Fort Peck there is no such expensive rock work for this purpose. According to the Detroit engineers' estimates, the savings in fencing costs for the security fence would run to half a million dollars, and the other requirements for rock work in transmission lines and overhead piping would conservatively be estimated as an over-all total of \$1,500,000.

On the subject of water costs, we find one of the most interesting situations. The only reason Fort Peck does not show a really tremendous advantage in costs of water from the 175-mile-long Fort Peck Reservoir is that the Smith, Hinchman & Grylls report indicates that they have received word of a charge of from 1 to 15 cents per thousand gallons of this water out at the reservoir. In its high ranges, this charge would be higher than that for drinking water in most cities of Montana. Discussions with officials of the Missouri Interagency Committee and the Corps of Engineers and the people working at Fort Peck who are in charge of its operation reveal that they have no knowledge of any law or any regulation now enacted by which they could justify this charge. The practice in Montana is to file at the county courthouse for water, and then, if no other user is hurt, receive the water free.

In southeastern Montana, our considerable investigations of the synthetic-fuel proposition have revealed that the procedure for obtaining quantities of water is to merely file in your county courthouse. And, if there is one thing that the State of Montana is left with, it is plenty of chasers for a good drink. And yet this reported cost of 1 to 15 cents per thousand gallons comes out of the Department of Interior, to completely prejudice the costs of steam and of water in this Smith, Hinchman & Grylls report.

A bookkeeping charge of this kind between agencies of the Government for water which will return to the stream and be reused, in my opinion cannot be justified. This item should be eliminated. It represents a cost figure of \$3,050 per day against the Montana

site, and, along with electric-power cost mistakes, forms the main argument for the Pocatello claim of favorable operating costs.

The annual amount of this water cost against the Montana site is \$1,113,250.

Items such as these, thrown into what is represented as a technical and objective discussion of costs, discredits other items, such as the representation that a pumping plant taking water out of Fort Peck Lake above the ground would cost as much as drilling 500 feet through hard lava 36 times for a water system at Arco, Idaho.

The availability of materials is another point that was weighted very heavily in this Smith, Hinchman & Grylls report. The Pocatello site is indicated as being more favorable.

As the factual testimony on freight rates, which I hope you will have time to go through, will indicate, many extremely important omissions of sources of materials that apply to this specific proposition were made in the Smith, Hinchman & Grylls analysis of freight rate charges; in every case, without exception, to the detriment of the Fort Peck site.

I will now discuss evidences of partiality in the Smith, Hinchman & Grylls report.

Within this report, or rather, attached to it, is a consultant's preliminary report, a Comparison of the Pocatello and Fort Peck Sites, by Harold T. Stearns of Hope, Idaho. I presume that this material was used in order to get the advice of persons who were familiar with the areas.

The CHAIRMAN. By whom is he employed?

Mr. SKIBBINS. Hope, Idaho; yes, sir.

The CHAIRMAN. But his residence is in Idaho?

Mr. SKIBBINS. Hope, Idaho, yes, sir.

In discussing climate when making his comparisons, Mr. Stearns, of Hope, Idaho, says:

Persons living in this part of Idaho—that is, Arco—

are used to the wind, but outsiders frequently leave jobs because of the wind.

Regarding winds in Fort Peck, he says:

No drifting sand, because of the absence of this material in most of the area.

I can appreciate his disappointment.

In Pocatello, Mr. Stearns states that the "sunlight is abundant and the climate is healthy."

Regarding Fort Peck in this respect, he says:

Not familiar with the climate at this site. Probably lower temperatures than at the other site.

Usually in making a comparison when you are not familiar with one side, you do not judge both. This comparison in the report, in its detail, without going into some of the more serious parts of it, should probably be reconsidered and removed from the material that is being used in this evaluation.

Senator HICKENLOOPER. Mr. Chairman?

The CHAIRMAN. Senator Hickenlooper.

Senator HICKENLOOPER. Mr. Skibbins, is that portion of the report on the climate, as between the Idaho site and the Fort Peck site, that

which generates the determination that the Fort Peck site is "poor" and the Pocatello site is "good"? I mean, is there other evidence on the climate, other than what you have read there?

Mr. SKIBBINS. Oh, yes. I understand that the climate information is particularly interesting, because the climatic data for the Fort Peck area in the Smith Hinchman & Grylls report were primarily taken from Havre, Mont., information. And, if there is anything that is a curse to the people of Montana, it is the fact that that weather station is situated there in that freak bowl that gets the worst temperatures of the United States and the worst conditions. And the people in Great Falls and the people in Helena and the people in Butte and the people in Glasgow and the people in Miles City have utterly different situations; and yet they get constant letters of condolence from people in New York City, who hear it is 58 below in Havre. Then they write them back and tell them it is only about 10 above in Great Falls, with the result that the people in the East think we are all just lying about our weather out there.

That material that is reported, and has been for 58 years, on the freak conditions in Havre should be considered as coming from a freak report. In fact, that is why the weather station is there; because it is an unusual situation in the United States. And it is rather curious to compare it with the Glasgow area, which is a good many hundreds of miles away.

The CHAIRMAN. How far is the weather station from the Fort Peck site?

Mr. SKIBBINS. Three hundred eighty miles, sir.

Senator HICKENLOOPER. Which direction?

Mr. SKIBBINS. Fort Peck is to the east, sir.

The exchange of correspondence, to be reported on later connection with the interest of the Department of the Interior in the location of this plant, should not have been quoted by Smith, Hinchman & Grylls as sources for their cost figures.

The CHAIRMAN. Well, in the report do they cite where they got their data?

Mr. SKIBBINS. No, but the data are identical with the letters which we requested for the purpose of this hearings, signed by members of the Department of Interior. So, I presume that they used that information, which is identical. Because, as I will show, they could not have gotten it from any other sources, because the other sources open to them would be the private power companies.

The CHAIRMAN. Thank you.

Mr. SKIBBINS. The original alarms regarding contamination, which, by the way we are not going to discuss, first, because we are not equipped, second, because it is not our purpose here to embarrass the Atomic Energy Commission—

The CHAIRMAN. The staff has just handed me a report entitled "Fort Peck Site Climate: Available Recorded Information on Climate Regarding the Communities and Stations Listed Below Was Used in Compiling This Report", and the following:

Glasgow, Malta, Jordan, Sentinel, Butte Pass, Williston, N. Dak., Havre, Fort Peck, and Telegraph Creek.

Mr. SKIBBINS. I think you will find, sir, in going over the analysis made, that very heavy weight was given to the Havre figures. Now, that is something that only a competent man would be able to judge.

The original alarums regarding contamination seem to have originated not within the engineering firm making the survey but in a paper written by Dr. Piper of the United States Geological Survey on November 20, 1948, at the same time he suggested a site 200 miles southeast of Portland, Oreg., in an area which yesterday experienced a severe earthquake.

Here is Dr. Piper's report, provided to us at our request.

On page 117 of the Smith, Hinchman & Grylls report is the following statement:

A cost differential of 5 percent in favor of Pocatello can be anticipated on mechanical and equipment installation, in this case due to increased labor efficiency and freight-rate differential.

In a few minutes an experienced freight man will indicate how completely erroneous and prejudiced that statement is. Suffice it to say that the Interstate Commerce Commission itself would not accept that statement in any way as being true, because of published rates in the United States which indicate to the exact contrary.

Also on that same page savings are indicated in power and water costs. The water cost, as I have indicated before, is a conjecture, as is the statement coming from the Department of the Interior presumably used within this report; and the power costs, as we shall see in a moment, will have to be doubled for purposes of the Smith, Hinchman & Grylls report.

Another statement on this page, in guessing at a \$6,000,000 construction job, is that the surveying and engineering firm estimates \$150,000, or 2-percent saving in costs at Pocatello, because of differences in soil conditions and labor efficiency. That is pure conjecture, and I am sure that hardly any contractor in this construction year of 1949, especially because of the tremendous amount of work in lava rock that must be done at Pocatello, would dare to indicate within a report that he could say that there was \$150,000 saving, without saying at the same time that it was plus or minus 20 percent. And that seems to be the way most contracts are being accepted these days.

On page 118, perhaps the most important page in the Smith, Hinchman & Grylls report, is the summary of the biggest items of all, construction and operational costs.

Each of the seven items in my opinion is extremely questionable, and the fact that the sum of the engineering firm's entire evaluation fails to reveal a point differential over 5 percent between Fort Peck and Arco is a matter that is extremely significant.

In nuclear laboratory work, in the work such as the Atomic Energy Commission does, for example, scientists whose lives depend upon accuracy never quote a quantity or a difference without indicating the percentage of error possible in that quotation.

In the case of this estimate of the \$500,000,000 construction job, at a time when construction is the vaguest and most inexact work within our society, it is not realistic to ignore the fact which is widely known by the general public, namely, that you should figure for 20-percent error in a contractor's estimate.

Without further discussion of what is a painful subject, it should be agreed that the validity of such minute calculations of differences be-

tween the two areas should be retracted, and the facts reexamined for another over-all analysis.

I have here some statements which I will go through very quickly.

One of them is a statement from the State Board of Health in Helena, Mont. As to the credentials of the gentleman making the statement, he is Mr. C. W. Brinck, assistant director of the division of sanitary engineering of the Montana State Board of Health. He states that the information obtained at his meeting with the members of the Atomic Energy Commission—

would indicate that methods are available for the removal of radioactive materials at the proposed site—

at Fort Peck—

appears to be such that the present known methods of handling radioactive wastes could be safely and satisfactorily instituted in this area.

I have here another statement, that I think perhaps should go into the record, because the subject of the slow and gentle 75-year percolation of materials at the Arco site is one which is extremely interesting to the Commission and everyone concerned with this site location, because it directly affects one of the important problems, namely, contamination.

I am quoting from the Water Well Journal. This is the autumn issue of 1948. The subject is Idaho. The author is Mr. H. C. Clark, public health engineer of the Idaho Department of Public Health.

I will read, here, just a few portions of this. We will have it mimeographed and turned in in its entirety later.

A large area in southern Idaho is underlaid with lava beds which are full of crevices and voids. This is clearly shown by the fact that Big and Little Lost Rivers, Birch Creek, Medicine Lodge Creek, and Camas Creek, draining a large mountainous area in eastern Idaho north of Pocatello, sink into the lava flow and there is no surface connection to any stream draining to the sea. It is commonly agreed that the ultimate outlet of water from this drainage area is in Thousand Springs issuing from the walls of the Snake River Canyon near Hagerman.

Now, this is the lava bed in question.

These springs steadily produce many second-feet of water. Some water supplies have their source in these springs or from wells drawing water from this flow.

It is common practice in this area to dispose of wastes, such as raw domestic sewage, municipal sewage, plant effluent, irrigation drainage water, et cetera, into lava crevices, which undoubtedly connect with underground channels bearing ground-water flows. This is borne out by the fact that Thousand Springs water and many wells in the area show intermittent and often gross coliform contamination.

Without going any further with this statement, I will say that it is possible for something to percolate through rock for 75 years, for sewage to percolate in water through rock for any time at all, and still have coliform contamination.

In other words, the tenor of this report to my mind indicates that the waters beneath this lava bed in some areas are flowing very swiftly, swift enough to carry the contamination from municipal sewage plants to springs in the Thousands Springs area, and to contaminate them, and to require chlorination, which is commented on later on in the report.

The subject of geology I will go through briefly. The November 20 report of Dr. Arthur M. Piper, staff scientist to the United States

Geological Survey, mentioned before, has an interesting comment on the foundation problems at Fort Peck. He says, "Evidently the Bearpaw shale constitutes an inferior foundation material for heavy structures."

Again, in his summary, he states the Bearpaw shale is "incompetent as a foundation."

To clarify the fact that as many inconsistencies exist in this information on foundation and soil conditions as is the case on electric power, let me say that here are some of the conflicting stories.

J. Stewart Williams, another consultant whose report is attached to the Smith, Hinchman & Grylls report, a consulting geologist, says:

Any well-built structure could be considered safe from earthquake damage at the Fort Peck site. The terrain at the site is such that foundations can fit in dry undisturbed bedrock.

Mr. Harold T. Stearns, of Hope, Idaho, states:

Fort Peck: Shale at site full of numerous small faults which move when heavily loaded. The shale contains bentonite which swells and "slakes" when wet.

We herewith submit a report from the geologic staff and the president of the Montana School of Mines, an organization of long and ample repute.

The CHAIRMAN. Are you submitting that for the record?

Mr. SKIBBINS. Yes, sir. And I will read a few items from this report at this time, sir. This will all go in. All of our material will be mimeographed, and presented to you, sir.

The CHAIRMAN. All right.

Mr. SKIBBINS (reading):

Perhaps one of the most important points in favor of the Fort Peck site is the adequate and permanent supply of good water readily available from the 175-mile Fort Peck Reservoir on the Missouri River.

To go on to the subject of foundation materials:

The upland at the proposed Fort Peck site is blanketed with a veneer of glacial drift (ground moraine) consisting of clay, sand, and scattered gravel. Bedrock which is close to the surface consists of many hundreds of feet of dense compact shale (Bearpaw formation), which readily stands firm in steep-cut creek or river bluffs. The shale is highly impervious. We know of no reason why this shale should not serve as a good foundation for buildings or other structures.

I will not continue with that, except to mention the flash-flood conditions. Let me summarize the foundation matter. You find four different authorities and four different opinions on foundations. I submit that in that circumstance it will require a little bit more attention to both sides of the argument before an opinion is expressed that the foundations are not any good at Fort Peck. They seem to support the dam pretty well.

Flash flood conditions have been claimed for the Fort Peck area. Here is E. S. Perry, Chief Geologist, who published the bulk of the ground-water information in the northwest United States, and whose reports have been constantly used by the Geological Survey.

The proposed Fort Peck site is on a broad gently rolling upland near a divide of drainage. It is scarcely conceivable that with topography of this character, and with the character of rainfall and storms in northern Montana—in other words, with 12 inches a year, there is hardly any—

that there could be flash floods that would damage installations.

(The report of the Montana School of Mines is as follows:)

MONTANA SCHOOL OF MINES,  
*Butte, April 11, 1949.*

Perhaps one of the most important points in favor of the Fort Peck site is the adequate and permanent supply of good water readily available from the 175-mile Fort Peck Reservoir on the Missouri River. The water can be had by direct pumping from the reservoir which is about 5 miles distant and only 400 feet lower in elevation.

There is no positive assurance of an adequate supply of water from wells at Arco, Idaho, until after the wells are drilled, and the permanency of supply will not be known until after years of pumping, and the draw-down of the ground-water level is determined.

An analysis of the Missouri River water, which supplies Fort Peck Reservoir, shows 186 parts per million total dissolved solids (which is very low) with a hardness of 148 parts per million. This water is used for municipal supply for the city of Great Falls. The mean annual flow, or run-off, for Missouri River is given as approximately 10,000 second-feet by the United States Geological Survey, with a maximum of about 50,000 second-feet in June, and a minimum of about 3,200 second-feet in September.

The cost of installing equipment for pumping water, of course, cannot be estimated without specifications of volume needed, type of pump equipment, size of pipe lines, and other factors. However, it is probable that a single unit delivering 300 gallons per minute, with a lift of about 400 feet, over a distance of 5 miles, will cost approximately \$100,000 to \$110,000. This would include pump, motor, control equipment, and a 12-inch pipe line. The proportionate cost would decrease if additional units were added.

#### RADIOACTIVE WATER FROM DISCHARGE

Montana School of Mines has no experience with, or information concerning, probable character of waste water from a plant such as is planned for Arco, Idaho. We would infer that it would not be greatly different from waste water at the Hanford or Oak Ridge plants. We have heard that water from these plants has not materially affected wildlife along the rivers receiving discharge water, and hence we would expect a similar condition in the Fort Peck region. It must be admitted, however, that a procedure of confining the waste water underground and forcing it to pass through 50 or 100 miles of porous lava flows would be more assuring of a safe disposal of waste water.

#### FOUNDATION MATERIALS

The upland at the proposed Fort Peck site is blanketed with a veneer of glacial drift (ground moraine) consisting of clay, sand, and scattered gravel. Bedrock, which is close to the surface, consists of many hundreds of feet of dense compact shale (Bearpaw formation), which readily stands firm in steep-cut creek or river bluffs. The shale is highly impervious. We know of no reason why this shale should not serve as a good foundation for buildings or other structures. Thin bentonite beds occurring in the shale formation should not prove harmful to properly constructed foundations. A persistent 1 to 2-foot bentonite bed known to occur at depth at the dam site should be several hundred feet deep at the proposed plant site on the uplands, and hence should not interfere with foundation construction.

#### FLASH FLOOD CONDITIONS

The proposed Fort Peck site is on a broad gently rolling upland near a divide of drainage. It is scarcely conceivable that with topography of this character, and with the character of rainfall and storms in northern Montana, that there could be flash floods that would damage installations.

The above report was compiled by Dr. E. S. Perry, Chief Geologist, Montana Bureau of Mines and Geology.

E. S. PERRY, *Chief Geologist.*

Approved:

FRANCIS A. THOMSON,  
*President, Montana School of Mines.*

Mr. SKIBBINS. Having concluded that information, I will go on, to one of the final points in our argument here today, sir, which pertains almost entirely to the Smith, Hinchman & Grylls report, and that is as to the subject of electric power. I am going to go through this hurriedly, because I see our time is short.

I am going to report from some letters and some newspaper accounts from the Commission, from the Department of the Interior, and from persons connected with this entire project.

The following information was taken from page 32 of a survey by Arthur M. Piper, and summarizes the water resources, which are given a very poor rating, and summarizes the foundation resources, which are given a very poor rating for the Fort Peck area, and is dated November 8 to 12, 1948.

The report goes on to say that the desired energy of 50,000 kilowatts is currently available only in the sense that generating capacity of the Fort Peck power plant now exceeds that requirement.

Now, however, in regions surrounding the Fort Peck area, as in most of the Nation, existing energy loads tax the full peaking capacity of existing generators.

I would like to quote from a letter addressed to Mr. David Lilienthal by Mr. J. A. Krug, Secretary of the Interior. This letter is dated November 26, 1948. It consists entirely of points which the Department of the Interior wishes the Atomic Energy Commission to consider in connection with its interest in the Fort Peck area, namely, that steps should be taken to prevent pollution of the streams, that consideration should be given to the regulation of wildlife, and the stimulation of grazing, and that attention should be paid to the interests of the Fish and Wildlife Service.

The letter states that at that time two geologists were gathering adequate information on the Fort Peck area, and that it was hoped by Mr. Krug that the decision would be delayed until that report had been prepared. That report is a report of Mr. Piper's, which definitely includes all of these reasons, in my opinion spurious, militating against the Fort Peck area.

Here is a letter to R. C. Price, written by Mr. Warner, director of engineering. This is dated January 28, 1949:

As we have discussed with you, we are now making a comparative study of the Fort Peck, Mont., and the Pocatello, Idaho, sites, and it would be particularly helpful if your comments included information on the Fort Peck as well as on the Pocatello site. As indicated by a copy of a memorandum left with you on January 14, 1949, we have discussed many aspects of our problem with several individuals of the Interior Department \* \* \*.

We understand that sufficient water will be available at both the Fort Peck and Pocatello sites, but that surface water from the reservoir at Fort Peck, which is the more desirable source of supply, will cost between 1 and 10 cents per 1,000 gallons. \* \* \*

In a few years, it is probable that power will be more readily available at Pocatello than at Fort Peck, particularly since Pocatello is destined to become the center of an extensive power grid. \* \* \*

Since the cost per kilowatt capacity is less on the Snake than on the Missouri River and since transmission over shorter lines is possible in the Northwest system, electric energy will ultimately cost less at Pocatello than Fort Peck. At the present time the cost is 0.43 cent per kilowatt-hour at Fort Peck. We understand that for long-range planning it is practicable to assume that the generation cost of Pocatello will be about 0.2 cent per kilowatt-hour less than at Fort Peck.

Here is another letter of Secretary Krug's, addressed to Carleton Shugg, Deputy General Manager, Atomic Energy Commission:

The capacity of Fort Peck would be able to fulfill the estimated needs until 1952 (22,000 kilowatt) without the additional unit at Fort Peck. When the additional unit is in service the requirements of 51,000 kilowatts in 1955 can be met.

Water is available for the development of 100,000 kilowatts more power at Fort Peck. The Army engineers are now investigating the desirability of this additional capacity.

#### Regarding the Idaho site:

Power could be supplied to the site by means of a transmission line to American Falls or by partial construction of a BPA Pocatello-Great Falls 230-kilovolt line. Until 1950, when the Anderson Ranch Dam comes into production, there is no Government capacity available to the site except by wheeling from Fort Peck. \* \* \*

The Fort Peck rate would apply to the part of the power supplied to the Montana site from Fort Peck project. An interim rate averaging 5.5 mills is now in effect on this project. This may be revised slightly at some later date.

For the power supplied from Government sources to the Idaho site, it is expected the Bonneville rate will apply, though the application of this rate awaits further studies. It can be estimated that power costs at the Idaho site will be some 2 mills less than at the Montana site.

He stated Montana was 5.5; 2 mills less is the rate of 3.5 for Idaho.

I have here a release of March 23. The headline is "Raver Denies Idaho Project To Get Hungry Horse Power Great Falls." The release is from Kalispell.

Dr. Paul J. Raver, Bonneville Administration head, today disputed recent remarks concerning the Hungry Horse project and the proposed Idaho atomic reactor project.

Raver's views were expressed in a statement to the Flathead citizens' committee.

"The Bonneville Administration does not now have, nor does it expect to have, any application from the Atomic Energy Commission for power for the Idaho atomic plant," Dr. Raver said.

The CHAIRMAN. Is your point that they are going to get it from Fort Peck?

Mr. SKIBBINS. At what site, sir?

The CHAIRMAN. At the Idaho site.

Mr. SKIBBINS. No, sir.

The CHAIRMAN. What are you proving? I just do not understand what you are trying to prove to us.

Mr. SKIBBINS. I will sum it up in just a moment, Mr. Chairman.

The CHAIRMAN. I would like to have your summary now. I do not get all this. What is the point? I want to know. Tell me what it is now.

Mr. SKIBBINS. Here is the point very briefly, sir.

The dire need for power in this project, according to the next statement, will go up to 70,000 kilowatts. We have been informed that the power, according to the statement of one of the members of the Commission, will come from private power sources.

Now, in the Smith, Hinchman & Grylls report of March 1949, in these letters that I have quoted to you, the figure of 3½ mills is constantly used as a cost for the power.

The Administrator of Bonneville states he has no application for service at Arco.

His 1949 plans for the extension of his transmission service shows this line [indicating map] with connections to Hungry Horse going

to Anaconda and coming down within 5 miles of Arco and going into Pocatello.

Mr. Lilienthal stated on March 29, in writing a letter to Mr. Mansfield, that—

we plan to obtain the power for the station from generating equipment installed at the station, and from the Idaho Power Co.

All these facts make it clear that no public power is involved in the representations of the people making the Smith, Hinchman & Grylls report. No Bonneville grid system is involved, although Mr. Warner's letter of January 28 to Mr. Price in Interior says that—

it is probable that power will be more readily available at Pocatello than at Fort Peck, particularly since Pocatello is destined to become the center of an extensive power grid.

The CHAIRMAN. Your point is that that is not so? That there is not going to be available public power there? Is that your point?

Mr. SKIBBINS. Well, according to the statements that we have received, sir, the representations are that the Government is not, despite these evidences, going to use public power in that area for the immediate needs, and that the Idaho Power Co. is involved.

The CHAIRMAN. Your point is that there is public power now at Fort Peck, and there is private power in Idaho. Is that it?

Mr. SKIBBINS. That is part of it; yes, sir. That is part of it.

The CHAIRMAN. And that is something to be weighed against the Idaho site?

Mr. SKIBBINS. That is part of it.

No, sir; our point is on the Smith, Hinchman & Grylls report, which I will discuss right now.

The Idaho Power Co. published a financial statement on December 31, 1948, and stated that they sold 837,675,516 kilowatt-hours in 1948.

Their statement goes on to say that they paid \$2,858,905 in taxes.

Simple division indicates that their tax per kilowatt-hour is 3.4 mills. This power company is reasonably efficient, pays decent wages, and must add another 2 mills for \$2,000,000 in wages.

It is inconceivable that they could sell power to the AEC at less than 6 mills per kilowatt-hour.

The CHAIRMAN. In other words, your point is that the estimate for power that they have put in at Pocatello site is too low. Is that it?

Mr. SKIBBINS. That is correct; yes, sir. That is my point.

The CHAIRMAN. Does the engineering report of the Commission indicate that the figure that was used was submitted by the utility company to the engineering firm?

Mr. SKIBBINS. No, sir. I do not believe that any statements have been made regarding any rate having been received from the Idaho Power Co.

I called them up and asked them if they had given anybody a rate, and they said, "No."

The point that we are making here is: How can all these power-cost assumptions favoring Pocatello, favoring Arco, and so forth—how can the cost of steam-generation plants and all this other matter—use a 3½-mill rate for electricity, when it is apparent that the Idaho Power Co. rates, if they are the ones to be used, must be considerably in excess of that?

Only the extension of the Bonneville grid system from Hungry Horse to Kerr to Anaconda to Pocatello would permit a  $3\frac{1}{2}$ -mill rate and up to 80,000 kilowatts of power, which is what is required.

Representative DURHAM. In the report, both of them were placed in a very good position, in the final report.

Mr. SKIBBINS. In the discussions of the cost of the steam plant, the cost of operating the installation, the cost of electricity, the Fort Peck site was militated against because it was rated at a 5.5 mills per kilowatt-hour rate, while the Pocatello site was rated at 3.5. It is that confusion that we would like to clear up.

If asked, the Idaho Power Co. would probably set up a 6-mill rate. This should give Fort Peck the advantage on power, because its output is rated at 5.5 mills or less.

Representative DURHAM. It is just a difference in the cost, you are submitting.

Mr. SKIBBINS. Yes, sir.

Now for a brief summary.

We feel a reasonable doubt exists as to any of the preferential analysis regarding the selection of the Arco site. We feel the engineering firm making the survey was perhaps inadequately supplied with the facts, some of which we have elucidated.

We are not in a position of being a fine engineering survey organization. We are just ordinary citizens that have been looking at this thing and wondering what on earth is the story. Because sound reason says, "Here is all the water. Here is all the waste land. Here is all the power. What is the reason that this thing should be put some place else, where they do not have those circumstances, when determinations can be arrived at which point to the fact that there is reason for another judgment?"

It seems clear that no \$50,000,000 advantage exists at Arco as stated in the engineers' summary, but on the contrary Fort Peck, Mont., has a \$32,900,000 advantage in this general summary, in original costs, and a \$3,295,750 advantage in operating costs, every year of operation of the plant.

There are enough discrepancies of judgment, and we feel there is enough uncertainty as to the statement that we have made here to suggest that a thorough and a factual and an impartial investigation could be made at this time with good cause.

The CHAIRMAN. Now, just a minute. Let me get this straight. Are you suggesting an investigation on the basis of mistaken judgment? Or do you suggest some bad motive?

Mr. SKIBBINS. No, sir. I am merely suggesting—

The CHAIRMAN. I do not want to ask you an embarrassing question, but I want to get it straight for the record.

Mr. SKIBBINS. That is not at all embarrassing, sir. We are only interested in securing an adequate evaluation of the facts regarding Pocatello, on the one hand, and regarding Fort Peck, on the other hand. Because we are convinced from everything that we have been able to find out that that is all we have to do to get the plant.

The CHAIRMAN. Do you think you might be slightly biased?

Mr. SKIBBINS. Yes, sir? And that is why we ask that the judgment be made by an authority who would not be biased. And I have no idea how such an authority could be found.

The CHAIRMAN. Do you allege that this engineering firm was biased in its approach?

Mr. SKIBBINS. I think that the information that they had was not enough for them to come to an adequate decision; and I think that some of the consultants that they used were biased in their approach in some respects.

The CHAIRMAN. Whom do you mean by that?

Mr. SKIBBINS. I am thinking, perhaps, of the gentleman from Idaho.

The CHAIRMAN. Where does he come into the picture, anyway?

Mr. SKIBBINS. He is the consulting geologist whose report is appended.

The CHAIRMAN. Was there a consulting geologist selected from Montana?

Mr. SKIBBINS. No, sir.

The CHAIRMAN. Is that the only place this man works, in Idaho?

Mr. SKIBBINS. I have no idea, sir. I don't know the gentleman, and I have not investigated him.

The CHAIRMAN. I see.

Mr. SKIBBINS. Our point is that in going through any report, you gentlemen have all had experience, and you can tell what they are trying to sell. This report is selling the Pocatello area. I do not think either area should be sold in a report of that caliber. And that is the gist of our remarks.

The CHAIRMAN. On the other hand, they were retained to recommend what in their judgment was the best site, were they not?

Mr. SKIBBINS. That is correct, sir.

The CHAIRMAN. Is that right?

Mr. SKIBBINS. Yes, sir.

The CHAIRMAN. That is what they apparently did.

Mr. SKIBBINS. Well, sir—

The CHAIRMAN. Now, as I get it, your complaint is that the facts upon which they made that recommendation are (1) not sufficient, and (2) not facts; that they are misstatements of fact.

Mr. SKIBBINS. And of opinion.

The CHAIRMAN. And of opinion.

Mr. SKIBBINS. And I think the freight-rate testimony, which would take about 5 minutes, is the classic example of that fact.

The CHAIRMAN. I see.

Do you think you have summed it up pretty well? Is there any other material you would like to put into the record? Perhaps we could receive it and print it.

Mr. SKIBBINS. The only other statement I would like to make, sir, is that all this material will be supplied to anybody who wants it, and we are only interested in getting this plant. We do not want to put anybody on the spot. If we have done so, we cannot help it.

The CHAIRMAN. You are not putting us on the spot, certainly.

Representative DURHAM. We stay on the spot.

Mr. SKIBBINS. We want the truth to be used in the making of this decision, and we feel that we have a fine argument for it. That is the only reason why we came to Washington the first time, and that is the reason we got so very, very irritated by the fact that there seemed to be a run-around in the treatment that we received. And we are dumb enough not to know when we are licked?

The CHAIRMAN. Thank you very much indeed.

Obviously we cannot finish in this morning's session.

I personally want to examine this engineering survey. Also, I want to examine the Director of Engineering.

Representative HINSHAW. Mr. Chairman, in listening to the statement concerning power, I note that he has taken figures put out in an annual statement by the Idaho Power Co., dividing the total number of kilowatts sold by the sale price, which, of course, results in an average price of power, as between the lowest wholesale rates and the highest retail rates, which the company sells it for.

I wonder if that has been considered in the testimony which the gentlemen gave to us.

Mr. SKIBBINS. May I reply to that, sir?

The CHAIRMAN. Yes.

Mr. SKIBBINS. As a matter of fact, I think if any inquiry were made—which I don't believe has been made—of the power companies concerned for these large blocks of power, scheduled for the next 5 years up to 70,000 or 80,000 kilowatts, it would quickly reveal the rate at which they can provide it.

I think that if that evidence, which is not available in this report, nor in any report that I have seen, were made available, I believe that evidence would bear out the testimony I have presented today. But I cannot speak as to that.

Representative HINSHAW. Is it true that you arrived at the figure you did by simple division of the total amount of power sold and by the total number of kilowatt-hours?

Mr. SKIBBINS. I made the division just as simply as it could be made, ignoring the large block of power proposition, with the understanding that the Commission or the committee might be more interested in checking up on that particular point. Because I think it is vital. After all, what is the rate? That is the essential point of the discussion, and I think that the rate will prove, without any shadow of doubt in my mind, to be above the rate at Fort Peck, Mont.

Representative HINSHAW. But you are willing to admit that that is not a proper way of arriving at any wholesale rate for power: to divide the total income of a power income by the gross number of kilowatt-hours sold.

Mr. SKIBBINS. Well, I don't know about the propriety of it. I would say that it is not more than a few mills apart. I have never been a power-rate engineer, nor connected with a power company.

I also stated that the material I presented was merely the best that I could do in my thinking, and that it merits checking up by competent people who are aware of these problems.

Representative HINSHAW. That is all, Mr. Chairman.

The CHAIRMAN. We obviously cannot finish. We have got to go to the floor of the Senate. We will resume at 2:30.

(Whereupon, at 12:40 p. m., the committee recessed, to reconvene at 2:30 p. m. of the same day.)

#### AFTER RECESS

(The hearing reconvened at 2:30 p. m.)

The CHAIRMAN. The committee will be in order.

I think the next witness is the person who will testify on the rate situation.

Mr. LOBLE. May I have one question of Mr. Skibbins, and then I will have the rate man and one other witness, and then we are through.

The CHAIRMAN. Is there to be another witness?

Mr. LOBLE. We have just one local man from Fort Peck.

The CHAIRMAN. What is he going to talk about?

Mr. LOBLE. He lives there.

The CHAIRMAN. Is he a chamber of commerce representative who wants to boast about the town?

Mr. LOBLE. Yes, and show you pictures of it.

Mr. Skibbins, just to clarify the matter that we had up for consideration at the time of adjournment, with reference to the power matter, as to what the cost is at Fort Peck and what the cost is at Pocatello, you were asked a question by the chairman and I do not think it was clear. In a word, give us the picture.

#### STATEMENT OF G. J. SKIBBINS—Continued

Mr. SKIBBINS. From what we can understand on page 8 of the Smith, Hinchman and Grylls report, the annual power requirements in 1955, when the plant is presumably complete, are stated to be 394,000,000 kilowatt-hours per year. That is plus an additional community demand, also indicated on page 132 that is, the demand for the community serving the plant, of another 20,000,000 kilowatt-hours per year. That gives a total of 414,000,000 kilowatt-hours per year, which is a rather heavy power demand and seems to be an important factor in the development of this plant. This plant, we understand, will eventually develop power itself.

In that 414,000,000 kilowatt-hours per year total, there is a charge at Fort Peck for it, at the present quotations in the Smith, Hinchman and Grylls manual, of  $5\frac{1}{2}$  mills. That gives a dollar charge per annum of \$2,277,000. That would be the annual Fort Peck bill.

The question is, we would like to know how to compare it with the annual bill at Arco. The thing that is difficult to understand is exactly who is supplying or who will supply the 394,000,000 kilowatts in the Arco area. If it is to be private power, we are aware of the general principle that a public power dam such as Fort Peck would normally be presumed to supply power cheaper than a private operation. Therefore, we think we should be given the advantage in all electric power considerations, in all considerations on the cost of the steam plant and your costs of your operation of your plant that are related to power.

The situation in the report is the reverse. In the report a  $3\frac{1}{2}$  mill item is used very generally as the cost of the power. The point that we cannot understand is: Where is that power coming from at  $3\frac{1}{2}$  mills, because throughout the Nation I think it is accepted that 3.3 or 3.4 or 3.5 mills per kilowatt-hour is a general average of taxation on private power companies per kilowatt-hour.

The CHAIRMAN. Did you communicate with the Idaho Power Co. at all to check up on this?

Mr. SKIBBINS. Yes; I believe I called them at one time from Montana.

The CHAIRMAN. Did they say that they would furnish the power for the rate that is mentioned in the report?

Mr. SKIBBINS. The Idaho Power Co.—and here again they are interested in Idaho and in developing Idaho, and they are delighted to see this plant come in, and they certainly—

The CHAIRMAN. I understand all of that, but that is not what I asked you. Did they tell you, when you called on them, that they would sell the power at the price at which the report says they will sell it?

Mr. SKIBBINS. No, sir; they had no information on the price of power, according to the conversation that I had.

The CHAIRMAN. Where did the engineering firm get this figure; do you know?

Mr. SKIBBINS. No, sir; I do not.

The CHAIRMAN. And you say that figure is too low?

Mr. SKIBBINS. Yes, sir; if it is from a private power company, as stated in some of the other evidence submitted this morning.

The CHAIRMAN. How much is it, 3.5 mills?

Mr. SKIBBINS. Yes.

The CHAIRMAN. What do you think it ought to be?

Mr. SKIBBINS. Six mills, if it is private power.

The CHAIRMAN. And so, if they are getting it for 3.5 mills, then the Idaho Power Co. may be selling it at a loss in order to develop Idaho. Is that the only conclusion that you could come to?

Mr. SKIBBINS. You might look at it that way. I know that they sell power to the phosphate companies over there in a situation something like that.

The CHAIRMAN. For how much, do you know?

Mr. SKIBBINS. I assume that it is somewhere between 3.5 and 4 mills, because I have been studying the phosphate industry and I know that is something that is required.

The CHAIRMAN. They can sell it at 3.5?

Mr. SKIBBINS. It is a possibility for them to sell it at 3.5; they can sell it at any price.

The CHAIRMAN. They can sell it at any price, but apparently they can sell it at 3.5 and break even, anyway.

Mr. SKIBBINS. I am not sure of the profits on that, and I think that that is a very vital point: Are they making money at that rate?

The CHAIRMAN. I mean, that is no concern of the Atomic Energy Commission if, in considering a site, they find a place where they can get power for 3.5. I cannot quite get the point of your claiming that it should be 6, and that the Commission should look at it on a 6-mill price basis.

Mr. SKIBBINS. My point is this, sir: I do not know of any rates having been quoted, nor have I seen any evidence from the Idaho Power Co. of what rate they will set up for this power load going up to 80,000,000 kilowatts.

The CHAIRMAN. But you do see a price quoted in the report as 3.5?

Mr. SKIBBINS. Yes, sir; but we still do not see that it could come from a private power company in that area, and our point is essentially not the one that is under discussion, but can it not be presumed that in an area such as Fort Peck where you have this large Government dam installed, and which is today selling power, as I have inquired and found out, 35,000 kilowatts constantly at between 1 and 2 mills, which is substantially underneath all of these figures, as dump power, and can eventually develop to 105,000 kilowatts—can it not be presumed logically, and is not this the fundamental reason for all public power

development, that a Government dam could invariably undersell a private power company for a long-term heavy load such as this? Now, that is the only point that we want to establish on electric power.

Senator JOHNSON. I did not understand the point you made a moment ago about taxes on a private power development. Did I understand you to say that that amounted to approximately the price that this power is supposed to be furnished for? What did you say about taxes on private power?

Mr. SKIBBINS. It is my understanding that throughout the Nation, the average—and I do not have any papers right here with me—that the average of taxation per kilowatt-hour for electric companies is somewhere around 3.4 or 3.5 mills per kilowatt-hour. Now, my memory may be faulty, it may be 3, and I do not know what it is, but that is my understanding, that it is in that range. And my inquiry as to what range it was revealed that it would be amazing if this heavy a load could be permanently supplied at that price.

The CHAIRMAN. I should think you would have asked the Idaho people how they are going to do it.

Mr. SKIBBINS. Well, I did not think that that was my prerogative, because it is my understanding that they were asked for construction power and not for operating power.

Senator JOHNSON. The public-utility agency of Idaho would have to know about that power and would have to authorize it and grant it before they could enter into a contract with anyone.

Mr. SKIBBINS. Sir, my inquiries of the Idaho Power Co. leave me in this position: They have only been asked about construction power. We are interested in talking about Fort Peck, and they have not been asked for a rate. That may be 100 percent wrong, and if it is wrong there are some letters somewhere to prove that it is wrong.

What we are talking about is the entire power load of the operating plant when it is going. That is the thing that we are interested in, in using Fort Peck for that purpose because of its large potential and its present large dump power production, which is not doing Montana any particular good.

The CHAIRMAN. Is there any estimate in the report of how much power they will require when they are operating?

Mr. SKIBBINS. Yes, sir; I just quoted the figures. The plant itself is 394,000,000-kilowatt-hours per year, according to the report, and there is a 20,000,000 kilowatt-hour per year addition for the community which will of necessity have been established by that time.

In other words, an 80,000-kilowatt capacity has to be right there when this plant is operating. That is what we are trying to find out, as to whether we can develop an advantage, because we have got this plant in operation at Fort Peck and we do not see any plant in operation in or near Arco.

If I may finish up my remarks, I merely want to point out again that we are not experts of anywhere near the caliber of the Commission or anywhere near the caliber of Smith, Hinchman & Grylls, which in my opinion is a fine engineering firm. I would regret very much if any individuals in the Commission or in the engineering firm were put on the spot, because that is not the kind of a thing that we are trying to develop, no matter what impression we may have created.

The CHAIRMAN. I do not know what you mean by being put "on the spot."

Mr. SKIBBINS. What I mean, sir, is that I do not want to suggest that we think that there has been anything preconceived or that this thing has been privately arranged or that the Smith, Hinchman & Grylls firm is guilty of a culpable error, because that is not our point at all. We are trying to indicate that we see some additional facts and some misconceptions that can have naturally arisen in an investigation of this size and scope. And because it is maybe the No. 1 plant location in the United States in the year of our Lord 1949, we think maybe we have got some good reason for coming in and trying to talk about them and getting an adequate answer in rebuttal.

The CHAIRMAN. I just want to say when any public official is called in to explain a decision, the basis upon which he arrived at it, it is part of his job. He is not on the spot at all. He has to defend it, and that is what these people are here to do. They are not on the spot.

Mr. SKIBBINS. Well, that is fine. The point of my remarks was to remove that impression that that is what we were trying to do, because I have no familiarity with any procedure of this kind, and I have never taken part in it in my life. It is all very new to me.

On the point of coal savings, in 10 years it would be \$1,725,000.

The information you are going to hear on freight rates will range between a \$15,000,000 savings and a continual yearly savings in all shipments, which are heavy, that will come out from the East.

Regarding land, we are going to provide it free; and regarding housing, we are removing a ten- or fifteen-million-dollar responsibility from the Commission's shoulders, and we are going to do our best to see that everything in that community is in top shape; that the recreational facilities, which you will hear about briefly, will be adequate for the caliber of people that we know are coming there, and we are going to be proud to have them.

Regarding the point of the summary on page 118, which I think is of crucial importance, which indicates the percentages between one factor and another in the costs of this construction, I again wish to repeat the point that none of these flat statements of percentages show or indicate the percentage of error that might have crept into the statements. In any such analysis, we must always, and I think it is common practice to assume a heavy percentage of error, and I know that it is a practice in science and in analyzing propositions of this size and magnitude, in which the judgment of many persons must be pyramided in order to come to a final decision.

In the report that we submitted in the testimony this morning on contamination I would merely like to stress the fact, which maybe I did not bring out at that time, that the report of the Idaho sanitary engineer indicates a flow of contamination, of sewage contamination, beneath these lava beds which is considerably faster than has been represented in that report. If it were not faster, the contamination could not exist.

I have no question that that is important, because when we met with the Commission before we were informed that they wished to save 6 months' time. This was just one of the factors that was mentioned. They stated they wished to save 6 months' time, and they wanted to get going in a hurry, which is natural. Therefore, the housing and the electricity being wired in, and the buildings and the streets over

there at the Navy proving ground, would be a great help to them and would mean 6 months in keeping the jump ahead on atomic development. That point was stressed to us.

But now we find out that for 1949 that point—or, at least, this is an outsider's opinion—has been pushed aside a little bit, and we are going to drill 36 wells in 1949. Now, I think that that is proof of the fact that this flow beneath those lava beds is a matter of extreme importance, and the evidence that we have submitted might indicate some doubt as to whether that flow would prove, in the last analysis, to be the kind that would insure any greater degree of prevention of contamination under existing methods of control than you could have at Fort Peck, where you have got everything in plain sight and you know how much water is going through and you know what is going through your plant and you know there is practically no rain there and you know that you are sitting up on top where you cannot have any flash floods to bother you, according to the evidence submitted this morning, and it would seem that the methods that have been developed might be sufficient.

Again, that matter is one for the experts to decide, and we are merely indicating that there is a report submitted, and it indicates some doubt of a slow percolation effect existing beneath the lava beds, but instead, in some areas at least, of a faster flow.

That summarizes everything that I have to say, sir.

The CHAIRMAN. Thank you.

**STATEMENT OF VINCENT P. BROWN, ASSISTANT FREIGHT TRAFFIC  
MANAGER OF THE GREAT NORTHERN RAILWAY, ST. PAUL,  
MINN.**

Mr. LOBLE. Will you state your name, please?

Mr. BROWN. My name is Vincent P. Brown.

Mr. LOBLE. Will you go ahead and give us your title and by whom you are employed, and give your statement to the committee of the matters involved in the freight situation.

Mr. BROWN. I am assistant freight traffic manager of the Great Northern Railway, assigned to supervision over rates and divisions. I have been employed in the freight traffic department of the Great Northern Railway for 23 years, and during all of that time my work has been the computation of freight rates, interpretation of tariffs, and the handling of rate matters before regulatory bodies and in the meetings of the carriers. At the present time I am in charge of the traffic department in St. Paul, of the operation department, and I have supervision over the construction of rates.

I want to say initially that I saw this report of Smith, Hinchman & Grylls yesterday for the first time, last evening, and I read the pages of it which relate to transportation.

From the standpoint of my experience as a rate man it is impossible, taking into consideration the geographical position of Glasgow on the one hand and the geographical position of Pocatello, and the relative positions of both Pocatello and Glasgow in the national freight-rate structure, to reconcile the report that the construction of facilities at Fort Peck should cost \$50,000,000 more than at Pocatello.

I think I can summarize my judgment of the report as I read it, in relation to transportation, by giving you three specific points:

I think, first, that the people that wrote the portions of the report on transportation ignored the summation of the transportation factors involved on the movement of the raw and finished commodities; and second, that in comparing points of production, they have not used the weighted average relative values of the points of production based on the conditions surrounding production; and third, that important production points have been completely ignored.

Taking structural iron and steel articles and steel pipe, for example, from Duluth, Chicago, and the big producing areas east of Chicago, Glasgow has substantially lower rates than Pocatello, which are predicated on the movement of these commodities in the construction of the Fort Peck Dam.

On the class rate structure which is set by the Interstate Commerce Commission, and which will be important in a plant of this character, in my opinion, because of the scientific instruments and machinery and articles of that kind which are not generally provided with levels of commodity rates, the rates to the Fort Peck area and Glasgow would be as much as 30 percent less than the rates to Pocatello from the areas of production of this type of machinery and this type of instrument, which is in the centers of population, Chicago and east.

To illustrate a point on whether or not all points of production were given consideration, the report mentions that asphalt is produced at Pocatello in a refinery located at Pocatello. Then it says that Glasgow would get its asphalt from Kevin, Mont., about 278 miles away, or from Cut Bank, Mont.

Now, in making that observation the most important asphalt-producing area in the West has been ignored and not mentioned, and that would be the Billings-Laurel area and the northern Wyoming area represented by Cody and Lovell, Wyo.

Then also they have overlooked—

The CHAIRMAN. How far away is that?

Mr. BROWN. They would be some 350 or 400 miles away. But they have overlooked the fact that there is no production of crude oil in the Pocatello area, and that the oils from which the asphalt is produced at Pocatello move very substantial distances. In fact, for certain years of operation of the refinery at Pocatello they have moved down from Cut Bank, Mont., which is only a few miles from Kevin. They moved from northern Wyoming, particularly the crude oil from which the asphalt is produced.

Those factors all enter into the situation, and it is not a fair comparison to indicate that the asphalt is on the ground at Pocatello, without considering all of the factors.

The CHAIRMAN. You mean they point out that there is an asphalt plant at Pocatello?

Mr. BROWN. Yes.

The CHAIRMAN. And they draw the conclusion that there would be no freight on asphalt. But you point out that after all, one of the component parts is petroleum, or oil, and they have not computed what it would cost to haul the oil to Pocatello; whereas there would be very little cost to hauling the oil to Fort Peck; is that right?

Mr. BROWN. There is none in hauling the crude oil to the Kevin refinery, because the wells are right at Kevin.

Now, in the discussion of cement—

The CHAIRMAN. What is the price of asphalt laid down in Pocatello and what is it laid down in Fort Peck?

Mr. BROWN. I cannot tell you that, because, as I said, I saw this report last night, and I am talking from the standpoint of transportation, which is primarily my field.

The report shows that Pocatello is reasonably close to cement plants in Idaho and Utah, and it quotes an officer of the Ideal Cement Co. as indicating that he could furnish a substantial quantity of cement at Pocatello.

Now, the report makes no comment about whether that same officer of the Ideal Cement Co. could furnish cement at Glasgow, Mont., from his large cement plant at Trident, Mont., which did furnish a substantial part of the cement that went to the same area for the construction of the Fort Peck Dam.

It also underweighs, in my opinion, the ability of the large cement plants at Duluth and Steelton, Minn., and Mason City and Des Moines, Iowa, and puts them to one side in making the comparison on cement, and ignores the State mill at Rapid City, S. Dak., and other mills that shipped asphalt into the Glasgow area for the big construction there on the dam.

Now, it mentions pozzuolanic material, which cuts down the amount of cement used in a project of this kind, and indicates it is short around Pocatello. Well, as a matter of fact, the pozzuolanic material that is going out to Hungry Horse, which is considerably west of Glasgow, is coming from Chicago, and Glasgow would be in a beautiful transportation position in comparison with Pocatello on that material.

It is axiomatic, I think, in the matter of freight rates on iron and steel articles, including wire products and machinery and the other articles that will be used, that Glasgow will never be at a disadvantage with Pocatello. From the purely practical standpoint, that is true.

There have been efforts, as I understand the use of the mention of the points of production, to show California production as being an important factor at Pocatello. Now, it is true that California has production of all kinds of articles that at one time were manufactured in the East, but our own experience on that is that the majority of the plants that go to California will have their major markets up and down the Pacific coast, and we do not find them coming too far into Montana or even into eastern Idaho.

I get to the point of mentioning a lot of these articles, because my view would be, in consideration of the transportation factors on a job of this magnitude, you should weight the production around the country, because on any big job it is never centered down to one point that is right near that job. It moves from many points. So that the position of Glasgow on the one hand, and Pocatello on the other hand, should be weighted by the production of the various articles around the country nationally, and in that respect Glasgow has the advantage.

Now, there is a statement made, and I do not know what weight is given to it, that Glasgow is on the east and west route only, and that there is no north and south transportation available to it, while the inference is made that Pocatello is on a crossways of all of the railroads in the country. But nothing could be less substantial or more inaccurate there, because we have the gateway of Laurel, Mont., reaching the whole Southwest and middle parts of the United States, which

handles the traffic right up into central Montana, and it is a main line of the Great Northern Railway.

I am not sure that there should be substantial weight to that, because I believe that after all, the way things are produced in this country today and for the foreseeable future, just as it happened in the matter of the heavy movement of war traffic, the east and west routes are the important routes, and Glasgow is on the main line on the east and west route.

I think I can say fairly that any rate man that would take the position of these two points in the national freight-rate structure will arrive at the same conclusion that I do, that there is an advantage, from the practical production standpoint, in the Glasgow area.

The CHAIRMAN. Your road does not serve Pocatello, does it?

Mr. BROWN. Not directly; no.

The CHAIRMAN. What is the direct service?

Mr. BROWN. The only line serving Pocatello is the Union Pacific.

Mr. LOBLE. Now, Mr. Brown, somewhere in this report reference is made to the fact that the plant should be within 24 hours of Chicago.

Mr. BROWN. Yes.

Mr. LOBLE. What have you to say about that?

Mr. BROWN. We are 20 hours out of Chicago on our Empire Builder train, and I do not have the exact time of the partially comparable trains over the Union Pacific, but I would say that they are at least 12 hours longer than we are, and not taking into consideration the fact that they are a branch operation.

Mr. LOBLE. Assuming a \$100,000,000 freight bill, and if that would be so on a project of this size, can you roughly give us your idea of the amount of saving that would be involved in construction costs alone, on freight?

Mr. BROWN. I think from my consideration of the materials as they appear in the report there, that I can be conservative in saying that there should be a \$15,000,000 saving on a \$100,000,000 freight bill in the Fort Peck location.

Mr. LOBLE. That is just for construction. And in the continuation of the project as it went over the years, there would be a continual saving?

Mr. BROWN. My inclination would be to feel that the materials that will be used in the operation, in the continued operation of the plant, will come from the East, and in that case there will be a continued saving in operation.

Mr. LOBLE. And one word on the coal situation. Over at Garrison they have developed a tremendous coal vein, have they not?

Mr. BROWN. That is right.

Mr. LOBLE. So large that it is not put on the market because it would destroy the market, would it not?

Mr. BROWN. I understand that it is not being placed on the market, and I am not sure what the reasons are.

Mr. LOBLE. How far is it from that coal pile at Garrison to Fort Peck?

Mr. BROWN. I think it is probably about 250 to 300 miles over the joint route of the Soo Line and Great Northern.

Mr. LOBLE. If there is no charge for that coal, belonging to the Government, except a bookkeeping charge from one department to the other, what would be involved in costs to transport it?

Mr. BROWN. We talked briefly about that last night, and my judgment now is, as was testified this morning, that the rate should be around \$3, based on our usual measures for the type of coal shipped.

Mr. LOBLE. There is a saving of \$500 a day, from what you observe in the Pocatello report, is that justified?

Mr. BROWN. I am sorry to say I did not look at the price of coal in the report, but that would be the total cost of transportation on the coal from Garrison.

Mr. LOBLE. And now a last question: Does your company maintain a department which specializes in furnishing information, down to the minutest detail, on costs involved in placing a plant and the construction of a plant, as to freight?

Mr. BROWN. We do.

Mr. LOBLE. And was your department ever contacted by this firm of engineers, or anyone else, to give you an opportunity to make that analysis of the tremendous savings in freight rates that could be accomplished?

Mr. BROWN. No, we were not.

The CHAIRMAN. What is the difference in the report? Do they claim Pocatello is cheaper than Fort Peck?

Mr. BROWN. The report makes a statement that the construction of the facilities at Fort Peck would cost \$50,000,000 more than at Pocatello.

The CHAIRMAN. Do they allocate any part of that to freight rates?

Mr. BROWN. As I read the report, and as I said I had it for a short while, there is no break-down of that \$50,000,000.

Senator JOHNSON. And your contention is that it is about the opposite of that?

Mr. BROWN. As far as freight rates are concerned, very definitely so.

Senator JOHNSON. Well, so far as prices of materials are concerned, you know something about that.

Mr. BROWN. I have no reason to feel that the points of production I mentioned would leave themselves at any disadvantage in prices of material. It would not be our experience in our long-time experience in handling materials for construction of plants.

The CHAIRMAN. I think that is all.

Mr. LOBLE. Our last witness is not a chamber of commerce witness. This is a witness who is going to answer the chamber of commerce statement in the report, speaking of the great facilities at Pocatello, and to point out something about this land. He will be a short witness.

The CHAIRMAN. I have a good deal of respect for chambers of commerce. I am a member of one myself. But we are usually "puffers", you know. That is the business of a chamber of commerce.

Mr. LOBLE. We have got the best puffer we could get, I will tell you that. I have pointed out to the witness that people are used to this in Washington, and I will ask him to limit himself, which I am sure he will do.

Incidentally, Senator Murray can speak as to the character of this gentleman because he knows him well.

Senator MURRAY. I know the gentleman very well.

Senator HICKENLOOPER. I understand that you will measure him up to the same level of exaggeration that exists in Washington, is that right?

Mr. LOBLE. Just about the same.

**STATEMENT OF PAUL J. CAMPBELL, REPRESENTING THE CHAMBER  
OF COMMERCE, GLASGOW, MONT.**

Mr. CAMPBELL. My name is Paul J. Campbell, and I am a member of the special committee of the chamber of commerce who were instructed to gather data on the facilities in the Fort Peck area for this hearing.

We took the proposed plant site as outlined to us by Mr. Jarrett of the Great Northern Railway, who accompanied a representative of Smith, Hinchman & Grylls who examined the proposed site. We blocked off 21 townships comprising 437,760 acres, of which less than 5 percent, or 23,500 acres, is privately-owned, and represents 30 private ownerships. The entire block is used exclusively for grazing purposes, and no one maintains residence on this land.

We have taken a map of the county, and we have blocked this off in red lines, and there are an additional three townships, about, that border on Fort Peck Reservoir, that can be included, and which is mostly Government-owned land.

I want to submit that for the record. The Industrial Division of the Glasgow Chamber of Commerce has agreed to furnish deeds to the privately-owned land in this block to the A. E. C.

(The map referred to is filed with the Joint Committee on Atomic Energy).

Mr. CAMPBELL. We also have some signed statements of some of the owners of that land, which I want to present for the record. I will read one of them to you:

I, the undersigned, being a resident rancher in the area being considered for the use of the Atomic Energy Reactor Plant, do hereby go on record in heartily endorsing this development for this territory.

It is my understanding that I will be able to retain my grazing rights should this plant be established in this vicinity.

Those are all alike, and they are all signed by ranchers in that particular area.

(The statements are as follows:)

GLASGOW CHAMBER OF COMMERCE AND AGRICULTURE, INC.,

*Glasgow, Mont., April 7, 1949.*

ATOMIC ENERGY COMMISSION,

*Glasgow, Mont.*

DEAR SIR: I, the undersigned, being a resident rancher in the area being considered for the use of the Atomic Energy Reactor Plant, do hereby go on record in heartily endorsing this development for this territory.

It is my understanding that I will be able to retain my grazing rights should this plant be established in this vicinity.

My land, comprising 6,400 acres, is located in the following: Secs. 1 to 6, inclusive, T. 28 N., R. 37 E.; secs. 1 to 4 inclusive, T. 28 N., R. 36 E.

W. R. BILLINGSLEY.

GLASGOW CHAMBER OF COMMERCE AND AGRICULTURE, INC.,

*Glasgow, Mont., April 7, 1949.*

ATOMIC ENERGY COMMISSION,

*Glasgow, Mont.*

DEAR SIR: I, the undersigned, being a resident rancher in the area being considered for the use of the Atomic Energy Reactor Plant, do hereby go on record in heartily endorsing this development for this territory.

It is my understanding that I will be able to retain my grazing rights should this plant be established in this vicinity.

My land, comprising 640 acres, is located in the following: Secs. 14, 15, T. 24 N, R. 38 EMM.

Yours sincerely,

GORDON M. BROWNING.

GLASGOW CHAMBER OF COMMERCE AND AGRICULTURE, INC.,

*Glasgow, Mont., April 7, 1949.*

ATOMIC ENERGY COMMISSION,

*Glasgow, Mont.*

DEAR SIR: I, the undersigned, being a resident rancher in the area being considered for the use of the Atomic Energy Reactor Plant, do hereby go on record in heartily endorsing this development for this territory.

It is my understanding that I will be able to retain my grazing rights should this plant be established in this vicinity.

My land, comprising 20,000 acres, is located in the following: All located in general area of the proposed site for the atomic energy plant.

Yours sincerely,

ETHART RANCH,  
By GENE ETHART.

The CHAIRMAN. They might not want any cattle grazing around there.

Mr. CAMPBELL. It was our understanding that the grazing rights were not discontinued in the Hanford area, and that they would not be there.

This block of land lies adjacent to the Pines recreational area, where fishing unparalleled in the State can be enjoyed. Rainbow trout, wall-eyed pike, perch, and other varieties can be taken.

The Army engineers are now in the process of spending \$1,000,000 on several recreational areas, providing access roads and shelter houses, trailer camps, service courts, picnic grounds, and so forth, plans and pictures of which I hereby submit in evidence.

(The information above referred to is on file with the Joint Committee on Atomic Energy.)

Mr. CAMPBELL. Hunting in the entire area is unexcelled. Black-and white-tailed deer and antelope abound, and in fact I had occasion to fly over that area the other day, and I sighted five herds of antelope.

Upland birds include pheasants, sharp-tailed grouse, sage hens, and Hungarian partridge. Wild geese and duck shooting is excellent. And I also have some pictures there, and I have one of myself and a friend of mine with 42 mallards that we took in 1939.

We went through a considerable boom there in Glasgow during the building of the Fork Peck Dam, and as a result our schools and public buildings were enlarged to meet that. Our public schools handled 1,468 pupils in 1936, which was the peak year of employment on the Fork Peck Dam, and we had somewhere near 11,000 men working out there at that time. The present additional facilities in the process of construction will accommodate approximately 500 more pupils. A parochial school now under construction will accommodate 400 pupils.

I wish to present the architect's drawing of this parochial school which is now in the process of being built. I would also like to present the architect's drawing of the proposed high school, and this is a proposed enlargement.

As to hospital facilities, we have the finest hospital facilities in eastern Montana, due to the fact that a new unit was added to our old hospital in 1934 to care for the huge increase in population brought about by the great influx of workmen and families on the Fork Peck

project. The hospital will accommodate 80 bed patients in addition to 20 babies. We also have photos of the hospital for the information of the committee.

Mr. LOBLE. This hospital is already there?

Mr. CAMPBELL. Yes; it is already there.

We have a civic center which will accommodate 3,500 persons, with swimming pool, wading pool, and 7 acres of park and tennis courts. I have a picture of that for the committee.

We also have a brand-new post office and Federal building, with available office space for Government agencies, three stories, modern construction, constructed in 1936.

We have 13 churches, representing almost every denomination.

We have an Army airport there that was built in 1942 for the training of B-17 crews, with three runways, 8,100 feet long and 150 feet wide, with approximately 15 miles of taxi strips.

Senator HICKENLOOPER. How long were those runways?

Mr. CAMPBELL. They are 8,100 feet long.

Senator HICKENLOOPER. And what is the width of it?

Mr. CAMPBELL. One hundred and fifty feet.

The CHAIRMAN. Is that field in operating condition?

Mr. CAMPBELL. Yes; it is, sir.

The CHAIRMAN. It is not being operated now?

Mr. CAMPBELL. Just for private flying; that is all.

Also, I have maps of the recreational areas in the Fort Peck area, prepared by the Army engineers; statements from the churches; statements from the Glasgow public schools; a picture of the airport and city; and I would also like to present a brief for the record, that was prepared 2 years ago on a hearing here before the CAB in endeavoring to get air service through Glasgow.

(The documents are as follows:)

ST. RAPHAEL'S CHURCH,  
Glasgow, Mont., April 9, 1949.

*To Whom It May Concern:*

St. Raphael's Parish at Glasgow, Mont., has a very fine parish unit—a church built about 10 years ago of concrete and steel. The church edifice itself is a beautiful mission style type of structure. It has a seating capacity of better than 400.

The new St. Raphael School is under construction at the present time and will be ready to open September 1, 1949. The school and gymnasium will be along the same lines as the church and in harmony with it. It will also be built of concrete and steel and absolutely fireproof. The building will contain eight classrooms, offices, libraries, and everything to make it modern, up-to-date, and convenient. The gymnasium contains a playing floor to meet the regulations for high-school games, showers, locker rooms, etc. It also has a permanent seating capacity of 750. On the north side of the auditorium is a stage for all entertainments and every type of program. The school has eight regulation-size classrooms and for that reason we can accommodate 400 children in an emergency.

The parish center (school and gym) are in an L shape measuring 125 by 128 feet. It is so arranged that in a very short time should an emergency or the demand arise a wing could be added for a high school or to enlarge the grade school.

The parish is rightly proud as well as the city of Glasgow and in fact north-eastern Montana of the fine additional educational unit that is being added to this district.

The newspaper picture is the architects of the new school and parish center.

Sincerely,

Rev. H. B. ALTMANN, *Pastor.*

A newspaper drawing of St. Raphael's school and gym are on file with the Joint Committee on Atomic Energy.

CORPS OF ENGINEERS, UNITED STATES ARMY,  
FORT PECK DISTRICT,  
*Fort Peck, Mont., March 7, 1949.*

#### RECREATION AT GLASGOW

The Missouri River, known for generations as the "Big Muddy," is blue now—behind the Fort Peck Dam. Located in northeastern Montana, the sparkling waters of this huge man-made lake have backed up nearly one-fourth the distance across the third largest State in the Nation.

Fish now abound in the clear waters of what was formerly a silt-laden river, and a recreational plan has been mapped for the reservoir area by the Corps of Engineers that is changing the region from one seldom visited, even by Montanans, to an area that seems destined to become one of the West's greatest recreational developments.

The history of the old Missouri River prior to construction of the Fort Peck Dam indicates that fishing was practically nil. The turbulent muddy water had little to offer the angler insofar as casting rod or fly line were concerned. It is reasonable to believe that large quantities of various types of fish inhabited the river, but to catch them was a different story. In the headwaters only could a sportsman expect to pursue a favorite pastime of fishing with reasonable expectancy of being rewarded for his efforts. The desire of thousands to have a back-yard fishing pond in the semiarid northeastern Montana became a reality only after completion of the Fort Peck Dam.

Prior to construction of the dam the only reasonable method of catching fish in the Missouri River was by use of set lines or baited traps, the latter being most successful. Fish of various types such as catfish, carp, suckers, and ling were predominant. Occasionally a sauger or wall-eyed pike could be taken by that method. Box traps, such as used by the Indians, were also a successful means of catching fish.

Now, thousands of fishermen annually are attracted by the clear blue waters of the new inland sea and the lure of rainbow and Loch Leven trout, pike, crappie, bass, perch, catfish, sturgeon, and other varieties of fish prized by anglers.

Fish are plentiful in all parts of the 189-mile-long reservoir, and according to all indications will be more plentiful in the years to come. More than 80,000 fish were caught by sports fishermen during the 1948 season, utilizing only a fraction of the lake's immense shore line. When it is considered that the majority of these fish were taken in the vicinity of the dam itself, succeeding years should yield far greater catches in view of the vast 1,600-mile shore line with a 245,000-acre water-surface area and 16-mile maximum width at full-pool level that will have a storage capacity of 19,412,000 acre-feet of water.

Because of the lack of other large bodies of water in eastern Montana, Fort Peck Lake offers a tremendous recreational potential for the inhabitants of over a 50,000-square-mile semiarid region. These people have the same recreational desires and needs for outdoor activities usually associated with water as residents of other regions. In order to fulfill these needs and desires so as to obtain the maximum possible recreational benefits for the public, the Corps of Engineers conducted a comprehensive study to determine a feasible plan of development. Six public hearings were held by the district engineer during November 1945, at Glasgow, Malta, Havre, Lewistown, Miles City, and Circle, Mont., to find out what recreational sites and facilities the people thought should be developed. Hundreds of people attended these hearings and expressed their views. Then after additional studies preliminary plans for a proposed program were developed and a final public hearing was held by the district engineer at Fort Peck in September 1946.

Another factor which has an important bearing on the wildlife of northeastern Montana is the Fort Peck game range, established by Executive order in 1936, which entirely surrounds the reservoir. This refuge, consisting of nearly 1,000,000 acres, was set aside for preservation and propagation of wildlife and for grazing purposes under the jurisdiction of the Fish and Wildlife Service and the Grazing Service of the Department of Interior. Long-range plans of Wildlife officials include building up the deer and upland bird and migratory waterfowl populations of the game range so as to permit opening portions of the refuge to hunters. Therefore, the master recreational-development plans for the reservoir area were correlated so as not to conflict with the program of development for the game range.

The final master recreational plan adopted includes one major recreational area to be located near the west end of the dam at Fort Peck, with day, over-

night, week end, and vacation-use facilities for sightseeing, picnicking, fishing, boating, swimming, and camping. Three secondary recreational areas are to be located at Hell Creek about 35 miles north of Jordan, Mont., on the south shore of the reservoir; at Rock Creek, 55 miles northwest of Circle, Mont., on the east bank of the Big Dry Creek arm of the reservoir; and at The Pines, which is located about 20 miles uplake from the dam on the north shore. Facilities to be installed at these secondary sites will be similar to but less extensive than those at Fort Peck. Also eight fishing camps are to be developed at various locations around the reservoir shore line, which are intended primarily for day use by residents within about a 50-mile radius of the localities.

The Fort Peck Reservoir area recreational plan in operation is to be coordinated with the other Federal and State agencies and local groups under the supervision and direction of the district engineer at Fort Peck. Basic initial improvements such as internal circulation roads, parking strips, turn-arounds, water supply, sanitation, and picnicking facilities are to be provided at Federal expense and through the cooperative efforts of State and local county agencies. With funds appropriated by the Congress to date for this purpose, work was started by the Corps of Engineers at the Fort Peck, Hell Creek, and Rock Creek sites during 1948 and will be continued this spring. Similar basic facilities are also to be installed at The Pines site during the spring and summer of 1949. Also, funds are available to initiate construction of an organized-group camp at The Pines during the current fiscal year, which is to be equipped and operated under a cooperative agreement by the Montana State Extension Service for youth organizations such as 4-H Clubs and Boy and Girl Scout groups. An agreement is also being arranged between the Corps of Engineers and the Montana State Park Service, whereby the latter agency will operate and maintain the Hell Creek and Rock Creek recreational areas.

Areas have been set aside at each of the four recreational sites in which plots of ground, about one-half acre in size, are to be made available on a lease basis to individuals who may wish to construct private summer lake shore cabins. Suitable locations have also been selected at all four sites for ultimate provision of boat docks, overnight and vacation rental cabins, stores, lunch rooms, playgrounds, and other facilities necessary for a well-equipped vacation center. Concessions will be granted private concerns or individuals to construct and operate the commercial features of the development program.

At the present time, the reservoir area is served by only two all-weather roads, both leading from United States Highway No. 2 to the town of Fort Peck by the dam site. One is a bituminous highway from Glasgow, Mont., 19 miles away, and the other is an oiled highway from Nashua, Mont., 12 miles distant. The remainder of the big reservoir is reached by dirt roads and trails. Through the efforts of the Garfield and Custer County Rod and Gun Clubs, over \$5,000 was raised and spent during the past 3 years to construct 13 miles of new access road and improve the remainder of the dirt graded route to Hell Creek. Likewise, the residents of several counties in southeastern Montana have formed a group to raise funds to assist McCone County to improve the route to the Rock Creek site. The people of Valley and Roosevelt Counties have also formed an organization known as the Pines Development Association to accelerate development of roads and facilities for that recreational area.

The Montana State Fish and Game Department is also actively participating in the development program. With the cooperation of the Federal Fish and Wildlife Service and local sportsmen's groups, 825,000 trout, 50,000 salmon, and approximately 50,000 bass and many thousands of crappie and yellow perch have been planted in reservoir waters since impoundment was commenced. Natural reproductions by many of these species have increased their numbers many-fold and await the sports fishermen. An area below the dam has been turned over to the State for a game farm at which tens of thousands of Chinese ring-necked pheasants have been raised during the past several years and released for hunters in eastern Montana.

Year-round fishing is permitted in the lake and in the river below the dam subject to State laws, including regular license requirements. Most of the fishing to date has been in the vicinity of the dam, the bays, and coves adjacent to the Fort Peck recreational area, and in the river below the dam and at the mouth of the spillway. Hell Creek, Rock Creek, the Pines, Snow Creek, Box Creek, Devils Creek, and Bear Creek have also been popular fishing spots for natives of the region, who report frequent limit catches of game fish. A county-wide fish fry has become an annual event for the Garfield Rod and Gun Club at the Hell Creek site. Boy Scouts of the Yellowstone Valley Council, whose head-

quarters are at Billings, Mont., held their summer encampment at Snow Creek during 1946 and 1947, and at Hell Creek during 1948. This organization has applied for a long-term campsite lease at Hell Creek.

Necessary boating, camping, and general safety and sanitation rules and regulations have been established by the Corps of Engineers to govern public use of the reservoir area. These include the registration and inspection of boats, operation of watercraft, construction of private boat docks and mooring facilities, construction standards for private cottages, disposal of waste and garbage, use of tent and trailer areas, and the manner in which other activities are to be carried out.

Tourists and other out-of-State visitors are coming to the reservoir area in increasing numbers every year. Sportsmen's and civic groups of the region are enthusiastic in their support of the development plan. With its known potentialities as an aid to navigation, a preventer of floods in the Midwest, and a source of water for irrigation and power for industrial development, Fort Peck Dam is beginning to pay off in a way that was little suspected by old-time residents when it was first proposed—as the keystone of a great recreational development, worth unlimited benefits in enjoyment and untold commercial returns from tourists to the people of northeastern and central Montana.

The CHAIRMAN. How many people are there in this town?

Mr. CAMPBELL. About 4,000, sir.

I also have a statement from the Valley County Commissioners, which I will read to you:

The Board of Commissioners of Valley County will cooperate and do all in its power to build roads to the area selected for atomic research.

That is signed by the commissioners.

I also have the same sort of a statement from the city council. That relates to enlarging the water facilities and the sewer facilities there.

(The statements are as follows:)

VALLEY COUNTY,  
Glasgow, Mont., April 7, 1949.

To the Atomic Commission, Washington, D. C.

GENTLEMEN: The Board of Commissioners of Valley County will cooperate and do all in its power to build roads to the area selected for atomic research.

BOARD OF COMMISSIONERS OF VALLEY COUNTY, MONT.,  
By MAURICE ARNOLD, *Chairman*.  
N. C. BRIGGS, *Member*.  
CARL SHELLERUD, *Member*.

Attest:  
[SEAL]

T. P. BREKJERN, *Clerk*.

[Resolution No. 621]

A resolution putting the city of Glasgow, Mont., on record as favoring the installation of any Government work at or near Fort Peck, Mont. and an agreement by the members of the city council and the newly elected members that they will cooperate in an expansion program as far as they could under the law

*Be it resolved by the Mayor and the City Council of Glasgow, Mont.:*

1. That the city council feeling that it would be for the best interest of the city of Glasgow that Government works be constructed at Fort Peck, Valley County, Mont., herewith go on record as favoring such installation and herewith agree to do all in the power of the city to cooperate with the Federal Government in any expansion program which may be necessary.

2. That the city council herewith orders the city engineer to prepare exhibits to be attached to this resolution and made a part hereof showing the facilities in and around Glasgow which would be of benefit if such a program came in.

3. That copies of this resolution be sent to the proper authorities by the city clerk.

4. That this resolution was passed in the presence not only of all the members of the city council but also of the two persons who will become members starting with May 1, 1949, and by special permission all the present and future members

voted on this resolution and it was agreed that all should sign this resolution not only so as to commit the city of Glasgow to the above program but also so as to commit themselves.

Passed by the unanimous vote of the council and approved by the mayor on April 8, 1949.

Attest:

[SEAL]

F. S. McINTYRE, *Mayor*.

M. E. HODAPP, *City Clerk*.

We the undersigned being all the members and members elect of the City Council of Glasgow, Mont., herewith agree with Resolution No. 621 of the city of Glasgow, Mont., and herewith commit ourselves to the program therein set forth.

NEIL D. CAMPBELL.  
O. E. MARKLE.  
E. H. DAVISON.  
NED C. JOHNSON.  
VERN BROWN.  
RUSSELL S. CLAIR.

#### CITY OF GLASGOW

#### MONTANA

*Civic center*.—Size: 121 by 144 feet; playing floor, 9,030 square feet; seating capacity of bleachers, 1,500; rifle range, 1,800 square feet; room space suitable for offices 5,700 square feet, plus range; swimming pool 40 by 105 feet with wading pool; 2 double tennis courts; 7 acres of park space.

*Building sites*.—Approximately 400 residential and business sites within city limits. Unlimited expansion outside city limits.

*City water supply system*.—Two wells 112 to 120 feet deep can supply 2.88 M. G. D. against 194 foot head. Concrete reservoir on elevated ground acts as equalizer. 172 feet above business district. Approximately 9 miles cast iron pipe supply grid; 27 percent of 8 inch, 71 percent of 6 inch, and 2 percent of 4 inch pipe.

*Sanitary sewer*.—Approximately 9 miles. Maximum size 28 inches and minimum size 8 inches. Adequate gravel deposits for building available in immediate vicinity.

R. C. FARGO, *City Engineer*.

Mr. LOBLE. Mr. Campbell, over these months that this has been going on, has there been intensive activity on the part of the citizens of your community, as well as Montana generally?

Mr. CAMPBELL. Yes, there has.

Mr. LOBLE. And a very definite and great desire to have this project there?

Mr. CAMPBELL. That is right.

Mr. LOBLE. The reason that you have detailed these things is not only to picturize your communities, but in the report they stress the recreational and other facilities of Arco as being important, is that right?

Mr. CAMPBELL. Yes; I understand that there was some preference on the part of some of them, and they stated they would rather live in Idaho than Montana.

Mr. LOBLE. You think that is foolish, do you?

Mr. CAMPBELL. Yes; I certainly do. We went through one of the toughest winters in the West this year out there, and there never was a time that our roads were blocked or that our train service was slowed up through that territory.

Mr. LOBLE. Was it you who said that the weather was so hot in Arco that even the rivers run underground?

Mr. CAMPBELL. No, sir; I did not say that.

Mr. LOBLE. All right.

The CHAIRMAN. When did you first hear about this project, sir?

Mr. CAMPBELL. Along about the middle of February.

The CHAIRMAN. And did you communicate with anybody in your congressional delegation at that time?

Mr. CAMPBELL. No, sir. It was stated to me that these engineers were in there, and this was a hush-hush proposition, for security reasons, and none of us made a move until Dr. Baker's statement was made in Boston and came out in the press.

The CHAIRMAN. Did you communicate with the Governor of the State or either of the Senators?

Mr. CAMPBELL. No, sir.

The CHAIRMAN. Do you know of anybody else out there who did?

Mr. CAMPBELL. In Glasgow, no, sir; I do not.

The CHAIRMAN. Or in Montana.

Mr. CAMPBELL. Well, that could have been. I did understand that the engineers contacted the Governor, from the Smith, Hinchman and Grylls firm, when they went through Montana.

The CHAIRMAN. All right.

Are there any questions?

Thank you very much, Mr. Campbell.

Mr. LOBLE. May I impose on the committee to have Mr. Flaherty, who is president of the State chamber of commerce, say a word? He came a long ways here, and I overlooked that.

The CHAIRMAN. Could he limit himself to 5 minutes?

Mr. LOBLE. I am sure that he can.

#### **STATEMENT OF JAMES J. FLAHERTY, PRESIDENT OF THE CHAMBER OF COMMERCE OF THE STATE OF MONTANA, GREAT FALLS, MONT.**

Mr. LOBLE. Mr. Flaherty, will you proceed to give your name and occupation, and your connection with the Montana Chamber of Commerce, and state anything you desire to state that will help us.

Mr. FLAHERTY. My name is James J. Flaherty. I am a wholesale merchant in Great Falls, Mont., and president of the Montana Chamber of Commerce.

Senator, our people got very much concerned on September 11 last year when Mr. Ashby, the president of the Union Pacific Railroad, said the Nation had been divided into zones, and into these zones would be fitted huge industries; and he stated, in this Associated Press dispatch, that the intermountain territory was left out.

So we became concerned over that, and did our best to try to find out how this zoning was brought about, and by whom. But it was not until along in the middle of February that we discovered it was a huge atomic-reactor plant, and it was then that our Governor got busy.

We have at Fort Peck a tremendous lake, 175 miles long.

The CHAIRMAN. Do you mind if I interrupt you just a moment? You said in September you had an announcement from whom?

Mr. FLAHERTY. There was an Associated Press dispatch given by Mr. Ashby of the Union Pacific Railroad.

The CHAIRMAN. What was he announcing?

Mr. FLAHERTY. He was announcing that the Nation had been zoned. The CHAIRMAN. For what purpose?

Mr. FLAHERTY. To set in industrial plants, and what kind of plants we could not ascertain, but we started to get busy then.

The CHAIRMAN. You connect that statement with the later development of the atomic energy project?

Mr. FLAHERTY. Yes, Mr. Chairman.

The CHAIRMAN. I think perhaps you are mistaken on that. I will not jump to conclusions, and Senator Johnson probably would know more about that.

Senator, was that in connection with the basing-point subject; do you suppose?

Senator JOHNSON. I doubt that; I doubt whether it would have any connection with the basing-point matter.

The CHAIRMAN. I am very much interested, because certainly in September of last year I knew nothing about the reactor program, and I would be interested to know how Mr. Ashby knew.

Mr. FLAHERTY. We have a press dispatch, Senator, copied from the Great Falls Tribune of that time, which brought about a meeting on September 18, at which Senator Murray and his secretary were present, and the city council of Great Falls, at which we had our first meeting. And then we adjourned this meeting to Butte, Mont., 2 weeks later, to take this up.

But I do not wish to bore you, Senator, or your committee, with that.

We have free land; the greatest earth dam in the world, that holds back the largest body of water in North America behind a dam. The water is there free. Huge amounts of Government power is free.

Our experts of the School of Mines in Butte tell us we could build dikes to hold back this hot water.

Now, we get into this affair and we find out that it is going down to my good friend, Glen Taylor, a former citizen of Great Falls, Mont., and the Senator and I are good friends. But we are going to try to shoot the horse out from under Glen.

Now, we find that this plant is going down into Idaho, and I have a suspicion that they are going to steal Montana power out of the State of Montana, Government power, and run it on a line down there.

Our people do not like that, Senator, and we are mad out in Montana. We are not mad at our friends here at these tables, but you know we think we have been given the run-around. We want to know, sir—

The CHAIRMAN. Now, just a minute, Mr. Flaherty. Who gave you the run-around?

Mr. FLAHERTY. We do not know. It was not this group here. But, somehow or other, somebody carried the ball around the end when we weren't looking, and that is our fault.

The CHAIRMAN. Well, now, the Montana site was investigated by these engineers; was it not?

Mr. FLAHERTY. Yes, sir.

The CHAIRMAN. And they were the engineers that were retained by the Commission to do this job?

Mr. FLAHERTY. Yes.

The CHAIRMAN. And I intend to go into their qualifications just as soon as we finish with you.

In having made that decision, do you contend they were improperly motivated in any way in reaching that decision? You see, Mr. Flaherty, that is the question it seems to me we have to look at.

Mr. FLAHERTY. I would say that probably there were errors of judgment in the report, and therefore we asked if this case could not be reheard by the same engineers.

The CHAIRMAN. I know you meant it in good spirit, but when you say "run-around," it has a connotation of deceit and deceptiveness.

Mr. FLAHERTY. I do not intend to leave that impression.

The CHAIRMAN. I just wanted to make sure that you did not intend to accuse anybody of giving you the run-around.

Mr. FLAHERTY. Oh, no.

The CHAIRMAN. But you think that, if you had been in their place and knew both sides and had to build this plant, you would have decided to build it at Fort Peck?

Mr. FLAHERTY. I think that I would have, sir.

The CHAIRMAN. If I were the president of the Montana Chamber of Commerce, I assure you that I would have reached the same decision.

Mr. FLAHERTY. Thank you, sir.

Mr. LOBLE. I have one question. You observed, Mr. Flaherty, that the report here is dated, I think, the 26th day of March, 4 days after we were told that it already had been decided; that is, the transmittal report. Did you notice that?

Mr. FLAHERTY. Yes, sir.

Mr. LOBLE. When we came back here, the Governor came back here around March 22, I believe, and you were advised that it had already been decided?

Mr. FLAHERTY. That is correct.

The CHAIRMAN. What date is that?

Mr. LOBLE. March 22.

There was a good deal of activity all during the month of March on the part of your group and all of the citizens of Montana?

Mr. FLAHERTY. That is right.

Mr. LOBLE. And the Governor came back here and went to see the President?

Mr. FLAHERTY. That is right.

Mr. LOBLE. And on March 22, up to that time, will you state whether many letters had been received from Washington and I think those connected with the atomic energy, that Montana was under consideration?

Mr. FLAHERTY. That is correct.

Mr. LOBLE. Then, when you called at the Atomic Energy Commission after you had seen the President—you, together with the congressional delegation and the Governor, and whoever else was there, and I think Senator Ecton was there—were you advised that the matter had already been decided on the 1st of March?

Mr. FLAHERTY. I was not present at that meeting, but Senator Ecton informed me that the matter was all settled and decided—after, I believe it was, the 22d of March—it was decided on March 1.

Senator HICKENLOOPER. Where did you get the information it was decided on March 1?

Mr. LOBLE. May we ask Senator Ecton that?

Senator ECTON. Well, Mr. Chairman, the Montana delegation met with Chairman Lilienthal, and in answer to a direct question, if the Commission had already made up their mind to locate the plant in Idaho, the answer was in the affirmative. And we were given to understand that previously, probably at least 2 weeks before, there had been an order issued by the Commission to start negotiations with the Navy Department for the site in Idaho.

So, we were given to understand that it had previously been decided; and to another direct question asked Chairman Lilienthal by myself, if there was any possibility that neither site in Idaho would be acceptable or could be acquired, then could we in Montana have a third choice or have a last chance at it, in answer to that query Mr. Lilienthal said "No." So it seemed closed.

Mr. LOBLE. That March 1 date occurred at that meeting?

Senator ECTON. I am not going to state that Mr. Lilienthal said it was March 1, but we were under the impression that around about March 1 was when it was decided by the Atomic Energy Commission.

Representative MANSFIELD. I will state for the record that it was March 1.

Senator HICKENLOOPER. Upon what basis was it stated it was March 1? Was it stated at that meeting that it was March 1?

Representative MANSFIELD. Yes; and Senator Murray and Senator Ecton and Congressman D'Ewart, Mr. Skibbins, Mr. Sullivan, and the governor and myself were there.

Senator HICKENLOOPER. And on what date was this meeting?

Representative MANSFIELD. March 22.

Senator HICKENLOOPER. You were told by whom?

Representative MANSFIELD. Chairman Lilienthal; that the decision had been arrived at on March 1 to begin negotiations with the Navy Department for the proving ground at Arco.

Senator HICKENLOOPER. Thank you.

The CHAIRMAN. Mr. Flaherty, I have had sent to me a number of clippings and editorials from the Montana papers in which various people have come in for criticism because of the selection of the site at Pocatello. The Montana congressional delegation was criticized, and Senator Murray in particular, I remember, was criticized in one editorial for not having secured this site.

It is not the conception of the chamber of commerce or the people that you have talked with and represent that this should be decided on the basis of how much political strength the delegation has or has not? That is not your conception of the way this should have been done, is it?

Mr. FLAHERTY. Oh, no, Mr. Chairman.

The CHAIRMAN. And you are content to rely on the merits of the situation?

Mr. FLAHERTY. Certainly, sir.

The CHAIRMAN. One editorial in particular was written by an ignoramus. I will not go into that. It is not the first time that has happened, either.

Mr. FLAHERTY. I can assure you that none of that came out of the offices of the Montana Chamber of Commerce; you may be assured of that.

The CHAIRMAN. I would not assume that it did, but I want to get it straight for the record that it was not the idea that you people had

that this should be decided by any political considerations but rather on the merits of it.

Mr. FLAHERTY. On the merits of our case; yes, sir.

The CHAIRMAN. Because we are dealing with a pretty serious subject.

Mr. FLAHERTY. We realize that, sir, and our purpose is to carry it on in the highest way.

The CHAIRMAN. Thank you.

Mr. FLAHERTY. Thank you very much, gentlemen, for listening to us.

Senator ECTON. Mr. Chairman, may I ask Mr. Flaherty a question?

If you remember, Mr. Flaherty, I think that we would like to know when you first learned that the Atomic Energy Commission was considering the Fort Peck site or the Fort Peck area for this plant.

Mr. FLAHERTY. Around the 15th or 16th of February, I cannot give you the exact date, but the far side of the middle of February.

Senator ECTON. That is this February 1949?

Mr. FLAHERTY. That is right.

Senator ECTON. Were there not Army engineers in the vicinity and in Glasgow previously, last fall, for instance?

Mr. FLAHERTY. Yes, but we did not know what they were doing or what they were there for.

Senator ECTON. I see.

Mr. LOBLE. Thank you very much.

That concludes our case.

The CHAIRMAN. We will now call Mr. Warner. Mr. Warner is the next witness.

**STATEMENT OF ROGER S. WARNER, JR., DIRECTOR OF ENGINEERING; AND CARLETON SHUGG, DEPUTY GENERAL MANAGER, ATOMIC ENERGY COMMISSION, WASHINGTON, D. C.**

Mr. SHUGG. Mr. Chairman, may I make a statement?

The CHAIRMAN. I called Mr. Warner. He is the committee's witness, and we can hear from you later, but we are going to hear from Mr. Warner first.

What is your title, Mr. Warner?

Mr. WARNER. Director of Engineering, Atomic Energy Commission.

The CHAIRMAN. When were you appointed?

Mr. WARNER. August of 1947.

The CHAIRMAN. What was your previous experience?

Mr. WARNER. Previously I was with the Atomic Energy Commission in the Manhattan District before that, and with the Office of Scientific Research.

The CHAIRMAN. You were at Los Alamos; were you not?

Mr. WARNER. Yes, sir.

The CHAIRMAN. Where did you graduate from an engineering school?

Mr. WARNER. Harvard and MIT.

The CHAIRMAN. What year?

Mr. WARNER. 1931 at Harvard, and 1933 at MIT.

The CHAIRMAN. For whom did you work in private enterprise before you went to work for the Government?

Mr. WARNER. B. F. Goodrich was the last.

The CHAIRMAN. When did you sever your relations with them?

Mr. WARNER. April 1942.

The CHAIRMAN. That is when you went to work for the Manhattan District?

Mr. WARNER. I went to work for the Government, sir, and I went to work for the Office of Scientific Research and Development before joining the Manhattan project.

The CHAIRMAN. As Director of Engineering, what are your duties in connection with engineering contracts, or contracts for engineering services?

Mr. WARNER. At the present time, my job is merely to make recommendations as to what the best course of action is.

The CHAIRMAN. At the present time. Well, now, at the time this engineering contract was let, what was your responsibility?

Mr. WARNER. It was the same. I selected the firm to make the report.

The CHAIRMAN. You selected the firm?

Mr. WARNER. Yes.

The CHAIRMAN. I thought that you recommended to somebody else.

Mr. WARNER. I recommended to Mr. Shugg what we wanted to do, and gave him the recommendation.

The CHAIRMAN. I see. And whom did you recommend for this particular job?

Mr. WARNER. I recommended that the firm of Smith, Hinchman & Grylls be selected.

The CHAIRMAN. Will you please tell us the process you went through in selecting this firm?

Mr. WARNER. I took the general scope of work to see what it was we wanted, and I drew out a list of engineering firms from our records, and selected those firms which we had the most information on.

The CHAIRMAN. You say you drew out a list of firms you had. Who made up that list?

Mr. WARNER. It was made up from brochures of the people that had come and called on us and presented their qualifications.

The CHAIRMAN. How many are on the list?

Mr. WARNER. The original list that I have here appears to have about 30 names.

The CHAIRMAN. May I see that list?

Mr. WARNER. Yes, sir.

The CHAIRMAN. You have a list of engineering concerns there. What is the name of this firm, again?

Mr. WARNER. Smith, Hinchman & Grylls.

The CHAIRMAN. Have they ever done any work for the Commission before this?

Mr. WARNER. No, sir.

The CHAIRMAN. This was their first job?

Mr. WARNER. Yes, sir.

The CHAIRMAN. Have they done any work in connection with other private contractors in the atomic energy program?

Mr. WARNER. Not to my knowledge, sir.

The CHAIRMAN. When did they file their brochure with you and tell you that they wanted employment?

Mr. WARNER. I don't believe I can recall that directly. I would say that we had a series of probably three brochures from them over a period of 18 months. The latest brochure was submitted in connection with work proposed at Oak Ridge where they had recent and very direct information as to the capabilities of the firm.

The CHAIRMAN. Oh, had they done work at Oak Ridge?

Mr. WARNER. No, they were submitting a proposal for work.

Senator JOHNSON. They did do work for the War Department, though?

Mr. WARNER. Very extensive work, sir. And for du Pont Co. and for others; very extensive.

The CHAIRMAN. Did you submit a panel of two or three, or did you just submit this concern?

Mr. WARNER. I actually submitted only one. We had two in the running, and one was a Los Angeles firm, which was already involved in work at Los Alamos, and we could not use them at that time.

The CHAIRMAN. So you only submitted this Smith firm.

Mr. WARNER. Yes, sir.

The CHAIRMAN. In reality, Mr. Warner, you selected them, did you not?

Mr. WARNER. Yes, sir.

The CHAIRMAN. Was that done after conferences with the members of the different firms who presented their qualifications, or was it all done from a written record?

Mr. WARNER. I did not talk to members of many of the firms. I should say it was done from the written record and from discussions with other people in Washington and several people in the field who had had direct contact with them.

The CHAIRMAN. You see, Mr. Warner, the purpose of these questions, as far as I am concerned, is that there has been a challenge of the competency of these people. So the only thing we can do, if we are not to make this hearing completely worthless, is to indicate whether or not the engineers were chosen on a basis of care, and are competent.

What other work had these people done that convinced you they were qualified in this field?

Mr. WARNER. Certainly, Mr. Chairman, they can give you a list of what they have done. I can recall off-hand a large plant in Salt Lake City for the du Pont Co., a plant in Oregon, a plant in Denver, which I believe was for the Chemical Warfare Service. Well, I won't say who it was for. I do remember a plant in Denver.

Senator JOHNSON. It was the ordnance plant.

Mr. WARNER. The ordnance plant in Denver. And they have demonstrated competence in very complex chemical processing. They are the foremost in the field of modern distillery practice. They have done a tremendous amount of work for the automobile industry, and they have a national reputation.

The CHAIRMAN. In private industry, Mr. Warner, is it customary for one individual to make a choice of an engineering concern on a project like this?

Mr. WARNER. I would say, sir, for the purposes of getting a report, extending the information that one can't get oneself, it is very proper to leave it to the judgment of a few people.

The CHAIRMAN. Getting back to the basis upon which you made your choice, did I understand you to say you did not have any conversations with the engineers representing the various concerns?

Mr. WARNER. I did not have any conversations. I discussed it entirely within the Commission's facilities.

The CHAIRMAN. I see. And it was based upon your discussions with other employees of the Commission, plus their paper record, their brochures, and their record of accomplishment, that you decided this issue.

Mr. WARNER. Yes, sir.

The CHAIRMAN. Would you have extended to a construction or an engineering firm of Smith, Jones, & Brown, an opportunity to be heard in this matter if they had come down to the Commission?

Mr. WARNER. Oh, certainly, sir. But for the purposes of getting a report, extending our information, I did not feel it was the same as selecting an engineering firm in order to carry out, execute a major project.

The CHAIRMAN. There is quite a difference between those two concerns?

Mr. WARNER. An enormous difference, sir.

The CHAIRMAN. The fee that has been paid to this concern is \$36,000 to reimburse them for their expenses and a \$3,000 fee. Am I correct about that?

Mr. WARNER. Yes, sir. We allocated \$50,000 for the purposes of the report, and it looks as if they spent about \$36,000 to date.

The CHAIRMAN. And they have only charged \$3,000?

Mr. WARNER. Yes, sir.

The CHAIRMAN. Does the size of that fee excite any apprehension in you that perhaps they think they are "in" as the engineers on the project as a whole?

Before you answer that, here is the report. Of course, you can pile up a Sears, Roebuck catalog as thick as this. It does not necessarily mean, by its very thickness that it is worth anything. According to the Montana people, it is not worth very much. But certainly it ought to be worth more than \$3,000, if it is worth anything.

There was no agreement made that they were to have the engineering contract on the project as a whole, was there?

Mr. WARNER. Absolutely not. No agreement whatsoever. They may have had that in their minds, and you can ask them that directly; but there was a distinct understanding that this was for the purpose of gathering information, and it did not either prejudice or influence any subsequent work.

The CHAIRMAN. Whom did you talk with at Oak Ridge that gave them a recommendation?

Mr. WARNER. Mr. R. W. Cook, deputy manager.

The CHAIRMAN. What was his connection with them, if any? Do you know?

Mr. WARNER. None, as far as I know. He was involved in looking over the qualifications of many firms for additional work that was to be considered at Oak Ridge.

The CHAIRMAN. From whom else did you get a recommendation?

Mr. WARNER. I talked to Mr. L. E. Johnston in Schenectady but not about this particular firm. I also talked to the Construction Engineering Division in Washington.

The CHAIRMAN. Mr. L. E. Johnston is the gentleman who has been designated by the Commission to go out and take charge of this?

Mr. WARNER. Yes, sir.

The CHAIRMAN. You say you talked with him, but not about this firm.

Mr. WARNER. Not about this firm.

The CHAIRMAN. About whom did you talk with him? You see, I asked you who had recommended this firm to you, and you said R. W. Cook, deputy manager, and then you said L. E. Johnston. If you did not talk with him about this firm, I am not interested.

Mr. WARNER. Yes. Well, I don't believe that I discussed this firm with Mr. Johnston.

The CHAIRMAN. Did you discuss any other firm with him?

Mr. WARNER. I believe I did, and I can not remember which it was. I know that I called him up.

The CHAIRMAN. With whom else did you talk?

Mr. WARNER. I talked with the Construction Engineering Division in Washington.

The CHAIRMAN. That is rather an impersonal thing. With whom did you talk?

Mr. WARNER. Mr. Maher and Mr. Warren.

The CHAIRMAN. Mr. Maher and Mr. Warren. Are they both here?

Mr. WARNER. Not in the room, sir.

The CHAIRMAN. I mean they are here in Washington?

Mr. WARNER. Yes, sir.

The CHAIRMAN. What was Mr. Maher's and Mr. Warren's recommendations?

Mr. WARNER. They had a number of engineering firms of specific qualifications, suitable for specific purposes, and also engineering firms of national reputation, of which Smith, Hinchman & Grylls was one. And we agreed that Smith, Hinchman & Grylls were competent and available to do this particular job.

The CHAIRMAN. You say "we." Was it Mr. Maher, Mr. Warren, and yourself?

Mr. WARNER. Yes, sir.

The CHAIRMAN. Are they your assistants?

Mr. WARNER. No, sir; they are in another division.

The CHAIRMAN. Did they recommend anybody else as suitable for the undertaking?

Mr. WARNER. There were some of these people on the list that you looked at, that were recommended by them for specific engineering problems.

The CHAIRMAN. Did they give you a memorandum on this subject?

Mr. WARNER. No, sir.

The CHAIRMAN. Is there anything in writing in the Commission's files relative to the recommendations of anybody else except this firm?

Mr. WARNER. I will have to look, sir. I am not sure.

The CHAIRMAN. I would like to see it.

Mr. Maher and Mr. Warren did recommend some other engineering firms to you?

Mr. WARNER. Yes, sir.

The CHAIRMAN. Whom did they recommend?

Mr. WARNER. From memory, sir; there were several firms on this list that were recommended.

The CHAIRMAN. Half a dozen?

Mr. WARNER. In the order of four to six; yes, sir.

The CHAIRMAN. So that Maher and Warren recommended from four to six firms.

Mr. WARNER. Yes, sir.

The CHAIRMAN. You eliminated, of course, all but one and passed on one to Mr. Shugg.

Mr. WARNER. Yes, sir.

The CHAIRMAN. And that is this firm here.

Mr. WARNER. Yes, sir.

The CHAIRMAN. You did that on the basis of recommendations from Mr. Cooke, the deputy manager in Oak Ridge. Is that correct?

Mr. WARNER. I checked with Mr. Cooke to find out if he had any information that could add to what we were considering doing. So that that is essentially correct.

The CHAIRMAN. You see, you had to eliminate at least three and maybe five others that were recommended to you by Mr. Maher and Mr. Warren. You came out with this Smith firm.

Mr. WARNER. That was based on the job that we had to do when we defined the job as clearly as we could.

The CHAIRMAN. What qualifications did you see in the Smith firm that were not in the other five, or three, depending upon whether they recommended four or six, as to which you are not sure? What qualification did you see in this firm that were not present in the others that you turned down?

Mr. WARNER. As I remember it, the others did not have a national reputation in this field, although it was very good in specific fields of engineering.

The CHAIRMAN. You mean you only listed one engineering firm in the country, out of the 30 that have a national reputation?

Mr. WARNER. Out of the four or six that we are talking about, submitted by Mr. Warren and Mr. Maher.

The CHAIRMAN. But you start with a list of 25 or 30.

Mr. WARNER. Yes, sir.

The CHAIRMAN. Presumably Mr. Maher and Mr. Warren, if they knew their business, picked the best six out of that list.

Mr. WARNER. They submitted a separate list, which is now incorporated into this number.

The CHAIRMAN. All right.

Of that list you eliminated the rest on the basis that the ones they named for you did not have a national reputation?

Mr. WARNER. Yes, sir.

The CHAIRMAN. Is it your responsibility to maintain a list of engineering concerns down there?

Mr. WARNER. I have had that responsibility of maintaining lists, and I had a list that was quite complete. At this particular time the list was being shared with Mr. Maher and myself.

The CHAIRMAN. What I cannot understand is that if it is your duty to have a list of competent engineers on tap from which to select, in this case after you got through with the list that you yourself made up, you

ended up with one concern of national reputation, and rejected all the others on the ground that they did not have it. Is that the situation?

Mr. WARNER. Well, it is more than a national reputation. We wanted somebody who was competent and available and could do a month's work.

The CHAIRMAN. And were the other five that you rejected in the situation where they were not available?

Mr. WARNER. They were not available, or they did not have cleared personnel so that we could start the work at once. This was virtually set up for about a month's work.

The CHAIRMAN. You say they did not have cleared personnel?

Mr. WARNER. Yes, sir.

The CHAIRMAN. Were these the only people that had cleared personnel on the engineering list?

Mr. WARNER. No; there were others that had cleared personnel. Stone and Webster had cleared personnel. They were not in a position to put top management on this problem, and it needs top management to write a review.

The CHAIRMAN. Did you ask Stone & Webster about their availability?

Mr. WARNER. I personally did not ask Stone & Webster, but I learned about them. I can't remember exactly how I got that information.

The CHAIRMAN. In writing?

Mr. WARNER. No, sir; orally.

The CHAIRMAN. From whom would you naturally get it in the usual course of business?

Mr. WARNER. Actually, I believe I talked to Mr. Rowe, Hartley Rowe, whose connection is that of being on the General Advisory Board.

The CHAIRMAN. Hartley Rowe? Who is he?

Mr. WARNER. He is vice president of the United Fruit Co., of Boston, and closely connected with Stone & Webster.

The CHAIRMAN. And he informed you that they were not available?

Mr. WARNER. My memory is that he informed me that he did not think they were interested, and could put the proper people to work on it.

The CHAIRMAN. I see.

Who else was unavailable?

Mr. WARNER. I am not able to answer that, because I just do not recall. That was about the extent of the preparation for choosing this firm and making the report.

The CHAIRMAN. In other words, the unavailability of 5 of the concerns on the list.

You have read over the report that has been made by this concern?

Mr. WARNER. Yes, sir.

The CHAIRMAN. Are you in agreement with it?

Mr. WARNER. Certainly, in its entirety.

The CHAIRMAN. You have heard the testimony of Mr. Skibbins, who was here today?

Mr. WARNER. Yes, sir.

The CHAIRMAN. Have you any comment to make upon his testimony regarding the electric situation?

Mr. WARNER. I would rather turn that over to members of the firm of Smith, Hinchman & Grylls.

The CHAIRMAN. You have no independent judgment on that?

Mr. WARNER. No, sir, except that we have independent information from the Department of the Interior and the Corps of Engineers which was furnished to this firm.

The CHAIRMAN. I see.

Are there any other questions?

Senator HICKENLOOPER. I have some.

The CHAIRMAN. Senator Hickenlooper.

Senator HICKENLOOPER. Mr. Warner, when did this survey start?

Mr. WARNER. On the 5th of January.

Senator HICKENLOOPER. Last January?

Mr. WARNER. This year, 1949.

Senator HICKENLOOPER. I believe you said this firm of engineers had no previous experience with the Atomic Energy Commission.

Mr. WARNER. Yes, sir.

Senator HICKENLOOPER. It was winter in the area at that time, was it not?

Mr. WARNER. Yes, sir.

Senator HICKENLOOPER. And they completed their survey of both of these areas and the tracts of land involved and the soil components and the transportation and all the things that went into this report, for both sides, within that 30 days? Is that correct?

Mr. WARNER. All of the factual information was complete within the 30 days. It was smoothed over, and the factual information was improved, subsequently.

Senator HICKENLOOPER. How many sites did they survey in that 30-day period?

Mr. WARNER. Just the two. This was a comparative survey between Pocatello and the Fort Peck area.

Senator HICKENLOOPER. You had surveyed other sites, had you not?

Mr. WARNER. Yes, sir.

Senator HICKENLOOPER. Who surveyed those sites?

Mr. WARNER. There were seventy-odd, all told. Some 23 of them were surveyed entirely by Government people, the Corps of Engineers, the Department of Interior, and ourselves, with some help from the Weather Bureau and others.

Senator HICKENLOOPER. Had they been surveyed with the specific purpose of locating a reactor farm, or for other purposes, and were the data merely reviewed?

Mr. WARNER. No, sir. This information was collected for this purpose alone.

Senator HICKENLOOPER. How long did that collection of information take?

Mr. WARNER. It started as paper studies in a rather desultory way, about the last of April 1948.

Senator HICKENLOOPER. And went on during last summer?

Mr. WARNER. Yes, sir.

Senator HICKENLOOPER. You mentioned Mr. L. E. Johnston, whom I believe is the manager of operations at Schenectady.

Mr. WARNER. Yes, sir.

Senator HICKENLOOPER. Did Mr. Johnston direct a survey of the Fort Peck site?

Mr. WARNER. Yes, sir.

Senator HICKENLOOPER. Did he make a report to the Commission on that?

Mr. WARNER. Yes, sir.

Senator HICKENLOOPER. Where is that report?

Mr. WARNER. It is here in the room, sir, if you would like to see it.

Senator HICKENLOOPER. Has it ever been made public, or turned over?

Mr. WARNER. No, sir. It is classified "secret," because it contains information on the Hanford operation, which was used as a comparison, or to get some handles to see what it was that we might need.

Senator HICKENLOOPER. Who classified it?

Mr. WARNER. Mr. Johnston.

Senator HICKENLOOPER. Within the Commission?

Mr. WARNER. Yes, sir.

Senator HICKENLOOPER. It was classified in the Commission. Is it not possible to declassify those particular items of reference and information and comparison, and to release that report on the Fort Peck site as far as its physical attributes and qualifications are concerned?

Mr. WARNER. I think it is possible to delete the information and then declassify it. I have not actually spotted myself the points which cause it to be classified "secret."

Senator HICKENLOOPER. Is it true, Mr. Warner, that the Commission decided last fall that the Fort Peck site was the site to be developed, and that they expected to have the land all purchased and the site taken care of by January 1st, which was prior to the time that this engineering survey was started?

Mr. WARNER. Let me see. The survey was under way last year, where Fort Peck was the principal site. That was the standard by which we were comparing all other sites.

As far as taking the land by the first of January, I do not remember anything of that sort in the schedule.

Senator HICKENLOOPER. Mr. Chairman, if I may transpose this, may I ask Mr. Shugg that question?

Mr. SHUGG. That was my own personal goal, yes, sir; and I was in charge of that phase of the work.

Senator HICKENLOOPER. And you told me, I believe, Mr. Shugg, did you not, in a conference in my office late last fall, that that was the goal: to acquire the land by the 1st of January, so that construction could start shortly after the first of the year?

Mr. SHUGG. Yes, sir; so that construction could start when the winter weather was through.

Senator HICKENLOOPER. And that was the tentative decision, at least, made last fall as a result of the surveys that had been conducted with reference to the Fort Peck site?

Mr. SHUGG. The Fort Peck site, sir, was in the lead until, to the best of my memory, the middle of October. If you would like, I will tell you as simply as I can what went on from there.

Senator HICKENLOOPER. I do not want to be misunderstood in this. I have no interest in the Fort Peck site over the Pocatello site, or the Pocatello site over the Fort Peck site. I am only interested in what is the best site to serve the purposes of the Atomic Energy Com-

mission. As long as we are having a hearing on this matter, I do believe that the entire procedure and the determinations should be examined into; and then I think it is only fair to say why the decision was changed from, I will not say a firm decision, necessarily, but I will say that I understood late last fall that Fort Peck was the determined site, and that land acquisition was going forward. I know that I was cautioned, or asked if I would say nothing about it, for fear land values might jump in the area, in anticipation of Government purchases.

I think it is only fair, in justice to the whole proceeding, that we examine into this to see why, after December, let us say, an engineering firm was employed to survey the Fort Peck site in the middle of the winter and survey the Pocatello site in the middle of the winter, and the decision resulted in the selection of the Pocatello site.

I again assure you I am holding no brief for either site, but I do not want, so far as my personal views are concerned, to have the people from Montana feel that they have been abused, nor do I want the people from Idaho to feel that they have been abused. I think in fairness to a project of a half billion dollars and more, and its permanent location, and the importance of this thing, it might be well to lay the whole bag of bones out here and look at them.

Mr. SHUGG. You wish me to speak to that, sir?

Senator HICKENLOOPER. I did not mean, Mr. Chairman, to change your witnesses.

The CHAIRMAN. Perhaps before Mr. Shugg starts in, I have another question or two of Mr. Warner.

Senator HICKENLOOPER. If Mr. Shugg can be prepared to discuss that matter when his turn comes, that is perfectly all right.

The CHAIRMAN. Surely.

Mr. Warner, you stated that this Smith firm had never done any work for the Commission.

Mr. WARNER. Yes, sir.

The CHAIRMAN. Of any kind or character.

Mr. WARNER. Yes.

The CHAIRMAN. You told us that one of the considerations that led you to select them was that they had cleared personnel. How did they come to have cleared personnel if they have never done any work for the Commission?

Mr. WARNER. Possibly they can answer the question, sir, better than I can. My feeling is that they probably needed cleared people in order to submit specific proposals on work that was going on at Oak Ridge, or coming up at Oak Ridge.

The CHAIRMAN. You say they had been cleared. Of course, they had to be investigated by the Federal Bureau of Investigation, under the act.

Mr. WARNER. Oh, yes.

The CHAIRMAN. Were they the only ones in this list that had cleared personnel?

Mr. WARNER. No, sir. I am sure there were others that had cleared personnel. I know that Holmes & Narver had cleared personnel.

The CHAIRMAN. Were they one of the six?

Mr. WARNER. They were one of the last two.

The CHAIRMAN. By the way, will you give us the names of the concerns that were handed to you by Mr. Maher and Mr. Warren?

Mr. WARNER. I don't have those with me now, sir. I will turn them in to you.

The CHAIRMAN. You mean there was no memorandum from any one of them?

Mr. WARNER. I have no memoranda here, sir.

The CHAIRMAN. Nothing to indicate, in the file, whom they recommended?

Mr. WARNER. Nothing in this file, sir.

The CHAIRMAN. Would it be in any other file?

Mr. WARNER. I am sure that we can probably find something.

The CHAIRMAN. Is that not a little unusual? Would they not normally write a memorandum to you if they were giving you a list of firms, telling you why they had selected the ones they had selected?

Mr. WARNER. Yes, sir. They would have given me a list of firms, and I feel sure that we have notes on them. This file here was significant stuff that we might use at this hearing; it is not the original file in which all of the contract information is kept.

The CHAIRMAN. Is there someone here who could telephone down for that file?

Mr. WARNER. I could see about that.

The CHAIRMAN. Suppose you do that.

Senator HICKENLOOPER. I had another question or two that I would like to ask Mr. Warner, if I may.

Mr. WARNER. Yes, sir.

Senator HICKENLOOPER. Mr. Warner, when was what we might refer to as the firm or final decision made to locate the plant at Pocatello? What date? Do you recall?

Mr. WARNER. The paper that we presented to the Commission was presented on the 18th of February. Corrections were made, and the paper that I am looking at, which is the official copy, is dated March 1.

Senator HICKENLOOPER. The paper was submitted to the Commission on what date in February?

Mr. WARNER. It was submitted to the Commission on the 18th of February.

Senator HICKENLOOPER. And you say the paper you are looking at is dated March 1. That is the description of the paper that you are looking at.

Mr. WARNER. This is a staff paper, "Site Selection for the Reactor Testing Station."

Senator HICKENLOOPER. In the original paper to the Commission on the 18th of February, and in the staff paper, or in either of them, did you make a final recommendation as to the Pocatello site?

Mr. WARNER. Yes, sir.

Senator HICKENLOOPER. And you did firmly recommend the Pocatello site at the time?

Mr. WARNER. Recommended that negotiations be undertaken with the Navy for the acquisition of the site.

Senator HICKENLOOPER. Does that recommendation mean, or carry with it, your recommendation or the staff recommendation for the Pocatello site as the accepted and agreed-upon site?

Mr. WARNER. It certainly does. It doesn't necessary say that we can get it.

Senator HICKENLOOPER. That is right. But that was your recommendation to the Commission for its decision?

Mr. WARNER. Yes, sir.

Senator HICKENLOOPER. That was on the 18th of February.

When did the survey start?

Mr. WARNER. The survey started on the 6th of January. The interim report was submitted, I believe, the 5th of February.

Senator HICKENLOOPER. The 5th of February. You submitted your first paper to the Commission on the 18th of February, and your final corrected or revised paper on the 1st of March?

Mr. WARNER. Yes, sir.

Senator HICKENLOOPER. When did you receive the final report of the engineering firm that had conducted this survey?

Mr. WARNER. The final report came in approximately the 4th of April.

Senator HICKENLOOPER. So that you made your recommendations, your preliminary recommendations, carrying a firm commitment for Pocatello, on the 18th of February, and your corrected recommendations on the 1st of March, and you did not get the final report of the engineering survey until some time in April. Is that correct?

Mr. WARNER. That is correct, sir. But the conclusions were not to be changed from the interim report; merely a refinement of the information.

The factual information and the conclusions, as you will see in the scope of the work for the contract, were to be complete in the interim report.

Senator HICKENLOOPER. The interim report which you received early in February is the one which you are referring to?

Mr. WARNER. Yes, sir.

Senator HICKENLOOPER. Had they at that time completed the field work?

Mr. WARNER. They had completed all the field work comparing Fort Peck with Pocatello.

Senator HICKENLOOPER. Was that substantiated by data in the various lines of investigation?

Mr. WARNER. Yes, sir.

Senator HICKENLOOPER. And it was based upon that interim report that you made your conclusions in the paper of February 18 and the paper of March 1. Is that correct?

Mr. WARNER. Yes, sir.

Senator HICKENLOOPER. I am concerned, in these questions, again, I say, not that I have any preference, not the least preference, between the two sites; but I am somewhat concerned with the speed with which reverse English was put on what I thought was a firm decision in the fall. I am still a little hazy on the reasons for it.

Can you give me the general purport of Mr. Johnston's survey of the Fort Peck site, which is still classified as secret, or restricted in some way, without revealing the technical comparisons between operations necessary in the reactor farm, and the Hanford operations?

I mean, what did he generally conclude about the Fort Peck site?

Mr. WARNER. He generally concluded that it was possible to do the job and put the station at that site, as he understood it.

Senator HICKENLOOPER. Then he did not examine the Pocatello site.

Mr. WARNER. No, sir.

Senator HICKENLOOPER. So you have no comparison of personnel within your own staff, that is, such as Mr. Johnston, the manager of operations at Schenectady, would be, as between these two points. The comparison of Pocatello and Fort Peck rests entirely upon the survey conducted by the engineering firm.

Mr. WARNER. And our own people, that is, the engineering staff in the Atomic Energy Commission, and people from the Corps of Engineers, who made specific reports to us, and people from the Department of Interior, Bureau of Reclamation, USGS, all of whom made specific reports on both areas.

Senator HICKENLOOPER. Yes.

Do you know—I do not assume, necessarily, that you do unless you happen to have been told about it, but do you know the date upon which the Commission took final action, based upon your papers, this paper of February 18 and the paper of March 1? Do you know when the Commission made its final decision?

Mr. WARNER. I have always assumed it was the date of this final paper. But I might be able to correct that.

Senator HICKENLOOPER. I say that you, not being specifically on the Commission, might not have that information, but I thought perhaps you might have learned it.

Mr. WARNER. I think that the Commission, on February 8, generally approved the recommendations, and asked for refinements, changes in the paper.

Senator HICKENLOOPER. I think probably we could get that more accurately from the Commission itself.

Senator ECTON. Mr. Chairman, could I interpose a question?

The CHAIRMAN. Yes, Senator.

Senator ECTON. If the final decision was made on March 1, Mr. Warner, will you explain to the committee why all of us were not informed of it? Why was it that it was not made public at that time?

Mr. WARNER. As far as I am concerned, we had made a recommendation. The Commission had agreed to support that recommendation. And we were then in the process of negotiation, to see whether in fact we could get it, or whether the Navy could relinquish its interest.

Senator ECTON. You will recall that the first time that the Montana delegation visited with you, we were given to understand that the final determination had not yet been made. Later we found out that it had already been decided on March 1.

Mr. WARNER. I think, sir, it is a question of what the meaning of what the decision was. From my point of view the decision meant that this was what we wanted. The question was: Could we get it?

Senator ECTON. You had two sites in Idaho. I was given to understand that if you could not get one you knew that you could get the other one. So evidently you knew from the very beginning that you were going to locate it in Idaho regardless.

I think that is the think that has caused all of this confusion and commotion. The Governor of Montana, for instance, made a special trip down here, on the assumption that it had not been yet decided. Then we found out later that it had already been decided, before he ever got down here.

Mr. WARNER. I think that there is certainly confusion as to what the meaning of that decision was in the minds of people outside the Commission.

Senator ECTON. I thought it perhaps might clear up the situation if you could explain to the committee for the record why there was that discrepancy there. I think it would clear up the situation considerably, Mr. Warner, if you would explain that.

Mr. WARNER. Certainly I feel that the Commission stated what it wanted on March 1. Then, we entered into a period of negotiation to see whether it was humanly possible to get what we wanted.

When Mr. Lilienthal met with you he said, "This is the site we want, and we will go up to the President, if it is necessary, to get it."

It was a period of negotiation where we did not know what we could acquire.

Senator ECTON. We understood from Mr. Lilienthal that the Commission knew that they could get one or the other site in Idaho; that if they could not get one, they knew they would be able to get the other one.

Mr. WARNER. The Navy site, of course, is the one that we have been pointing to.

Senator ECTON. Yes, and in the event that the Navy site could not be acquired, then you were going to go ahead and get the other site in Idaho.

Mr. WARNER. My feeling is that we were pointing so hard at the Navy site that there was an alternate site in the background but the decision that we would take it was certainly not clear to me. It was an alternate site, there. But we had not gathered as much information on it as we gathered on the Navy site, largely because there was still snow on the ground, and the data on the Navy site had already been collected.

The Navy Department had already collected data on their site, and we knew what we were buying there.

Senator MURRAY. Mr. Warner, like Senator Ecton, I am very confused about your failure to let us know the situation when we were conferring with you on the first occasion. You did not give us any information whatever about what you had agreed to do, what you were going to do. You did not tell us that you had already selected Pocatello.

Mr. WARNER. My instructions, sir, were to begin negotiations with the Navy. That is the way the resolution reads.

Senator MURRAY. Then at that time you knew that you were not going to carry on any studies with reference to the Montana site, and that as far as Montana was concerned, it was out, and that you were confining yourself to an attempt to close up on the site at Pocatello.

Mr. WARNER. Certainly I wanted very much to get the Navy site. But beginning negotiations, and not having the foggiest notion of whether I could acquire the Navy site, meant that I wanted to make sure that the final contestants kept in the running until we knew what the problem was.

Senator ECTON. In other words, you did not want to tip your hand before you had to. Was that it?

Mr. WARNER. Sir, it was the beginning of a negotiation.

Senator ECTON. Well, I think in fairness to you, Mr. Warner, it should be stated whether or not under the rules or the regulations you were bound to maintain a certain sort of secrecy respecting it until final negotiations were completed.

Mr. WARNER. Certainly no secrecy under the Atomic Energy Act; I would say just normal prudence.

The CHAIRMAN. Senator Johnson?

Senator JOHNSON. Mr. Warner, will you read the last name on that page of the engineering firms, please?

Mr. WARNER. Leroy Harza.

Senator JOHNSON. He is a Fort Peck man?

Mr. WARNER. He handled some work for Fort Peck, and also for K-25.

Senator JOHNSON. Where is he located?

Mr. WARNER. I thought it was Chicago. It does not say so here.

Senator JOHNSON. He is not a resident, then—

Mr. WARNER. It says "Canadian," but I thought it was Chicago, because he has done work for the Manhattan District, and must be reached in this country.

Senator JOHNSON. He is not a resident of Montana?

Mr. WARNER. No, sir; not as far as I know.

The CHAIRMAN. What does the Canadian designation mean?

Mr. WARNER. I am not sure that I know, sir. I knew that he had done work for Fort Peck and for Oak Ridge.

The CHAIRMAN. How many concerns on that list have actually done work for the Commission before, or its predecessor, the Manhattan District?

Mr. WARNER. Nine.

The CHAIRMAN. That is all I have to ask at this time from Mr. Warner. Unless someone else has something, we will ask Mr. Shugg to start in on Senator Hickenlooper's questions.

Mr. SHUGG. At the time, Senator Hickenlooper, that you asked me as to progress, Fort Peck did stand at the top of the list, as far as our staff work went. It had not reached Commission level. No land-acquisition work had started. We had, of course, communicated with the Interior Department as to the availability of land.

Part of the reason for a change is that a site had to be tied to what was going to be put on the site. We were not after a site just for the site itself, but on account of the reactors which needed to be built.

Fort Peck, I think I could also say, although I was not here at that time, was at the top of the list for a new site in June of 1948, and all during the summer, because the most intensive site survey that had been made up to then was with reference to a very large facility, of an entirely different character, which would involve water supply and power of a comparable magnitude to that in Hanford. The possibility of the need of such a production site evaporated during the summer, and I think it is perfectly true that some of our premises as to the amount of water and the amount of power carried some hang-over from the previous site survey.

As to the reactors that were to be built on this site, for which we were supposed to be acquiring it, that program itself only hardened up during the fall. It was on November 10 that the Commission formally approved the reactor program which the staff had long been working on.

That put into focus for the first time the size and type and the probable dates when these first reactors would be built on a reactor site. The two went hand in hand, the firming up of our plans and pictures for the reactors themselves, and the type of site which they would require. So that I cannot give you dates here. This was all staff work. It was continuous work all fall. I feel that I know that there was a good deal of it, because I was personally behind it in the hopes still that we could get a decision by the first of the year.

Senator HICKENLOOPER. May I interrupt and say that you were not alone in the Commission on that? We have other statements from members of the Commission that the decision would be made by the first of the year, and work would be begun, preliminary work. So you did not stand alone in that statement, in that understanding, I am sure. I got my understanding from you, and from others that were in a position of authority there.

Mr. SHUGG. Then, one important date that I would like to stand out is November 10, 1948, which is the date on which the Commission approved the reactor program. And although we had been trying to anticipate it, and had been anticipating it, it was when a decision was made as to what reactors would be pursued, that one could speak with more certainty as to what kind of a place they needed to have it built on.

Senator HICKENLOOPER. May I just clear up one point there, to make it clear?

The staff and the General Manager's office, which you represent, are unable to go forward with actual construction or development until a policy decision has been made by the Commission; that is, until a program has been O. K.'d by the Commission.

Mr. SHUGG. That is right, sir. And we did not have our own work, in order to give the Commission, until November 10, something that they were able to come down and affirm.

At the same time, in our staff work on these sites, that we were coming down on the importance of power, that is, the amount of power and the amount of water, since these units to be built in this reactor site are test units only—they are a very small fraction of the capacity of the production reactors which had previously been contemplated—at the same time there was a growing realization in the staff that we could not dodge the contamination question. We have all kinds of resolutions on the subject, and we have plans and programs. But I can vouch for the fact that there was a definite uneasiness in our staff due to the fact that regardless of what plans or programs we had, or how good we were, nevertheless that site was at the headwaters of the Missouri and Mississippi Valley. That thinking is what led to a further search to make sure that there was not a more self-contained site.

These things all run along currently. And also, at the same time, we had not satisfied some of our questioners in our own staff that we had exhausted all the existing Government sites, or national military establishments; that is, whether there were any sites that were laid up.

Pocatello did very definitely come up late in the fall. I would not want to say here exactly what date, but it was very late, sir.

The CHAIRMAN. Who came up with it first? Do you remember?

Mr. SHUGG. Mr. Warner was the first one that mentioned it to me, and I believe that it led out most specifically from the offering of Klamath Falls, Oreg., as a natural sink. We felt that that was too

much emphasis on this question of a natural sink. But simultaneously we were going down the list of National Military Establishment bases that may have been partially set up and closed. Also, sir, I have to be responsive to your question, and I have to tell you that there were a large number of our people in our staff who were never content that Fort Peck would get us the people that we needed without our having to pay a heavy price for them.

Now, this program will go no faster than the people that we can get to make it run; and those are not just the ordinary run of construction workers.

The pace of this program will depend upon our being able to attract special skills of the sort that we have had a rather extensive experience with at Richland and Los Alamos.

Senator HICKENLOOPER. So that one important factor, as I understand, in the Pocatello site, is that you came to the conclusion that Pocatello area would be a more attractive place for people to live, and work.

Mr. SHUGG. Yes, sir. Now, we can't quote figures on that, and we have not attempted to, and we have not tried to say that people can't live anywhere. But we have had a very expensive experience so far in the Commission in regard to trying to attract and maintain people in such isolated spots as we already have. It does not solve the thing for us to lay our recreation grounds for them, or to determine what their pleasures will be. They seem to have a way of determining their own.

The CHAIRMAN. Before you go any further, Mr. Shugg:

Mr. Warner, it is always difficult, I suppose, to reach back into your own mind and say where an idea originated. Do you remember how you happened to come across Pocatello first?

Mr. WARNER. Very early in the game, possibly in June, in making a survey of the entire country, we picked out areas that might be suitable if we got more information on them.

The CHAIRMAN. Where were you born?

Mr. WARNER. In Boston.

The CHAIRMAN. You have no connection at all with Pocatello?

Mr. WARNER. No, sir.

The CHAIRMAN. I think it is just as well to have that stated for the record, inasmuch as it has been said that you were the first one to point out this area. I did not think you were from out there, from your accent.

Go ahead, Mr. Shugg.

Mr. SHUGG. Pocatello, as I have said, did come up for serious consideration late in the fall. We worked as fast as we could in the staff to get as full information on that site as we had obtained earlier in the fall on the other top sites. And those contacts included, in the Department of the Interior, the same bureaus; there are seven of them all together. It included the same Corps of Engineers and the Weather Bureau geologists whom we had been using in the 2 or 3 months previously on the other sites.

As to the pressure, I will definitely say that I exerted pressure upon Mr. Warner to work fast in getting a professional engineer to make a comparison of the two top sites. I do not know all the questions I asked him, but I asked him if this was a firm that he knew of, that he

had some confidence in. Were they reputable? Was a top man in that firm willing to put some personal attention to this? And did they have some cleared men, so that they could at least start off.

And, of course, we have the problem all the time. We have lists of firms in the country, formally or informally, but we have the problem of how much to load up those that we do have experience with.

We have done that in the case of a couple that I could mention. They never say no, but even though they are a big firm, they cannot give the thing we ask them the same attention, at such times, as a small firm or a newcomer.

Many firms, just because they have not done a job, apparently are not able to get work with us, because they have not done work with the Manhattan District.

The CHAIRMAN. There should be no monopoly.

Mr. SHUGG. I take full responsibility for Mr. Warner's selection. He gave me all the details, but I signed that contract. I wanted to have a top man in that company to give it his personal attention. I also wanted to know if they would use other consultants. And I personally suggested the firm of Alvord, Burdick & Howson, a Chicago water consultant who helped us at Hanford. That was the only experience I ever had with them.

They helped us to save money out there, and they kept us from making some possibly poor moves. So this firm was willing to use them and I probably dictated the use myself, because of my own work in the past with Alvord, Burdick & Howson. They also consented to a fair schedule, and the schedule was a good deal of our own doing. They did get their interim report in on February 7. That report in size was almost as fat as the present one, but it was not as fancy in some of the charts and the details.

The CHAIRMAN. What do you think of the price of \$3,000 for that job?

Mr. SHUGG. I think it was a bargain, sir, and that they hoped to establish one good job with us in the hopes of getting more. Different firms have used different means of trying to sell their services to us. I believe that is legitimate, if they wish to demonstrate to us—

The CHAIRMAN. Well, I do not know. I have my doubts about that.

Mr. SHUGG. I may have encouraged the low fee myself.

The CHAIRMAN. I would not want you to pay an exorbitant one. I am no expert on engineering fees, and I guess lawyers may be guilty at some times of the same practice. I do not know. But it does seem to me that \$3,000 is disproportionate for the amount of work involved here.

Mr. SHUGG. Of course, that is over and above every single expense, overhead and everything.

The CHAIRMAN. Yes; even at that, that would seem to me to be a very low fee.

You see, it is hard to suit Senators. If it was too much, they would be kicking at you, and now that it is too little they are criticizing you.

Mr. SHUGG. Yes, sir.

Their interim report was submitted on February 5. To check my memory, I asked one of their members here during the noon hour, and

I believe the only substantial change that he could think of in fact was in regard to the foundation qualities of the ground at Fort Peck. They changed that, he said. They had removed some of the poor comments submitted by some of the consultants on the Fort Peck foundation bearing qualities.

That report has a great many figures in it. Those figures in some cases could not be better than the promises which we gave to the engineer. It should be definitely stated by us, sir, that as to the amount of power, the amount of water, the amount of construction, those are order-of-magnitude estimates on our own part, because we have not yet designed the units that are going here. We had a choice to be very optimistic and say that we would only need a little bit of everything, and therefore be easily satisfied. But we have usually guessed short. We have never guessed long enough.

We set down figures there which were the largest guesses we could think that this thing might run into, because then it would be with those maximum assumptions that we would proceed. We felt it important to know whether some of these economical factors would over-balance some of the other judgment factors. If we knew what we were going to build there in detail, if we knew from where the materials were coming and who were going to be our contractors and suppliers, we would give better premises and assumptions to our engineers, and we would expect to give figures that would be much more reliable.

The CHAIRMAN. Mr. Shugg, that is all very interesting, but the fact remains, as Senator Hickenlooper has said, that you had a discussion with him in November, some time after the first of the month, and you informed him that it looked as though it was going to be at Fort Peck.

What happened after that, that definitely decided you to bring in an outside engineering firm?

Mr. SHUGG. I am not sure of the date that I informed him, sir. It was perhaps about the 1st of November.

The CHAIRMAN. We Senators can place things one way or another, as coming just before or just after—

Senator HICKENLOOPER. This was "just after." I was not back here until "just after."

The CHAIRMAN. You see, that is a little difficult, is it not? You tell Senator Hickenlooper it looks like Fort Peck and it is all decided. And that was done without benefit of outside engineers. It was done on the basis of your own staff work. Then, in the middle of winter, with 14 feet of snow on the ground, these people are brought in, in January, and they come back with a report that says: Pocatello. Just fill us in on that.

Mr. SHUGG. I meant my earlier reply to Senator Hickenlooper to indicate that as the reactor jobs themselves turn up—and I gave you the date of December 10 on that—we had some idea on what we were going to build there. That scaled down our water and power needs. At the same time they ran these other simultaneous inquiries. One, as I tried to make clear, was that this site, Fort Peck, was still at the headwaters of the Missouri-Mississippi Valley.

Another thing we had to satisfy ourselves of in staff work was that we had not gone down and substantially justified eliminating every one of the laid-up national military establishments.

The CHAIRMAN. You scaled down power needs. Were they scaled down measurably? Was that a big consideration?

Mr. SHUGG. I think a fair answer to that is that it was. I am not aware of the early survey assumptions that were used in May and June of 1948, when they had in mind a production plant comparable to one of our present big production plants. But this scaled it down, sir, because these units are a very small fraction of the capacity of those other units.

Then, in our own staff discussion—and this was not a constant thing; as I said, we had never been able to satisfy a substantial portion of our staff that we could not find a place where the problem of people would find a more satisfactory answer.

Senator MURRAY. Right there, Mr. Chairman, may I ask a question?

How did you arrive at the conclusion that Fort Peck would not be a satisfactory place and that you would have any difficulty in having people come there or having work people come there to help construct the project?

Mr. SHUGG. I can give you no facts or figures, sir. Mr. Johnston, who had worked on the Fort Peck Dam and who comes from either South Dakota or Montana—he married a Montana girl—was very enthusiastic about Fort Peck, and the report which Senator Hickenlooper spoke of was Mr. Johnston's personal effort, as a competent engineer, to help to substantiate Fort Peck. At that time, Pocatello was not on the list, and we had not asked Mr. Johnston, and he did not know of it. He did not know of the possibility of its availability.

I realize just how difficult it is to try to prove why we believe that the people problem will, over the course of 5, 10, or 15 years, sir, be more easy for us to handle at Pocatello than at Fort Peck. Fort Peck is isolated. I have not been there, but we have had personal experience with these isolated towns.

Senator MURRAY. You heard the testimony here today, with the witnesses describing the locality there and the recreational features that abound there and the wildlife and the climatic conditions, which compare very favorably with the other parts of the country; in fact, compare more favorably with Pocatello.

Senator HICKENLOOPER. Maybe it is not the right kind of "wildlife," Senator.

Senator MURRAY. Well, we can't offer the night-life of the big cities, but we have pictures here that were introduced this afternoon, showing what an attractive location this would be. We have everything that could be desired and I cannot understand how you would arrive at a conclusion, without ever having been there yourself or that you were going to have any difficulty about inducing people to settle in such a reasonably attractive area.

Mr. SHUGG. We had, as I say, the real experience of our own in handling somewhat similar isolated towns; and those people, not the construction people but the people whom we need to man the actual key operations of such a test site as this, were what we had in mind. It is semilaboratory work. It is not a production job. We have a good deal of contact with those people. They are on so many of our seminars and boards and are working at one contractor's or another's installation. And they are very vocal as to their preferences. They know our isolated towns.

Senator MURRAY. In Montana we have found all through our history, there, that people who have lived in the very highest developed sections of the country, men of excellent education and refinement and high qualifications of every kind, have come to Montana. Teddy Roosevelt came out there in the early days, and some very distinguished eastern people came out there, established ranches and lived in those areas in apparent comfort. Many rich and cultured people from the East come out there and buy ranches and go into the cattle business and seem to be entirely satisfied in that western atmosphere out there and that healthful section of the country. So I cannot understand why you should arrive at the conclusion merely based on the fact that you have had difficulties in some other sections of the country.

Mr. SHUGG. I cannot prove it either, Senator, but I did that in an effort to clear away some of the apparent lack of firmness in this, feeling that we should put in everything that counted; and this matter of people was one of those things which did count.

The CHAIRMAN. Mr. Warner, I do not want to pursue this thing too far, but I am going to ask you again: Just why did you pick this firm? I want to have that clearly in the record. Why did you pick this outfit?

Mr. WARNER. This firm had a national reputation.

The CHAIRMAN. That is one.

Mr. WARNER. It had top-notch people, qualified in this sort of a problem.

The CHAIRMAN. Who told you that?

Mr. WARNER. That was gathered by talking with people here in Washington, with Cook and with others.

The CHAIRMAN. Who?

Mr. WARNER. Mr. Cook, at Oak Ridge, R. W. Cook, whom I mentioned before.

The CHAIRMAN. And "others?" Who are the others?

Mr. WARNER. Well, sir, I can't tell you who the others were. There is a certain element of judgment. I had known of them for some time, although I had never had any connections with them. I had known of their work, the job they had been doing.

The CHAIRMAN. Did you know any of them personally?

Mr. WARNER. No, sir.

The CHAIRMAN. You say "Cook and others," but you cannot remember who the others were at the moment. That may occur to you later. What was the third qualification? They had cleared people?

Mr. WARNER. They had cleared people that were available.

The CHAIRMAN. That were not on any other work, people who were available?

Any other reason that occurs to you?

Mr. WARNER. Those are the ones that occur to me at the moment.

The CHAIRMAN. Those are the ones that occur to you. Does this method of selection conform with the contract manual of the AEC?

Mr. WARNER. The contract manual was issued subsequently. Let me see. For purposes of getting a report, I think there is certain latitude there. As to selection, there is no particular regulation that would cover that, for purposes of getting a report.

The CHAIRMAN. But there is on other contracts with the Commission?

Mr. WARNER. For contracts involving the execution of work, the design of construction and costs.

The CHAIRMAN. There are definite regulations. But there are no regulations in the Commission as to the instruction of engineering personnel. Am I to understand that?

Mr. WARNER. For the selection of people to do a job of making a report. I am sure that for the selection of an engineering firm for design the answer would be "Yes."

The CHAIRMAN. But simply to get a report, "No."

Mr. WARNER. Simply to get a report of short duration, "No."

The CHAIRMAN. How many other firms have you hired to do this kind of a job or a comparable job?

Mr. WARNER. Well, I have had a hand in a good many, I suppose, in the last 5 years.

The CHAIRMAN. But there are no regulations that govern it?

Mr. WARNER. For doing a report?

The CHAIRMAN. Yes.

Mr. WARNER. No, sir; not that I am aware of.

The CHAIRMAN. How much money does the Commission spend a year in getting reports?

Mr. WARNER. I would have to ask Mr. Shugg. I am not aware. We have a limited number of consultants.

The CHAIRMAN. A limited number of consultants. Well, do these classify as consultants? This list here?

Mr. WARNER. They would be used in a consulting capacity, certainly. That is the service that we wanted.

The CHAIRMAN. Well, now, let me see if I understand. We have a contract manual that is approved by the Commission, which lays down the way that you should go about selecting contractors. That is true, is it not? You do have such a manual?

Mr. WARNER. Yes, sir.

The CHAIRMAN. In this case, the regulations were not followed? Is that true? In the selection of this firm?

Mr. WARNER. This manual was not in effect at the time, sir, I believe.

The CHAIRMAN. Let us see. When was this manual adopted?

Mr. WARNER. It has been under discussion for about a year, but I am not sure.

Senator JOHNSON. Did it replace a previous manual?

Mr. WARNER. No, sir.

Senator JOHNSON. It is something entirely new?

Mr. WARNER. Yes, sir.

The CHAIRMAN. In other words, this is a new procedure?

Mr. WARNER. Yes, sir.

The CHAIRMAN. What is your best judgment as to when it was adopted?

Mr. WARNER. My thinking would be that it would be in January, offhand. I know it has been under intense discussion during the autumn, various parts of it.

The CHAIRMAN. In your experience with the Commission, is it in accordance with the usual policy for one man to do the selecting of the firm to do a job of this kind, whose recommendation is going to carry the expenditure of half a billion dollars?

Mr. WARNER. Sir, this is the report where the fee was \$3,000. The total amount of money allocated for this report was \$50,000.

The CHAIRMAN. I do not quarrel with that, but my point is this: Their report evidently determined in the minds of the Commission the expenditure of half a billion dollars. It apparently determined the location. I just want to get all these facts in the record. This is not by way of criticism. I want to find out the truth. The point that I want to make is this: Is it the usual thing in the Commission for a contract to be made with a firm to accomplish work which is so fraught with consequences as was this contract? Is that the habit, the custom, of the Commission, or is it not?

Mr. WARNER. The Commission certainly makes the decision. As far as the selection of a report goes, or the selection of people to write a report to provide information—

The CHAIRMAN. That rested solely with you?

Mr. WARNER. Yes, sir.

The CHAIRMAN. Have you been alone in selecting other contractors for the Commission?

Mr. WARNER. As to any contracts involving sizable sums, of course, they go through many hands and contractual boards, and most of them are handled in the field.

The CHAIRMAN. So this, to that extent at least, is an exception, then, is it not?

Mr. WARNER. Certainly.

The CHAIRMAN. And you would justify the exception on the ground that it was a peculiar job that was being done; namely, a research job rather than a design job.

Mr. WARNER. I would say it was a fact-finding job and the selection of consultants for a fact-finding job takes on a different connotation than selecting contractors to design something and build something.

The CHAIRMAN. I must say that I cannot agree with the conclusion, because it presupposes that it is of less importance to have a careful review of the qualifications of a fact-finding contractor than of a design contractor. While the design contractor is certainly very important, the fact-finding contractor was extremely important in this case, because it apparently has determined the Commission's judgment as to where half a billion dollars are going to be spent.

Mr. WARNER. Mr. Chairman, if there had been time, the Engineering Division of the Atomic Energy Commission would have made this study. It is a question of bodies able to pick up information.

The CHAIRMAN. Thank you.

Any further questions?

Senator ECTON. Mr. Chairman, I would like to ask Mr. Shugg if his Division is aware of the fact that at Fort Peck Dam there are many engineers who live there the year-round, and that at one time they had 11,000 men working there at Fort Peck.

Mr. SHUGG. Yes, sir. I am aware of that. Because I talked that over with Johnston, who is one of our men, who was on the Fort Peck job. And Johnston's opinion and our own, sir, is that Fort Peck is a good site. It is, in fact, the second best site in the whole country, to the best of our knowledge today. But it was our considered opinion that Pocatello was simply better. The job can be done at Fort Peck, sir.

Senator ECTON. Then, for recreational facilities, it is only about 8 hours from Glacier National Park. Do you also realize that the Fort Peck area is only 8 hours from Glacier National Park?

Mr. SHUGG. Yes, sir. I do not wish to overemphasize this "people" business, but it had not been mentioned before, and I wanted to be fully responsive to the question as to the factors involved and the reason for this switch from Fort Peck to Pocatello; or what is apparently a switch, because we have very frankly said that Fort Peck was at the top of the list, until some time in the middle of the fall. I mentioned that factor of where people prefer to live simply to fully answer the question as to what all of the things were that led to this change.

I think, sir, that there is not any question, if we had to have two sites and they had to be far distant, one from another, that everything we have today would tell us that the other site would be Fort Peck. But we have to make a decision on one site, and in the Commission's judgment, although Fort Peck is a good site, we do believe that Pocatello is a preferred site. In many of these factors, both are stated as good; power is good in both places, and water is good in both places. But, as I said, we do believe that Pocatello is a preferred site.

Senator ECTON. Have you ever had the privilege of visiting that Fort Peck area. You, yourself?

Mr. SHUGG. No, sir; but I have been at Billings, and I like Billings a great deal, and I like the western country.

Senator ECTON. We appreciate that you got into Montana as far as Billings. But it seems to some of us that you engineers who determine these sites should visit them. We just feel that you should visit them and inspect the possible sites personally, so that you at least know what these engineers are talking about when they make these surveys and recommendations. I am very sorry to learn that you have not gone out there and investigated that Fort Peck area.

Mr. SHUGG. That is true, sir. I have not been there. And I imagine also that I would have to spend some little time there, in the event that my first quick landing was under conditions which every site has, at one time or another, conditions that were not good. I could not prejudge on the basis of one visit. It would depend on the time of year and other things.

I have flown through Miles City, for example, many times, because I made 26 flights across Montana in the calendar year 1948, all of them by Northwest. I have not been in Pocatello either.

But I do not want to leave the impression that this is a personal preference. We had to be careful, here, to keep some of these things from getting an unbalanced judgment as to the over-all. There are 14 factors, all together.

Senator ECTON. I think all of us appreciate the fact that you and the other members of this Atomic Energy Commission have taken into consideration and evaluated all of the necessary qualities in a site. That is the way I want to look at it. But we were discussing this one principal thing, and I did want to call this very pertinent fact to your attention.

Mr. SHUGG. And I do not wish to overemphasize that matter of people. It is the only thing that had not come out on the table here, and it is tucked into some of the fancier words like "social factor,"

and so forth, in our 14 criteria. But I think that is one of the things which help in the final decision, in our judgment, aside from any pages of dollar figures and facts. It is one of the things, sir, that did influence our judgment in selecting Pocatello as the better of the two; with full recognition that Fort Peck is a good site, the second best that we could find in the whole country.

Senator ECTON. Well, we appreciate that; and if we are left out this time, we hope that if there is any necessity for future development you certainly will not overlook that area in the future.

The CHAIRMAN. Thank you very much, gentlemen.

Mr. SHUGG. Mr. Chairman, may I introduce for the record about four pages which very briefly summarize the much longer testimony which we gave before the joint committee in executive session?

The CHAIRMAN. Certainly.

Mr. SHUGG. As the committee will recall, the subject of the selection of a site for the reactor-testing station was considered on March 14 with the joint committee in executive session. I propose to review here the steps taken and the considerations involved in this matter, in a way that this can be done in a public hearing.

Before outlining the steps which the Commission has taken in selecting a site for the reactor-testing station, I would like to review briefly the significance and purpose of this project.

Nuclear reactors are the key to the future promise of atomic energy both for military and peaceful purposes. These uses include the production of fissionable material, development of power, propulsion of naval vessels and aircraft, and production of radio isotopes for use in research and in medical therapy and industrial processes.

In order to insure the preeminent position of this Nation in the field of atomic energy, it is essential that new types of reactors, differing from those presently existing, be developed and put in operation as soon as possible. The Atomic Energy Commission has concluded that in order to press forward with the development of new reactors in a manner compatible with public safety and welfare, acquisition and development of a new remote testing site is necessary.

The test station will be essentially a field facility for testing and proving for the entire national reactor-development program, while research and development activities continue at existing installations. Participating in this project will be Commission research units working on reactors, armed forces agencies concerned with military utilization of reactors, and industrial groups working on problems for the Commission in this field.

During the first half of 1948, the importance of the development of a separate reactor-testing station became increasingly apparent to representatives of the Commission, advisory groups, and others engaged in the reactor-development program. All known factors related to the subject were considered by staff members in the light of the objectives of such a program, and a general statement of criteria for the site of such a station were developed. These criteria, which were later refined and developed in the course of further study, provided in general that the site for a reactor-testing station should:

1. Be removed from heavily populated and industrialized areas.
2. Be near enough to existing communities so that construction and operating personnel can be accommodated.

3. Contain at least 400,000 acres of land, preferably of submarginal value for farming and ranching and not suitable for future agricultural, mining, or other development.

4. Be near a readily accessible reliable water source that would supply continuously a minimum of 50 cubic feet per second.

5. Have geological, hydrological, and meteorological conditions facilitating the handling of radioactive wastes under normal and emergency operations.

6. Be near an electric power source that will be capable of supplying a minimum of 70,000 kilowatts at a reasonable cost.

7. Be amenable to acquisition and development with utmost economy.

The Commission representatives then undertook an extensive study of possible sites throughout the entire United States for a testing station which might meet the requirements of the program. In the course of this study, representatives of the Corps of Engineers, the United States Air Forces, the United States Army, and the Commission staff made systematic studies and surveys to produce, for initial consideration, areas of the country deemed to be generally eligible. These surveys, which included Federal and State parks, military installations, other appropriated or marginal publicly owned lands and privately owned lands, revealed 70-odd areas throughout the United States that met the general specifications at least in part. Sites in 34 different States were examined. Among these areas, 23 warranted detailed studies. These further studies showed that seven areas had desirable characteristics. The Commission staff, therefore, with the assistance of the Department of the Interior, the Department of Commerce, and the National Military Establishment made additional detailed studies of these seven areas.

Following an analysis of these studies, the Commission on January 6, 1949, employed the firm of Smith, Hinchman, & Grylls, Inc., Detroit, Mich., to conduct a comparative evaluation of the two of the seven areas having the greatest potentialities, Fort Peck, Mont., and Arco, Idaho. This survey was designed to develop additional detailed information and to present a systematic comparison of the advantages and disadvantages of the two sites. In this final analysis, the Commission staff and the engineering firm used the reports of specialists in geology, hydrology, meteorology, and sociology and further refined the requirements. These refined requirements included considerations of isolation, security, climate, geology, nature of soil and drainage, water supply, potential availability of manpower, availability, accessibility and cost of materials and supplies, nearby town and community developments, construction and operation costs, availability and cost of electric power, and fuel sources.

The engineering firm concluded, after studying the characteristics of the two areas and measuring these characteristics against the refined requirements, that the Arco area was equal to the Fort Peck area in 2 respects, superior in 11, and inferior only in 1 respect.

The findings of Smith, Hinchman & Grylls were incorporated first into an interim report dated February 9, 1949, and later into a final report of some 150 pages with an appendix of 120 pages more, containing consultant reports. This report presents a detailed analysis with charts, maps, and tables of the extent to which the two sites met the requirements listed above.

The Atomic Energy Commission then reviewed the findings of its staff, and the information obtained from the firm of Smith, Hinchman & Grylls, Inc., the Department of the Interior, the Department of Commerce, and the National Military Establishment. It gave additional consideration to certain special requirements, particularly those relating to hazards, security, and drainage. The Commission then reached the decision that the Arco area was the preferred site and authorized its staff to initiate discussions for its acquisition. These discussions are now under way.

It is the view of the Commission that Pocatello is clearly the site best suited to the requirements of its reactor-development program. The Snake River plains area, the selected site for the reactor-testing station, northeast of Arco, is adequately removed from heavily populated and industrialized areas, and at the same time is close enough to communities where construction and operating personnel can be accommodated. Furthermore, it has a desirable combination of geological and hydrological features which will facilitate the handling of radioactive waste under normal and abnormal conditions. Despite the great care and precautionary measures which will be taken at this station, as at other Commission installations where safety records have been outstanding, the Commission must always consider the possibility that harmful materials might be released over an area of several square miles by major accidents such as fires or spills.

At the Arco site there is no surface drainage directly to the Snake River, which is 40 miles away, and, furthermore, the porous soils would absorb the harmful materials. Percolation through the water table to the Snake River will take many years. During this interval the materials would lose a great deal of their radioactivity by the natural process of radioactive decay.

In connection with the other requirements, the selected site is underlain by an extensive water table through which flows between 1,000 and 2,000 cubic feet per second of good water. This area also has thousands of acres of level land on which can be readily developed necessary facilities for the testing station and, in addition, possesses an adequate and economical electric-power source, as well as good access roads and railroads.

Senator TAYLOR. Mr. Chairman?

The CHAIRMAN. Yes?

Senator TAYLOR. I do not want to take up your time. I know how busy you are and how busy all of us are.

I simply would like to ask, in case the question of reopening this matter, with the possibility of relocating the plant, should be seriously considered in the wisdom of the committee, if Idaho will be given an opportunity to testify at some future time.

The CHAIRMAN. All right, Senator.

Senator HICKENLOOPER. That is very understandable, Mr. Chairman, and I am for it. Because if anybody dares say any of these States is better than Iowa, I want to be able to take the stand and testify. And I will also suggest that that goes for Connecticut.

Senator MILLER. Just for the sake of the record, I would like to be heard for about  $2\frac{1}{2}$  or 3 minutes on the testimony that has been adduced here.

The CHAIRMAN. Surely, Senator.

Senator HICKENLOOPER. I wonder, Senator, if you would withhold that for just a moment. I want to ask Mr. Shugg one question, if I may, and then I will be through, if you will indulge me for just a second, here.

I believe you stated, Mr. Shugg, in an executive session of the Joint Committee, inasmuch as you are putting in a summary of your testimony in the executive session, on March 14, referring to this engineering survey, as follows:

"We had a preliminary report from them"—

That would be the engineers?

Mr. SHUGG. Yes, sir.

Senator HICKENLOOPER. "On the 5th of February, and the final report is not in yet." That was on March 14, 1949. I believe that appears in the testimony.

I may say parenthetically that at that meeting I was under the impression that the final decision had not necessarily been made. I cannot say that it was actually said. I do not mean that, and I may have gained an erroneous impression.

Mr. SHUGG. I certainly would not want to give that impression, sir.

Senator HICKENLOOPER. I do not want to say that that was said, but I was laboring under the impression that the Pocatello site had not been finally determined upon, because the engineering reports had not been finally in at that time.

Mr. SHUGG. All the basic data were in that February 5 report. It simply wasn't prettied up.

Senator HICKENLOOPER. Yes. I see. Excuse me, Senator.

#### **STATEMENT OF HON. BERT H. MILLER, A UNITED STATES SENATOR FROM THE STATE OF IDAHO**

Senator MILLER. My name is Bert H. Miller, Jr., Senator from Idaho, with office in the Senate Office Building.

I preface my remarks with the observation that I have known this particular section of the State of Idaho for a period of time dating from before many of the witnesses, or some of the witnesses, were born, and which would be not less than 55 years.

Back in 1916, I made somewhat of an investigation as to sinking wells, because at that time I had more or less of a personal ambition to go into the cow business and figured that that would be a mighty favorable section to do that, assuming that water could be obtained through wells in the place in which I desired to locate.

It will be remembered that Idaho is a land-grant State. I am further familiar with the tracts, for the simple reason that I think it was in 1942 that the Aeronautical Corps sought a tract of land 30 miles wide by 60 miles long in that vicinity as a bombing area. And I, as attorney general, at that time was a member of the Constitutional Land Board, and, as you recall, there was ceded to the State as the result of statehood two sections of land in each township.

I recall distinctly the suits being brought by the United States of America against so many thousand acres of land, to condemn it because of the price that existed for these school lands, which was under the constitution of the State, \$10 per acre.

The Government took the position that they could not afford to pay that much and if, through condemnation proceedings, they could get it reduced, that is what they would attempt to do. We would have been perfectly willing to have deeded to the Government; but the Government, of course, would not accept it on that basis, because of the price fixed by the constitution and the invalidity of a deed conveying the land for a less amount than what the constitution provided for.

As I understand, the atomic energy set-up here wants about 400,000 acres. The amount that in my recollection the Navy has there at the present time is probably slightly in excess of 200,000 acres. I am not certain as to that. The amount is immaterial.

Mr. SHUGG. It is 173,000.

Senator MILLER. I see. I am guessing at this, from about 10 years back.

I particularly wanted to make mention of the testimony of the first witness here. I do not recall what his name was, because I did not get it. I wanted to mention his testimony and his fear that the Idaho Power Co. may go broke because of furnishing Idaho Electric Power beyond what they can really afford to provide. Well, we need have no fears about that situation.

I might say that mention has been made of a statement of some health officer. I understand the witness to say that he was from Idaho. If so, I never heard tell of him around the statehouse, and I only left there last December, after a constant sojourn there for 16 years. His statement that the engineers testified or reported that there was sewage contamination in the water there is absolutely foreign to anything that could possibly be true with respect to the location of this atomic energy plant. In the first place, there is no habitation near there, Mr. Chairman, save and except a remote ranch within a distance of probably 100 miles, coming in that direction. And the only town of any consequence would be in Senator Murray's State, the town of Dillon. So you have some idea as to that distance.

There is the little town of Dubois probably 50 miles away.

Senator MURRAY. How about Idaho Falls?

Senator MILLER. Well, Idaho Falls does not come within that area.

The natural trend or fall of the land is toward the southwest. Arco and that section of the country is at a lower altitude than is the place where there would be any atomic energy buildings or plant. So it could not come from that source.

Another thing is this, to show the inconsistency of such a thing:

Those thousand springs that were mentioned have been there since the first traffic ever came out into Idaho, and that was a long time ago. They have never varied, even though there are wonderful irrigation activities now in the vicinity and in the same general trend as those springs. They have not increased or diminished.

The Idaho Power Co. has one of its plants there; power from a thousand springs. There is room for ever so much activity there, in that respect, if they ever wanted to do that.

I will say this: The biggest private fish hatchery in the Northwest is situated under these springs. The Government of the United States has the largest Government hatchery in the Northwest, situated under these springs.

It is only reasonable to conclude that it would make an active test as to what the situation is there with respect to the purity of that water.

We speak about Pocatello. If what I read in the press is true, Pocatello is the second largest town in the State of Idaho. At a closer distance to where the construction will be is Idaho Falls, the third largest town in the State of Idaho. Both of these towns are in the eastern or southeastern area of the Snake River, which passes down through there; so it could not be said that there is any contamination over in that vicinity, from that point.

I mentioned the fact that these thousand springs have not varied from time to time. That is due to the fact that they are undoubtedly deep springs. Nobody knows how deep they are. It is true that it is in the vicinity of a Government park, the Craters of the Moon, but that does not spoil it for any particular reason.

Those are some of the observations that I wanted to make in connection with those particular areas: That there absolutely can be no contaminated water in the vicinity of the wells that would be dug, if any are dug, for this atomic energy location or plant; and that you will find a situation there that is freer from objectionable conditions than would be found in most any other spot that I know of, either in the State of Idaho or of Montana, because I know quite a lot about Montana, too. I was a buckaroo up there, Senator Murray, right in the country you are talking about.

Of course, my opinion on it has nothing to do with the intrinsic value, but I cannot see how it would be possible for anyone who has made an investigation of those two sites, considering climatic conditions, freedom from wind, freedom from this, that, and the other, to move this plant to the vicinity of Fort Peck, when they have such a place as they have out there, near the Big Butte in the Arco country.

The CHAIRMAN. Thank you very much, Senator.

Now, gentlemen, it is 5:20. We must get back to our offices. We will continue this hearing at the call of the Chair, probably the first of next week. We will examine the engineers, among others.

Senator MURRAY. Mr. Chairman, the witnesses that are here from Montana may be excused?

The CHAIRMAN. Oh, yes, surely.

I want to say to the witnesses from Montana before they go that the committee thanks them for coming and for stating their views on this matter. They have been stated, within the limitations that we laid down at the start.

I particularly want to thank Mr. Mansfield and the Governor for their presentations, and also the other members of the delegation for their presence and interest here.

I will say to Senator Taylor and Senator Miller that they will have an opportunity at a future hearing to offer any testimony they wish to offer.

I would urge you not to go out and get chamber of commerce witnesses; not, again, that I have anything against them, but, after all, you are standing on a decision that has been made by the Commission. Suppose you reserve that until after we have heard from the engineers. Then we will be glad to talk to you gentlemen again about it.

I am not going to string this out. We cannot do that. We cannot meet against this week, either. We will notify you when we will have another meeting. It will probably be Monday or Tuesday. We will endeavor to let you know tomorrow.

In the meantime, I would suggest, Governor; that you go home. I do not mean by that to be discourteous. I mean, by that, that I certainly would not want you to wait, because I certainly think you have done all you can.

Governor BONNER. Thank you, Mr. Chairman and gentlemen of the committee, for your kindness in holding this meeting. I must get back to Montana, because of pressing State duties there.

But, in leaving, I just want to say this to the chairman of the committee: I believe the evidence that was adduced here today well shows why Montana was upset about this proposition. As was testified to here by the several witnesses today, I did make a trip to Washington some time ago. I met the President of the United States and others that were interested in this project. That was in March. And nothing was said about this matter being decided.

We then went down to meet with Mr. Lilienthal and Mr. Warner. After at least one-half hour's discussion of the merits and demerits of the two sides then, and then only, did Mr. Lilienthal state that it had already been decided on March 1.

In making that statement, Mr. Chairman and members of the committee, I want to say this, without reservation: that we pressed Mr. Lilienthal as to why no one knew about this prior to this date, and Mr. Lilienthal replied that it was due to the fact that the Navy did not want it released.

Therefore, I was startled today to hear Mr. Warner testify that the only reason it was not released was due to the fact that it was used as a bargaining point. That is what has had us upset in Montana all the time, trying to put our finger on something.

Sometimes we think it is here, and then we find it is over here.

Another observation I would like to make to the chairman and to the committee before I leave is that, while Fort Peck was the No. 1 site up into the fall, then this firm of engineers was appointed and within a month they came back, in the dead of winter, and the Commission decided the matter within that time; that is, in February.

I think, too, in fairness to everyone, that I should cite the fact that Mr. Warner testified that this was a fact-finding engineering firm; and yet our great railroad out there, the Great Northern, had a representative testify here today that the Great Northern was not even asked about freight rates.

Those are some of the questions that are in the minds of the Montana people.

We, as I stated this morning, are not against Idaho in any sense of the word, but we feel, in Montana, that we are entitled to it on its merits. And when we mention Idaho, with due respect to the Senators, we are like Idaho; we have a great "reach" for our State, this great State of ours. And it is admitted by the Commission that, in order that this plant go ahead in Idaho, it must get power from Montana, particularly power from the Montana Power Co., south from Butte.

We want to put this on its merits. And again I want to thank the committee. And I respectfully urge that, if there is any doubt, the matter be reopened and this plant given to the State which deserves. We think that State, of course, is Montana.

We cannot understand how we can be No. 1 priority late in the fall and then have an engineering firm come in, and then find that within a month the question is changed.

In closing, let me say this again, Mr. Chairman: When we were discussing the matter with Mr. Lilienthal, after a half hour it was stated by Mr. Lilienthal at that conference that the men hired were scientific people, professors, and that they would like to live in Pocatello rather than in Glasgow. And, when I asked Mr. Lilienthal whether or not that was the basis of the decision, he said, "Governor, I should not have said it that way."

Now I know that Idaho has a fine resort, Sun Valley; but, as Montana Governor, I think that the matter should be settled on its merits, and not on the recreational facilities for the professors.

As Senator Murray pointed out, we have recreational facilities in Glasgow; but it has always been my philosophy of life that if you are interested in a thing you should go there and work. That is the way we feel in Montana, and I know that is the way the other States feel.

Again, this is the first time that I have seen the Idaho Representatives, outwardly at least, contending for the State of Idaho.

When I was here in Washington, I was startled by the fact that the Sunday night before I met Mr. Lilienthal there was no Idaho pressure; it seemed like the thing was cut and dried.

The CHAIRMAN. I think that is exactly right.

Governor BONNER. So this comes out here for the first time today.

The CHAIRMAN. I want to make an observation, Governor. I think you have now stated something that is rather favorable to the Commission's selection; in other words, that there was no political pressure of any kind, character, or description. It has been a selection without that kind of attempted interference.

Of course, this hearing has been called by the joint committee, again I say, at the request of the Montana delegation and yourselves. And naturally the Idaho Senators are here because they are now in a position of not wanting to see the thing reversed.

Governor BONNER. Oh, I do not blame them for being here.

Senator TAYLOR. Mr. Chairman, may I say that we did not interfere in this matter. We felt that it was a matter above and beyond politics; that it should be decided on its merits. And we did not take any action at all until we heard that the Montana delegation was trying to make it political.

The CHAIRMAN. Thank you very much, gentlemen.

(Whereupon, at 5:55 p. m., the committee recessed to the call of the chair.)



## SELECTION OF SITE FOR REACTOR TEST STATION

TUESDAY, MAY 10, 1949

CONGRESS OF THE UNITED STATES,  
JOINT COMMITTEE ON ATOMIC ENERGY,  
*Washington, D. C.*

The committee met at 2:30 p. m., pursuant to call, in room 324, Senate Office Building, Senator Brien McMahon (chairman) presiding.

Present: Senator McMahon (chairman), Representative Durham (vice chairman), Senator Hickenlooper, and Representative Price.

Also present: Senators James F. Murray, Montana; Zales N. Ecton, Montana; and Bert H. Miller, Idaho; Representatives Frank A. Barrett, Wyoming; Mike Mansfield, Montana; Wesley A. D'Ewart, Montana; and Roy W. Wier, Minnesota; William L. Borden, Executive Director; Harold Bergman, Deputy Director; and E. L. Heller, staff member, Joint Committee on Atomic Energy.

The CHAIRMAN. Let us come to order, gentlemen.

You will recall that at the last hearing we heard the representatives of the State of Montana in a morning and afternoon session in their presentation on the desirability of going to Montana instead of to the State of Idaho with this project.

You will also recall that the chairman expressed what I think is the unanimous viewpoint of the committee: namely, that we are not a site-selecting committee and that our function, in this particular matter at least, is confined to the examination of the matter on two scores. First, was there any undue influence or corruption that could be alleged—which, of course, no one has suggested in the slightest degree—or, second, is it such an obviously improper and bad choice as to indicate choice “by guess and by golly” and by whim and caprice?

Speaking now only for myself, of course, the evidence that has been adduced so far has indicated neither of those conditions. I merely reiterate that, so that we can keep this thing within the confines and the bounds of good practice, and within the bounds of what we, as a committee, should seek to do.

You will also recollect that at the last session I suggested that the engineering firm of Smith, Hinchman & Grylls, who, it was testified, were retained to make a survey, be invited to come here for the purpose of making such observations as they care to on the allegations that were made by the Montana witnesses regarding two or three salient points in their report.

It is only fair to the Montana people and fair to this engineering firm that they have an opportunity to do so.

Wallace S. MacKenzie, Mr. Borden tells me, is here from that engineering firm. Mr. MacKenzie, would you come up here?

I might say that Congressman Barrett, from Wyoming, is here in person, and he has asked for an opportunity to present to the com-

mittee reasons why we should all solve this situation by placing it "in the middle"—in other words, in Wyoming.

Representative BARRETT. That is right, a compromise, Senator.

The CHAIRMAN. Mr. Barrett, would you care to proceed first?

**STATEMENT OF HON. FRANK A. BARRETT, A REPRESENTATIVE  
IN CONGRESS FROM THE STATE OF WYOMING**

Representative BARRETT. I would appreciate it, Senator McMahon. I am Frank Barrett, a Member of the House from Wyoming.

Of course, we in Wyoming make no charge, Senator, that this site was selected by any undue influence of any kind or character or that, indeed, we could prove caprice in the matter. We do think that there are many reasons why a site along the Union Pacific Railroad in Wyoming would certainly in many respects be the proper one.

In the first instance, we have a site there of some 400,000 acres of land that is immediately adjoining one of the main transcontinental railroads of the West, with good highways; and they have sufficient water to supply the needs of this reactor plant.

The fact of the matter is that any water that might be available from the Snake River in Idaho comes from Wyoming, originates in the State of Wyoming, and we could divert it over and use it for this purpose if need be.

In addition to that, Senator McMahon, I would like to say this: Of course, I do not know anything about the end results of this plant or of the civilian uses that might eventually be found feasible, but in that section of Wyoming we do have many natural resources in abundance that I think might well be used along with this plant.

In the first instance, we have tremendous deposits of coal. About 9,000,000 tons are mined right in that area each year. We have tremendous gas fields that will supply a great area covering several States right in this area around Green River. In addition to that, we have the biggest shale deposits in the United States right there, and the Government itself has a plant a few miles over the State line in Colorado, in which it is estimated 120,000,000,000 barrels of oil will eventually be extracted.

And so, with all of these combined together, if any civilian uses are made of atomic energy in the years that lie ahead, certainly that would be a spot where great natural resources are centered.

Now, we have power in abundance in several areas in Wyoming, not far from the site at Green River. Of course, we hope to have the upper Colorado River Basin developed, and several new power dams constructed.

And so it does seem to us that maybe the engineering firm might well take another look at the situation over there; and, as the Senator has well said, in order not to have too much in the way of hard feelings between Idaho and Montana on this matter, they could compromise by locating it in Wyoming. I think, if they did so, there would be no mistake made.

Thank you very much, Senator.

The CHAIRMAN. I understand that Mr. Wier, a Congressman from Minnesota, would like to speak to the committee.

Mr. Wier, out of congressional courtesy, I think you should go ahead now, unless you want to wait. I will leave it up to you.

**STATEMENT OF HON. ROY W. WIER, A REPRESENTATIVE IN  
CONGRESS FROM THE STATE OF MINNESOTA**

Representative WIER. I would like to get away now. I want to get over to the House on a bill.

Mr. Chairman and members of the Atomic Committee, I have been watching this, and I am sorry that I did not get in on these hearings previous to the indication of a decision for Idaho.

I represent the Third Minnesota Congressional District, which is largely made up of a major part of the city of Minneapolis, as well as five rural counties, and we have a natural interest in this development, or this project, and I would feel derelict in my duty if I did not come over here and speak for the people that I represent.

Sentiment is very strong in our State, our whole State, I think it is safe to say, on the development of this project in the State of Montana. Personally, I think we can all agree that that great State of Montana has everything that nature has to offer humanity in the way of natural resources. I think Montana is the most diversified State in every approach to God's resources of any of the States of the Union. I think all of the arguments that have been made here for any of the other States are just as applicable to the State of Montana.

And briefly, I just want to submit to this committee, and for the record, that Minnesota is very much concerned, and very hopeful that this project will be considered in the light of real consideration for the State of Montana.

The CHAIRMAN. Thank you.

Senator MURRAY. Mr. Chairman, on behalf of Montana I want to thank the gentleman for his remarks. I think he has stated very correctly that Montana has the most diversified resources of any State of the Union. It has all of the requirements necessary for a plant of this character.

While I am speaking, I might say also for the record, in answer to the Congressman from Wyoming, that there is no bitter conflict between Montana and Idaho with reference to the location of this plant. We are not quarreling with Idaho. There is no feeling whatever in this matter. It is only a question of determining where this plant should properly be located. And I think that the facts already brought out by this committee at the last hearing, and the subsequent proof that has been submitted to the committee, demonstrates that Montana is the logical place for it, and that the engineering firm that made the investigations did not give due regard to the facts which justify its location in Montana.

The CHAIRMAN. Thank you, Senator.

Now are there any other Members of the Congress who wish to make an observation?

Representative MANSFIELD. Mr. Chairman, I would like to have the privilege of being heard for the last 10 minutes this afternoon.

The CHAIRMAN. After we finish with the engineering witnesses?

Representative MANSFIELD. Yes, sir; and after all the questions are asked.

The CHAIRMAN. Yes, Mr. Mansfield, we will be glad to do that.

Mr. MacKenzie, you are to speak for the engineering firm of which you are a partner? You may remain seated if you want to.

**STATEMENT OF WALLACE MacKENZIE, PRESIDENT, SMITH, HINCHMAN & GRYLLS, CONSULTING ENGINEERS, DETROIT, MICH.**

Mr. MACKENZIE. We are a corporation, and I am the president of the corporation.

The CHAIRMAN. You are Mr. Wallace MacKenzie?

Mr. MACKENZIE. I am. And I am the president of the corporation.

The CHAIRMAN. It is a corporation?

Mr. MACKENZIE. Yes, sir; it is a corporation.

The CHAIRMAN. All right, Mr. MacKenzie.

I take it that you have covered the testimony that was given here in the previous hearing.

Mr. MACKENZIE. Yes.

The CHAIRMAN. Would you like to make some observations on the questions that were raised?

Mr. MACKENZIE. I don't believe so, in any particular.

I have with me here, Mr. Grubb of our company, who was our man who headed up this investigation for the Atomic Energy Commission, and who is very familiar with every point involved, and gathered the information as it came in from the field, and I would rather that he would answer in any detail.

The CHAIRMAN. Before we do that, Mr. MacKenzie, I would like you to qualify your organization as to its qualifications for doing this job. Will you do that, please?

Mr. MACKENZIE. Yes. I have a written qualification here, which I can leave with the committee. But we are an architectural engineering firm who have been in business for approximately 35 years, and have during that time, of course, done many hundreds of millions worth of varied construction work, including, during the war, seven large ammunition plants, for the Ordnance Department.

We are at present engaged in designing the new technical center for General Motors in Detroit.

The CHAIRMAN. You are a Detroit organization? That is your home base?

Mr. MACKENZIE. We are a Detroit organization, yes. But we have been doing work throughout the United States and also in Canada and Europe.

We have considerable experience in the field of chemical engineering. I include in that class distilleries, for example. We designed and built the Hiram Walker distillery out in Peoria. We also designed a large distillery for them in Dumbarton, Scotland.

We have for the last 10 years done all the engineering work for Joseph E. Seagram & Sons, Inc. We have done work for other distilleries, including the Fleischmann Co.

I mention this specifically because of the process, the nature of the work, in which we not only engineer the buildings themselves, but the process equipment that goes into them, and in many cases the selecting of the site for the plant.

Senator MURRAY. You do not mean to infer that the products are of an explosive character, do you?

Mr. MACKENZIE. I think they are, in more ways than one.

The CHAIRMAN. Have you ever done any work for the United States Government, with the exception of the seven buildings that you designed during the war?

Mr. MACKENZIE. Oh, yes. We have done considerable work for the Government. In the First World War we did a great deal of work in design of gun carriages, and so on, as well as several ordnance plants, including the Curtiss airplane plant at Buffalo, which, in light of today's airplane business, is rather a joke, but nevertheless—and the Dodge plant at Detroit, which manufactured recoil mechanisms for French 75 type guns.

The CHAIRMAN. Have you ever done any work before this engagement for the Atomic Energy Commission?

Mr. MACKENZIE. No, sir.

The CHAIRMAN. This was your first venture?

Mr. MACKENZIE. That is right.

Senator MURRAY. Well, Mr. MacKenzie, your explanation here of the activities of your firm applies to construction work, principally. Your problem in this instance was not one of construction, was it?

Mr. MACKENZIE. No. But I think I did qualify by stating that we had had a great deal of experience in locating sites for these projects, not only in this country, but outside the country. During the war, we had quite a hand in the selection and determining of the sites for these seven ammunition plants. So that the question of selecting a site was no new problem.

Senator MURRAY. When you were employed to do this job, did the Atomic Energy Commission give you a program, or lay out for you the problems involved in determining a site for this plant?

Mr. MACKENZIE. Yes; I would say they did.

Senator MURRAY. You would say they did?

Mr. MACKENZIE. Yes.

Senator MURRAY. Did they do that in writing, or verbally?

Mr. MACKENZIE. Both.

Senator MURRAY. What were their requirements?

Mr. MACKENZIE. Of course, it was only in the last few weeks that we began to find out in detail the shape of the buildings, and that sort of thing.

The CHAIRMAN. What are you finding that out for now?

Mr. MACKENZIE. We are working for the Atomic Energy Commission on an estimate.

Senator MURRAY. That has no relation to this problem at all?

Mr. MACKENZIE. No.

The CHAIRMAN. Are you engaged in that estimate along with anybody else?

Mr. MACKENZIE. No. We are doing it for the Argonne Laboratory in Chicago.

The CHAIRMAN. Your relations have been with them rather than with the main office here in Washington?

Mr. MACKENZIE. That is right.

The CHAIRMAN. Were you selected by the Argonne Laboratories?

Mr. MACKENZIE. Not on this survey. This is on the estimate that you are talking about, I believe.

The CHAIRMAN. Yes.

Mr. MACKENZIE. Our relations have been with the Argonne Laboratory.

The CHAIRMAN. Not on the site selection?

Mr. MACKENZIE. No.

The CHAIRMAN. But on the estimate on the reactors to be built there?

Mr. MACKENZIE. On the materials-testing reactors, yes.

The CHAIRMAN. Are you in competition with anyone else in this work?

Mr. MACKENZIE. No.

The CHAIRMAN. Does that explain the fact that you received the total sum you did? What was it you received for the site location?

Mr. MACKENZIE. You mean as a fee, or for the total work?

The CHAIRMAN. The total work.

Mr. MACKENZIE. It was something over \$30,000, I think.

No, it was a little higher than that; about \$45,000.

The CHAIRMAN. Your fee was very small, as I recollect it.

Mr. MACKENZIE. It was based on 10 percent of what we thought might be the cost, which was \$30,000. And it ran higher than that, somewhat.

The CHAIRMAN. It looks as though you got your foot in the door.

Mr. MACKENZIE. I hope we have.

The CHAIRMAN. Well, that was the purpose of setting that fee?

Mr. MACKENZIE. No; I wouldn't say that exactly, but it was the first opportunity that we had had to do some work for the Commission, and we certainly didn't want to—

The CHAIRMAN. I do not blame you for that. What I am interested in is, How did that come about.

Mr. MACKENZIE. How did we get this offer? By continually contacting the Commission and sending our credentials to them, and so on. Why they selected us eventually, I don't know.

The CHAIRMAN. You seem to have very excellent qualifications. I was not implying that there was anything irregular, and certainly nothing dishonest, but I was interested in tracing out the details as to your being awarded this job, out of which seems to be growing the engineering assignment for the whole project.

Mr. MACKENZIE. I can't say that. I wouldn't want to say that.

The CHAIRMAN. You would limit it to one reactor?

Mr. MACKENZIE. Not even that. All we have been asked to do is to make an estimate. We have not been awarded the contract for architect-engineer services on the project at all. Neither have we had any discussion with anyone tending toward negotiating for a contract or anything of that kind.

Senator ECTON. Mr. Chairman, I think your question of Mr. MacKenzie is very pertinent, and I am very much interested in it. I think it should be pursued a little further.

What I would like to know, Mr. MacKenzie is, How did you happen to get this job to make this survey of these two prospective atomic sites? Did you bid on it? Or were you approached by a member of the Atomic Energy Commission, asking if you could do it? Or how did you happen to land the job?

Mr. MACKENZIE. By continually making a nuisance of ourselves, I suppose, with the Commission and asking for work.

Senator ECTON. You went after it?

Mr. MACKENZIE. Not that particular job; no. We didn't know that there was such a job, but we knew that there probably was additional work to be done by the Commission, and we wanted some of it.

Senator ECTON. When you were engaged to do this work what were you supposed to do?

Mr. MACKENZIE. What were we supposed to do?

Senator ECTON. Yes; what were your instructions?

Mr. MACKENZIE. We were given the two sites, and we were supposed to survey these two sites and make a recommendation to the Commission as to which site they should purchase for this particular plant.

Senator MURRAY. Mr. MacKenzie, I started to ask you questions along that line a few moments ago, and you told me they gave you specifications as to what your requirements would be with reference to the location of such a site as this.

Mr. MACKENZIE. I believe that is so.

Senator MURRAY. What specifications did they give you? What did they tell you that was requisite for the location of a site of this character?

Mr. MACKENZIE. Here is a transcript of the project requirements.

Senator MURRAY. I know, but that was not what the Atomic Energy Commission gave you. That is a result of a survey that they made. And after that survey was made, they requested you to make a subsequent check-up on the matter to determine it. They had finally gotten down to the point where there were two places where this could be located. One was in Idaho, where they had two possible sites, and the other was in Montana. My understanding is that your firm was hired after this lengthy study had been made by the Atomic Energy Commission, and your task was to determine for them which of these sites would be the proper site for the location of the project.

Mr. MACKENZIE. That is correct.

Senator MURRAY. Well, now, what did they tell you when they told you to go and investigate this? You knew at the time that Fort Peck was considered a favorable site for the project. You knew that; did you not?

Mr. MACKENZIE. I think so; yes.

Senator MURRAY. What is that?

Mr. MACKENZIE. I believe so; yes.

Senator MURRAY. You knew that the prospects were that Fort Peck would be selected as the site?

Mr. MACKENZIE. I don't know that I ever knew that; that it was to that point. I knew it had been considered as a favorable site, as a possible site.

Senator MURRAY. The testimony here showed, it seems to me, that the Fort Peck site was the site that was regarded with most favor.

Mr. MACKENZIE. That was the testimony here in the investigation.

Senator MURRAY. And in the record, as I understand it, also. But you went out to undertake to establish the fact that the Idaho site was a better site.

Mr. MACKENZIE. I don't think that is correct. I don't think we went out with any preconceived idea at all. In fact, our problem was one of looking at two sites, and without any weight on either one, and determining purely from an engineering-survey basis which site we thought would fill the bill best.

Senator MURRAY. Then, in order to carry out that task, that undertaking, it would be necessary for you or your qualified engineers to go actually upon the ground and make a thorough investigation of the conditions that prevailed at both sites.

Mr. MACKENZIE. That is right.

Senator MURRAY. Did you actually go upon the ground, in the Montana site, at Fort Peck, and make a thorough investigation of all the conditions that existed there?

Mr. MACKENZIE. We had a number of men in the Fort Peck area for some time gathering information from all the available sources.

Senator MURRAY. Before you were engaged?

Mr. MACKENZIE. No: after we were engaged. We sent groups to both the Fort Peck and the Idaho sites.

Senator MURRAY. You sent experts to both sites?

Mr. MACKENZIE. Yes.

Senator MURRAY. What experts did you send to the Montana site? Give us their names, and just when they visited the Montana site, and what they did in the course of their investigation.

Mr. MACKENZIE. I don't know if I have that information here. There were quite a number of men involved.

Mr. GRUBB (principal engineer, Smith, Hinchman & Grylls). I don't believe I can give the dates.

Senator MURRAY. Well, can you give us the names of the engineers, qualified engineers, that you say actually visited the Montana site and went upon the ground and made a thorough survey?

Mr. GRUBB. I think I can.

Mr. MACKENZIE. I don't know whether I understand your question just exactly. The conditions at the time we made this investigation did not permit of our walking into the entire site and being able to see what was there, and what the ground looked like, because both sites were covered with snow at the particular time. So we had to go on the testimony of people who were familiar with those sites.

Senator MURRAY. So your report, then, was made up largely of testimony that you received from other parties who went on the site?

Mr. MACKENZIE. That is right.

Senator MURRAY. That would be, of course, hearsay testimony.

Now, who is the witness here, Mr. Chairman? It seems to me that this witness is undertaking to tell us that he had a contract with the Atomic Energy Commission and that that contract required him to make a thorough investigation of these sites that were contemplated by the Atomic Energy Commission. It seems to me that he ought to be able to tell us exactly what he did, what the names of the engineers are, and exactly what they did in the course of their investigation.

The CHAIRMAN. Senator, I agree with you that the testimony should be forthcoming. But, after all, it is a pretty big organization. Here is the president of it, and with him he has an assistant, maybe not his right bower but his left bower, who is supposed to know. And I think he is entitled to get the specific information from his assistants. Do you not think so?

Senator MURRAY. Well, he ought to be able to tell us who the engineers were that were directed by him to go upon the ground, when they went there, and what their report was.

The CHAIRMAN. I do not know whether he feels that he is competent to do that or not.

Mr. MACKENZIE. We can give you the names, but we don't have the information here as to the exact days when each man went to a certain place. We could get that together for the record, but we do not have it here.

Senator MURRAY. I think that is very important. Because the people from Glasgow have furnished affidavits to this committee indicating that these people that represented your firm, that came there for the purpose of making a study of the site, did not actually go upon the site at all. And, as you pointed out a moment ago, the ground was covered with snow. It was at a time of the year when it was impossible for you to make a proper investigation of your own. And you say that you took statements from other parties, and relied upon information which you received from others, with reference to the conditions that prevailed on the ground.

Mr. MACKENZIE. Including consultants whom we employed to give us information as to the geology and the water conditions, and so on, who know that country, and know it very well.

Senator MURRAY. They were not employed by your firm?

Mr. MACKENZIE. Yes; they were employed by our firm.

Senator MURRAY. Give us the names of those.

Mr. MACKENZIE. One is a geologist, Mr. Harold T. Stearns.

Senator MURRAY. Where does he reside?

Mr. MACKENZIE. Hope, Idaho, at that time.

Senator MURRAY. He resided at Hope, Idaho?

Mr. MACKENZIE. Yes.

Senator MURRAY. And you say that he was on the ground, at the Fort Peck project? This engineer?

Mr. MACKENZIE. Yes.

Senator MURRAY. He actually visited this ground at Fort Peck?

Mr. GRUBB. That is right.

Senator MURRAY. And made a thorough investigation of the conditions that prevailed right there on the actual site?

Mr. MACKENZIE. As to what could be done under the conditions.

Senator MURRAY. What was his name, you say?

Mr. MACKENZIE. Harold T. Stearns.

Senator MURRAY. And what did he report, then? Did he make a written report on the conditions that prevailed at the Fort Peck site?

Mr. MACKENZIE. Yes.

Senator MURRAY. And you have that report?

Mr. GRUBB. Yes, sir.

Senator MURRAY. I wish you would present it, sir.

Mr. GRUBB. It is a part of the survey.

Senator MURRAY. Is this your survey?

Mr. GRUBB. Yes; it is.

Senator MURRAY. This whole record, here, is a record compiled by your firm?

Mr. GRUBB. Correct.

Senator MURRAY. For the Atomic Energy Commission? And the report from that engineer from Idaho is included there?

Mr. GRUBB. It is included in the appendix to the survey.

Senator MURRAY. Did he report to you the weather conditions that prevailed in Montana at that time, and did he tell you that it was impossible to get on the ground, and that it was therefore impossible for him to make a study of the conditions?

Mr. MACKENZIE. I don't believe so. I mean, he is a geologist, familiar with the formations, and so on, in that locality; and he reported from his knowledge rather than from any survey of the site at that particular time.

Senator MURRAY. Well, how do you know that he was familiar with the geology in that particular location?

Mr. MACKENZIE. By his reputation as a geologist.

Senator MURRAY. You just assumed that. You assumed, he being a geologist and an engineer, that he knew the conditions there, without having to visit the ground and make a thorough investigation on the ground?

Mr. MACKENZIE. As far as the geology of that location is concerned; yes.

Senator MURRAY. And you were willing to accept his statement on that.

I notice Mr. Stearns' report here in the record that you have referred to, and he points out there that he had no personal experience with reference to the climatic conditions there. That is on page 4 of his statement. He also says in connection with thunderstorms that he had no personal experience. And I see nowhere in this statement does he claim that he had a thorough knowledge or understanding of the geological conditions that prevailed at this site.

The CHAIRMAN. Of course, Senator, it might be observed that any site which you could not approach in the middle of winter because of weather conditions might have something said against it.

Senator MURRAY. Yes; but I would like to have him say it. I would like to have him discover it and say it. Because it seems from our understanding of the case that the Atomic Energy Commission had practically agreed on the Montana site, and it was not until just a short time before Christmas that they began to change their views.

And they hired your firm at that time, Mr. MacKenzie. And apparently the task that you were given was to justify their action in turning down the Fort Peck project and reporting favorably on the Idaho site.

Mr. MACKENZIE. Well, I don't think the proposition was put up to us that way. In fact, I am quite sure it wasn't. We were asked to make a comparative report on two sites. At the time we started the report, I don't believe we had any knowledge at all that there was any question of giving it up, or whether they had made up their minds in any way with regard to the site.

Senator ECTON. In other words, you were to make the survey, and draw the conclusion as to which was the best site?

Mr. MACKENZIE. Right; independent of anything that we might have heard or might not have heard.

Senator ECTON. You were asked to get the facts, and come to a conclusion. Was that it, Mr. MacKenzie?

Mr. MACKENZIE. That is right.

Senator ECTON. In other words, it was your firm that decided that the atomic plant would be at Arco, rather than the Atomic Energy Commission down here.

Mr. MACKENZIE. I don't know that we decided that, quite. I think we would leave that up to the Commission, or the congressional committee, or someone.

But anyway, what we did was to examine these sites under about 14 different categories, or headings of qualifications, and put down the results of our investigation, and give so many points for each site on those particular qualifications, and add up the score.

Senator ECTON. Did you ask anybody, or did you contact any State authority or anybody within Montana who knew something about these various phases which you were investigating?

Mr. MACKENZIE. Oh, yes; many people within the State of Montana.

Senator ECTON. For instance, did you contact the State School of Mines at Butte?

Mr. GRUBB. I don't remember whether that was contacted or not.

Senator ECTON. And did you contact any of the engineers at Fort Peck?

Mr. GRUBB. Yes.

Senator ECTON. We have information to the effect that representatives of your firm did not contact some of the experienced engineers at Fort Peck in regard to this.

Mr. GRUBB. I think your information is in error.

Mr. MACKENZIE. I won't say that. You say you have information that we didn't contact some of the engineers. That may be quite possible. But we did, also, and there is no question about it, contact a number of engineers.

Senator MURRAY. Engineers at the Fort Peck site?

Mr. MACKENZIE. That is right.

Senator MURRAY. Will you give us the names of the engineers that you contacted there and the information that you got from them?

Mr. GRUBB. The only one I can recall right now is Colonel Lee.

Senator MURRAY. Colonel Lee?

Mr. GRUBB. He was the commanding officer, as I recall it.

Senator MURRAY. And you wish this committee to understand that Colonel Lee recommended against the Fort Peck site?

Mr. GRUBB. I do not. We asked him a specific question, which he proceeded to answer to the best of his ability.

Senator MURRAY. What was his answer?

Mr. GRUBB. The question related to the suitability of the Bearpaw shale for heavy foundations. There had been reports that the shale was incompetent, and the experience with some of the construction at the dam was not too good.

Movement had occurred in portions of the spillway, vertical movement of over a foot, presumably caused by swelling of the bentonite contained in the shale.

Senator MURRAY. Did you point out to this engineer the exact site that was about to be selected? I am not talking now about the dam and the conditions prevailing around the dam. I am talking about the location of the site, which was some distance away from the dam. Did you point out to him that location and ask him any questions with reference to the geological conditions there?

Mr. GRUBB. I think the question is misleading to some extent. I would say we didn't know the exact site, and perhaps we still don't know where the individual units are going to be located. We were concerned with the general area, comprising something over 400,000 acres, which is defined in the report.

Senator MURRAY. And in your survey, then, you did not know the exact location of the site that was to be provided for this project.

Mr. MACKENZIE. You cannot make a site plan and locate structures, and so on, relatively, until you have a complete survey of the site, of the particular site, and know the boundaries. And we did not.

Senator MURRAY. You did not have that?

Mr. MACKENZIE. We didn't have that survey at that time, no; on either side.

Senator MURRAY. These conditions that you have referred to in reference to bentonite do not exist at the actual point where this site was to be located?

Mr. GRUBB. We have no information that that was the case. All the information we had was as to the shale over the entire area, or underlying the entire area.

Senator ECTON. Why did you not contact the Geological Survey offices in Helena and Great Falls? They had made a study of those formations out there for years.

Mr. MACKENZIE. We did that; did we not?

Mr. GRUBB. I don't think we did. I think this might clear up the problem. We were concerned principally with the ability of this material to stand up under heavy loads. As a result of our investigation and examination of information, we concluded that it is competent; and we have not penalized the Fort Peck site in any way beyond what had been found necessary to be done in the construction of the dam; namely, to seal the exposed surface of the shale to prevent loss or pick-up of moisture, which results later in a swelling of the material.

There appears to be another minor problem. The shale is somewhat elastic, and the movement of some of the slabs in the dam spillway appears to result from a rebound of the shale following the removal of a large amount of overburden.

Senator ECTON. But it was not penalized on this account? Is that right? Did I understand you correctly?

Mr. GRUBB. That is right. The only penalty we attached to the Fort Peck site, insofar as geology was concerned, was the need for sealing freshly exposed surfaces of shale to prevent this moisture change which results in swelling of the material and consequent movement of whatever is imposed on it.

Representative MANSFIELD. Will the gentleman yield?

According to the Montana Standard for April 24, the Great Falls Tribune of May 1, and the Glasgow Courier, it is stated:

The Montana area was rejected as the site for the atomic reactor station partly because a report declared there was danger from earthquakes and floods. This statement, I understand, is in the statement of Smith, Hinchman & Grylls, the industrial engineers who surveyed the various sites.

On what do you base a statement such as that, which is absolutely fallacious and without foundation.

Mr. GRUBB. Would you read the basis on which it was supposed to be rejected?

Representative MANSFIELD (reading):

The Montana area was rejected as the site for the atomic reactor station partly because a report declared there was danger from earthquakes and floods.

So far as I know, we have never had an earthquake up in that region; though we have had them, and still have them in the region of Helena, which is a good deal closer to Arco. They have had earthquakes in the Pacific Northwest within the past month. But, to my knowledge—and I am sure the delegation can bear me out—there has never been an earthquake in that part of Montana. And, so far as the floods are

concerned, we have minor rises in the water at certain times, during certain years, but nothing of any consequence.

Mr. GRUBB. In regard to earthquakes, we examined the earthquake data for the area, such as it is. It, of course, is not too old. As I recall, it dates back to something like 1880 or 1889. Since that time, it is likely that Glasgow, Mont., was disturbed most by an earthquake which occurred in Saskatchewan in 1909. That appears to be the only quake which probably disturbed Glasgow to any appreciable extent.

Representative MANSFIELD. Senator Murray, you are a few years older than I am. You were in Montana at that time. Do you recall any earthquake in the vicinity of Glasgow or Fort Peck in 1909?

Senator MURRAY. No. I was there then, and I never heard of an earthquake in that area.

Mr. GRUBB. It perhaps didn't exceed an intensity of four or five, which might have been overlooked. In any case, Professor Williams from Logan, Utah, who was retained as a consultant on earthquake hazard, concluded that the Fort Peck area was substantially as safe as any area in the United States. And there was no penalty attached.

Representative MANSFIELD. Why did you go to Utah to get somebody to give you a report on the earthquake factors in Montana, when at the school of mines you have a seismograph and a faculty which is well versed in this particular matter?

Mr. GRUBB. Certainly, a disinterested third party is of more value for our purposes than a partisan.

Representative MANSFIELD. I see.

Senator MURRAY. You think this school of mines would be a partisan institution and would not give you the truth?

Mr. GRUBB. I didn't mean to say that. I said that it would be of more value, and I think that is true.

Senator MURRAY. It would be of more value to take your information from some outside source?

Mr. GRUBB. From a competent third party, by all means.

Senator MURRAY. And, in this instance, who was the competent third party?

Mr. GRUBB. Prof. J. Stewart Williams.

Senator MURRAY. Who?

Mr. GRUBB. Prof. J. Stewart Williams from Utah State Agricultural College at Logan, Utah.

Senator MURRAY. And he advised you, did he, that the Montana location was a dangerous location on the account of the possibility of earthquakes?

Mr. GRUBB. He did not.

Senator MURRAY. What did he tell you?

Mr. GRUBB. He said that the Fort Peck area was as safe as any place in the United States. That is stated in the report.

Senator MURRAY. We are in full accord here. Then, where do you get the information that it was dangerous from that standpoint? Did you have any information of that kind whatever?

Mr. GRUBB. It appears that that is a newspaper fabrication.

Senator MURRAY. You were talking a little while ago about Colonel Lee. Colonel Lee tells us that the tallest and heaviest building in Montana is the powerhouse at Fort Peck.

Mr. GRUBB. I think probably the surge towers at the dam are the heaviest.

Senator MURRAY. The towers?

Mr. GRUBB. The surge towers at the dam, in connection with the powerhouse; yes.

Senator MURRAY. And he told you that no fault or movement has ever occurred at that place?

Mr. GRUBB. That is correct.

Senator MURRAY. So that, from the standpoint of any movement or any danger from conditions of that kind, they do not prevail at all.

Mr. GRUBB. That is right. Except that that powerhouse was conducted with benefit of some earlier experience, wherein it was found that sealing of the shale was necessary.

Senator MURRAY. But, so far as this site was concerned, which is some considerable distance away from that dam, you never got any exact information on that.

Mr. GRUBB. We have no borings.

Senator MURRAY. So that there is nothing to indicate that there would be any danger from erecting buildings on that ground.

Mr. GRUBB. I think that is correct; yes. That is right. We gave this place no penalty on the Fort Peck site because of any supposed incompetency of the soil. We had to go to the bedrock.

Senator ECTON. What did bring forth the penalty for Fort Peck site?

Mr. GRUBB. In respect to geology?

Senator ECTON. Yes.

Mr. GRUBB. Merely the problem of sealing the soil, sealing the exposed shale.

Senator MURRAY. Sealing the exposed shale. That was the only problem?

Mr. GRUBB. That appears to be the only problem.

Representative MANSFIELD. That was the only reason why Arco was selected over Fort Peck?

Mr. GRUBB. No, sir.

Mr. MACKENZIE. Oh, no.

Mr. GRUBB. That is the only reason that we expressed a preference for Idaho in respect to geology.

Representative MANSFIELD. What were some of the other penalties against Fort Peck that you enumerated in your report to the Atomic Energy Commission?

Mr. GRUBB. We considered 12 or 14 points. The first was isolation. The second was security. The third was climate.

Senator ECTON. Let us take them one at a time.

Mr. GRUBB. All right.

Senator ECTON. Your name is Grubb?

Mr. GRUBB. That is right.

Senator ECTON. Of course, you understand, Mr. Grubb, we are not isolationists out in Montana, but we understood that the Atomic Energy Commission wanted a site that was isolated. And we thought that we had 400,000 acres out there that could meet those requirements.

Mr. GRUBB. They do meet the requirements, and they meet them very well. On the other hand, that is just one point of a dozen or more.

Senator MURRAY. Was that a point that was objectionable?

Mr. GRUBB. That was a point that was in favor of Fort Peck.

Representative MANSFIELD. Oh, in favor of Fort Peck.

Senator MURRAY. We are trying to find out from you what are the points upon which you based your rejection, or your recommendation against Fort Peck.

Mr. GRUBB. All right. The second point which we considered, rather briefly, was security, and we expressed no very definite opinion for either one, mainly I think, because we were not competent as to the knowledge of the military problems involved, because that wasn't within the scope of our work.

Senator MURRAY. So you expressed no opinion on that. All right, sir. What was the next one?

Mr. GRUBB. There was a slight disadvantage to Fort Peck in that regard, however, in that it is close to the Canadian border, which introduces some minor problems which you can imagine as well as I.

Senator MURRAY. The fact that it was close to the Canadian border? We do not expect any attacks from Canada; do we? We do not expect the Canadians to come down and attack us?

Mr. GRUBB. I don't think so; no.

Senator MURRAY. They are extremely friendly to us out in Montana.

Mr. GRUBB. That is very fine.

Senator MURRAY. I thought that would be a point in our favor: To have it located close to a border on the other side of which there is a friendly power. It seems to me that you could not find any objection on that, on the fact that it is close to the Canadian border.

Representative MANSFIELD. Furthermore, you have one of the most vital airfields in the United States at Great Falls, and satellite air bases right in the vicinity of the Fort Peck Glasgow area, for protection.

Mr. GRUBB. Perhaps so, sir. As I say, we did not consider security as too important a point in our discussion.

Senator MURRAY. So that does not figure in your report.

Mr. GRUBB. No.

Representative PRICE. It does figure in the report. That was one of the points on which they gave a preference to Idaho.

Mr. GRUBB. The preference was based mainly on the proximity of the Canadian border.

Senator MURRAY. You preferred Idaho?

Mr. GRUBB. Because they were more centrally located.

Senator MURRAY. Because the Montana site was located near the Canadian border?

Mr. GRUBB. That is right.

Senator MURRAY. Well, what is the basis of that conclusion? It seems to me that there ought to be some basis for your conclusion that a site being closer to the Canadian border than the Idaho site would be less desirable. Otherwise it does not hold water.

Mr. GRUBB. Certainly the center is more secure than the circumference.

Senator MURRAY. You think notwithstanding the fact that we have this great Army air base at Great Falls, which has satellites all over the State of Montana, included in this particular area, this location is a danger spot? It is not as secure as the location down in Idaho?

Mr. GRUBB. I am afraid we are talking about very small degrees of difference. I would not like to magnify them any more than they are.

Senator MURRAY. You do not consider that an important point?

Mr. GRUBB. It is not too important, certainly not.

Senator MURRAY. All right.

Mr. GRUBB. The matter of climate was the next factor we considered.

Senator MURRAY. Give us the dope on the climate.

Mr. GRUBB. There are a number of significant figures.

Senator MURRAY. What are they, and where did you get them?

Mr. GRUBB. I do not think you will find them in Dr. Stearns' report. They are taken from the Weather Bureau records for both areas.

Senator ECTON. Havre, in Montana? Is that where you got them?

Mr. GRUBB. By all means, Havre. It might be of interest to know that the highest and lowest temperatures within the history of the weather stations generally around that area were recorded, both of them, at Glasgow, Mont., 35 miles or so from the site. The highest temperature recorded in the area is 113°, I believe, at Glasgow, and the lowest is minus 56° at Glasgow.

Representative MANSFIELD. You recognize the fact, though, that Havre is 200 miles west of Glasgow.

Mr. GRUBB. No; this was Glasgow, sir.

Representative MANSFIELD. But you say you got your figures from the Havre weather station? That is about 200 miles west of Glasgow.

Mr. GRUBB. About 170.

Representative MANSFIELD. Yes. Well, certainly that should not give you a very good indication of the weather, that far away.

Mr. GRUBB. That is true. As I say, our temperature figures are based on Glasgow.

Representative MANSFIELD. On readings in Glasgow?

Mr. GRUBB. That is correct.

Representative MANSFIELD. Did you take your readings in Glasgow and Havre only, or did you take your readings in other parts of the immediate vicinity?

Mr. GRUBB. We took all the stations that were available within a radius, perhaps, of 100 miles or more. Havre is somewhat farther away than that. Glasgow, Malta, Jordan—Jordan is the other side of the reservoir. Malta is up the road a way—and Telegraph Creek, Fort Peck, Havre, and Williston, N. Dak. Williston and Havre, I guess are the farthest away. They are about equally distant east and west of Glasgow.

Principally, our weather analysis is based on Glasgow, and the information that we were able to obtain about that area. The degree day value for that part of the country in Montana is about 85 hundred-degree days, where as for the Pocatello site, it is about 68 hundred. That is quite a significant difference, and is a measure of the intensity or the severity, and the coldness, of the climate.

Senator MURRAY. Do you know that in the construction of the dam there, the contractors worked the year around?

Mr. GRUBB. I wouldn't be surprised. It is quite possible. We work all year around in many places.

Senator MURRAY. I lived in Montana for more than 50 years, and I am also very familiar with Idaho.

Mr. GRUBB. Yes, sir.

Senator MURRAY. I have spent a great deal of my time around Pocatello, Idaho, many, many years ago. And I can see no observable

difference in the climates of both places. They are both cold in the winter.

Mr. GRUBB. True.

Senator MURRAY. And on the whole, they are very satisfactory climates, I think.

These people back here will laugh at that, but I just attended hearings yesterday in which the medical profession were recommending that people go to climates like Montana.

Mr. GRUBB. And Idaho.

Senator MURRAY. It was recommended that they go there to escape from some diseases like arthritis and rheumatism and things like that.

People like the pure air of Montana, which is so conducive to good health that we were able to send more boys to the war in the last war than any other State of the Union in proportion to our population. Did you know that?

Representative MANSFIELD. The last two wars.

Senator MURRAY. That is a fact that cannot be denied.

Selective Service has the proof on that. And it seems to me that you easterners take a great deal on hearsay about these things. You read in the papers about this cold weather out there, but there is a lot of baloney to it, it seems to me. We seem to thrive on it out there, and I know very well that the engineers and the men that worked at that plant out there, worked all year around.

Mr. GRUBB. That is not unusual at any place in the States.

Nevertheless, our analysis is based on the Weather Bureau data.

Senator MURRAY. I see.

Mr. GRUBB. We have already discussed geology, I think.

Senator MURRAY. Then the Weather Bureau data are all that you have that undertakes to show favorable conditions for Idaho over Montana.

Mr. GRUBB. Yes, as far as weather is concerned.

Senator MURRAY. Then what other points have you discovered against the Montana site?

Mr. GRUBB. The next point we considered was drainage.

Senator MURRAY. What is that?

Mr. GRUBB. Drainage.

Senator MURRAY. All right. Give us information on drainage. What are your relative reports on that?

Mr. GRUBB. The soil at Fort Peck—let's say first that we were concerned with problems of drainage only as they might arise in the event of a catastrophe; that is, to have one of these piles burn up.

Senator HICKENLOOPER. I wonder if you would let me interrupt you for just a second?

I did not get here quite in time to hear the witness discuss several of these points. I take it you are going down the line of the qualifications set forth on this sheet.

Senator MURRAY. Yes.

Senator HICKENLOOPER. I did not get to hear him discuss the matter of security. I wonder if you would mind if he repeated in just a few words, why security was classified as "good" at Fort Peck, and "very good" at Pocatello?

Mr. GRUBB. We expressed a slight preference for the southern site because it was more centrally located.

Senator MURRAY. He objected to the site in Montana as being too close to the Canadian border. Apparently he was afraid that our Canadian neighbors might make a sneak attack on us like the Japs made at Pearl Harbor.

Mr. GRUBB. I don't think that was the concern so much as it was that in a site more centrally located the United States would be able to cope on its own with the problem, whereas in the other place there would be a combined problem in which more than one country is concerned.

As I said before, we were not too strongly concerned, too greatly concerned, with security, because we did not have the information which was necessary for a complete evaluation of that phase of the problem. We were asked to express an opinion on the basis of such information as we had, or could develop; and we did. Our opinion was that the Fort Peck site is at a slight disadvantage on account of its proximity to the Canadian border.

Senator HICKENLOOPER. Who in your company has had experience in security matters?

Mr. GRUBB. Regional security, such as this? Nobody. We have had local security problems, such as fencing. We have faced those frequently.

Senator HICKENLOOPER. The reason for the question is: Did you have anybody who was adequately equipped to pass on the question of comparative security between this place and the other place? Security is a pretty technical subject.

Mr. GRUBB. That is true.

Senator HICKENLOOPER. And I take it you do not have anybody in your company that is especially trained in security matters, and qualified.

Mr. GRUBB. That is right. We were asked, however, to express an opinion insofar as we were able to develop it.

Representative PRICE. You just had no one in the organization capable of expressing such an opinion.

Mr. GRUBB. We had one, so far as we were able to develop it. We don't present this as an expert opinion.

Senator HICKENLOOPER. If that is the case, then, I would think in all fairness the question of security ought to be marked out. There would not be any justifiable comparison there one way or the other.

Senator MURRAY. It seems to me the same thing would apply with reference to weather. As I say, in the construction of the Fort Peck Dam, they worked all year around. Many people who have lived in Montana for 50 years have found that weather out there very satisfactory and beneficial, and have found it to be a healthy climate.

Senator HICKENLOOPER. With equal fairness, Senator, I would have to take the position that if they had a long historic weather record at both places, they probably would be in a much better position to give an opinion or evaluation on what would be desirable weather conditions. I merely mention the security business because it is apparent that they did not have anybody in the company who knew anything about security, so I do not think they should have classified it from the standpoint of security. That is just my personal opinion.

Excuse me. I did not mean to interrupt.

Mr. GRUBB. I think that it might be worth while to read the opening paragraph in our section on security.

I quote:

It is not within the scope of this survey to analyze the possibility of attack or the manners in which such attack might be made. The problems of security, and the ability of the armed forces to protect from the land or air attack whatever site is chosen, presented an important factor in the selection of this site. Therefore, it is recommended that the Atomic Energy Commission obtain such an analysis from competent authority which is available to the Commission.

Senator HICKENLOOPER. Well, right there in the first paragraph, you bar yourself from passing any judgment on security at all.

Representative PRICE. I did not mean to cast any reflection on your organization. I meant that you just have not been in this business of passing on security measures.

The CHAIRMAN. You see, the unfortunate part about it is this, as I see it: In the nature of the disqualification, when you admit that you have no competence in the field, then to give it a rating of "good" in one instance, and "very good" in another, casts something of a shadow on your findings on manpower and other things. It is a form of a "by guess and by golly" formula.

Mr. GRUBB. You will recall, sir, that this report was not to decide where the site was going to be, where this plant was going to be. This report was given to the Atomic Energy Commission. And while we were asked to make a selection, it was intended basically to present factual data to enable them, and assist them, in finalizing their ideas on where this was to go.

Senator HICKENLOOPER. Yes, but who set down this classification, here, and gave the ratings? Did the Commission do that, or did you?

Mr. GRUBB. What page are you speaking about?

Senator HICKENLOOPER. I am talking about this page here.

Mr. GRUBB. We did that.

The CHAIRMAN. You see, the Commissioner, when he voted on the site, had this in front of him. And these five men do not have the time to read great thick reports. I presume they leave that to the staff. If they had it handed to them, with your finding on security "good," and "very good," they would think it would be made on an intelligent estimate rather than simply a guess.

Mr. GRUBB. Perhaps so. We felt that that was our opinion, and that it is presented as an inexperienced opinion, perhaps, within the report.

Mr. MACKENZIE. I think it is just our opinion, and that is all; acknowledging that we are not qualified as experts on defense.

Senator MURRAY. Mr. Chairman, my understanding is that the Commission had practically decided that the Fort Peck site was the appropriate site for this project. But it seems that at the last moment they began to think about the recreational and climatic conditions in connection with this, and then they hired this firm.

Senator HICKENLOOPER. Do not forget the night life you mentioned the other day, Senator?

Senator MURRAY. Yes; that is right; the recreational features and wildlife. It is not, of course, the same kind of "wildlife" that you have reference to, Senator.

But my understanding is that this report that you made switched the Commission from Fort Peck to Idaho; and that switch was based upon the conclusions you had given them in your report.

Mr. GRUBB. I do not know that that is the case. So far as I know, no decision had been made by the Commission at the time this project was undertaken.

Senator MURRAY. But they had found all the conditions in Montana satisfactory up until the last moment, when they began to think about the recreational and climatic and social conditions. They talked about how these people that would be brought there would have some esthetic notions about life and wanted to live in more pleasant and agreeable surroundings. And your report seems to have compelled them to conclude that Idaho would be a more favorable location?

Mr. GRUBB. Perhaps it did. But certainly we feel that way.

Senator MURRAY. You think that the Idaho location is a more favorable one. What, then, are the conditions in Idaho that you think are more favorable than those in Montana?

Mr. GRUBB. Climate, geology—

Senator MURRAY. You think the climate in Idaho is so much more favorable than that of Montana?

Mr. GRUBB. I think it is more favorable. I would not presume to measure the difference. Perhaps the best data is the degree-day data. In the case of the one it is eighty-five hundred, and in the case of the other sixty-eight hundred.

Senator MURRAY. And how about the recreational conditions? Is there not just as good opportunity for recreational activities in Montana as there would be down in the other place?

Mr. GRUBB. What sort of recreational facilities do you have in mind?

Senator MURRAY. Well, we have the finest fishing in the world, and we have the finest hunting in the world, and we have a beautiful lake there which is becoming developed for recreational purposes that will, I think, measure up with anything they have around Idaho. We have two national parks located in Montana, and we have dude ranches scattered all over the State which attract people from every part of the world.

Mr. GRUBB. The Idaho area, within an equal radius, with that which you are encompassing, has these parks and one thing and another, and also has numerous natural places of beauty, parks and the like, the Craters of the Moon National Park being not very far away. Sun Valley is nearby.

Senator MURRAY. Nearby?

Mr. GRUBB. Some 80 miles or so?

Senator MURRAY. I think it is much farther than that.

Mr. GRUBB. But we aren't concerned so much with places where somebody can go once or twice a year on a picnic or a hunting expedition, or to go fishing. We are concerned with recreational facilities that a man can take his family to of an evening.

Senator MURRAY. That is exactly what I have reference to. This lake is located within a walk from the site of this plant.

Mr. GRUBB. It is a pretty long walk.

Senator MURRAY. Oh, I do not think so. Just a couple of miles.

Mr. GRUBB. You are speaking of the reservoir?

Senator MURRAY. Yes; I am speaking of the reservoir, one of the biggest inland lakes in the United States.

Mr. GRUBB. Perhaps so. That is still quite a long walk. Where are the people to live?

Senator MURRAY. Well, the people there offer to furnish the housing.

Mr. GRUBB. Build on the shore of the lake?

Senator MURRAY. Build where it would be desirable for these people to live. They offer to provide that, and offer to give a guaranty that they will supply the housing needs of these people on a rental basis from a private source. And you are proposing to have the Government enter the building business and build homes down there for these people, when we can furnish them, by private enterprise, right here on the site of the Fort Peck project.

Mr. GRUBB. In regard to the offer of erecting housing, certainly it is a very generous and attractive offer. Probably also the people of Idaho will be willing to make an equally generous offer.

Senator HICKENLOOPER. Did I not see in the Sunday supplement of last Sunday's newspaper where people are getting ready to get rich out of the promotion there in Idaho?

Senator MURRAY. Prices have jumped up there by the thousands of dollars.

Senator HICKENLOOPER. Land is skyrocketing, and people are selling filling station sites and making big profits there in Idaho.

Representative PRICE. One fellow has already tripled the size of his tavern.

Representative MANSFIELD. That is a very unhealthy situation, which could be corrected by selecting Fort Peck as the site.

Mr. GRUBB. Let me say that this matter of housing certainly couldn't have been evaluated at the time this selection was made, because we had no knowledge of it. Furthermore it even now can't be evaluated, because there are a great many questions that necessarily exist as to how it is to be accomplished, and where it is to go, and many other questions.

Senator MURRAY. You think a more thorough study of the situation now might develop a lot of things that were not thought of at the time the previous studies were made?

Mr. GRUBB. No, sir; I don't propose that. I am not saying that.

Senator MURRAY. You are not saying that?

Mr. GRUBB. I am saying that the offer of building houses can't be evaluated on the basis on which it is now made.

Representative PRICE. In your social factors, have you included the matter of housing?

Mr. GRUBB. Yes, sir.

Representative PRICE. What else was considered in your social factors?

Mr. GRUBB. Housing, recreation, the number of people there now, and the ability of the existing communities to serve the people and absorb them.

Representative PRICE. What factors did you find at the time of your survey in connection with housing at the two sites?

Mr. GRUBB. I think at Glasgow, it was concluded that substantially all of the homes needed for personnel, permanent personnel, would have to be provided by somebody. At Pocatello, it was assumed that probably 25 percent of the people, of the families moving in, would be absorbed by existing communities, and the other 75 would have to be provided for.

Senator MURRAY. Pocatello is 75 miles away from this Idaho site.

Senator ECTON. How could they live at Pocatello and work at this site, some 80 miles away?

Mr. GRUBB. It could be done by providing transportation.

Senator MURRAY. That would be 160 miles a day, then, going and coming.

Mr. GRUBB. Well, Pocatello isn't the only place that could absorb people. Blackfoot and Idaho Falls are both much closer than Pocatello is. Blackfoot is 47 miles, or so, just under 50, and Idaho Falls is, I guess, a little over 50.

Representative PRICE. The nearest settlement of size is at least 47 miles away from the site?

Mr. GRUBB. Well, Arco is the county seat. There are about 600 people there, or thereabouts. And Blackfoot has some four or five thousand.

Fort Peck is not, I think, a suitable place to expand a large civilian population. It is a Government reservation.

Senator MURRAY. We had 20,000 people there during the construction of the dam.

Mr. GRUBB. Yes; but they were all associated with the dam, the construction of the dam.

Senator MURRAY. Yes. But we supplied housing for them. And it was a situation in which a good many of the workers lived right in Glasgow. Only a small portion of them lived at the site of the dam.

Mr. GRUBB. Well, first let's say there are two classes of people for whom homes have to be provided. One is the construction workers and the other is the permanent employees of the station.

We have assumed that in both places, a large construction camp will have to be built, and probably temporary housing of one sort or other will be brought direct.

Representative PRICE. Mr. Grubb, you estimate that at the Fort Peck site 100 percent housing requirements would have to be met by new construction.

Mr. GRUBB. Yes, sir.

Representative PRICE. And you say that at the Arco site about 25 percent can be absorbed by an existing housing facility.

Mr. GRUBB. Yes, sir.

Representative PRICE. All right. How much of that 25 percent would be as far away from the site as Pocatello?

Mr. GRUBB. I wouldn't presume to say; probably a very small portion of it.

Representative PRICE. You say they can absorb in that community right now 25 percent of the new people that would go in there, for permanent residence?

Mr. GRUBB. We estimate in the area around there some 25 percent could be handled. Now, that includes a half a dozen communities, all of which are as large as or larger than Glasgow.

Representative PRICE. But none of them within 50 miles of the site?

Mr. GRUBB. They are for the most part within 50 or 60 miles; yes, sir.

Senator ECTON. What are some of the other factors that you made the final decision upon, Mr. Grubb?

Senator HICKENLOOPER. I think it would be helpful if you would just take this list and go right down, in each category, stating why the rating was made.

Representative PRICE. I think you skipped over a few. We were on drainage, and then we got into social factors.

Mr. GRUBB. Drainage is the next one; the one that we stopped at.

Senator HICKENLOOPER. Is that all right, if they just go down the line that way?

Senator ECTON. That is what we want.

Mr. GRUBB. As I was saying, we were concerned, with respect to drainage, with a catastrophe, not with the handling of the normal discharge from this plant. That will be presumably retained; or, if there is contamination, there would be no problem involved, perhaps, at any place in the country.

In the event of a catastrophe, however, we could visualize the sudden liberation of a large amount of radioactive material. We visualized also that that would present a very serious hazard to the Missouri-Mississippi waterway, since the Fort Peck area, the dam, is well up along the waterway.

Now, at Pocatello, the occurrence of such a catastrophe would produce material which would drain off into the ground.

Senator ECTON. Do they not have underground rivers and streams in that Idaho territory?

Mr. GRUBB. That is right. The lava underneath is honeycombed, and porous and broken up, and carries a great deal of water.

Senator ECTON. Well, would that not be dangerous?

Mr. GRUBB. It would, to some extent. However, because of the time factor, through which the water is held in the ground, the effect would be minimized, since a lot of dilution could occur before it would appear many miles downstream from the occurrence of the catastrophe.

Senator HICKENLOOPER. Is not the land there in Idaho composed of a cracked-lava formation?

Mr. GRUBB. In some places lava is exposed, and in others it is covered with 5, 10, 20, or 30 feet, in places, of sand and clay.

Senator HICKENLOOPER. I just mean that this water goes right down through the lava until it hits bedrock formation, and then washes off into another stream.

Mr. GRUBB. It presumably would join the underground water table, which moves in a southwesterly direction at a very slow rate of speed. The discharge of radioactive material into it would be diluted many times in the period of the years before it would be discharged into any open stream.

Senator HICKENLOOPER. What technical advice did you have on that within your organization in order to be able to evaluate how rapidly or how slowly radioactive substances would be dissipated in the ground? Did you have anybody in your organization capable of making that kind of analysis?

Mr. GRUBB. I would say "no." However, that was not precisely the question here. In one case, we were concerned with a soil which did not absorb anything, but which was conducive to a very rapid run-off, because the surface of the soil at Fort Peck is pretty impervious. In this gumbo clay, the run-off would be pretty rapid. In the other case, we had a soil of a condition which permitted the water, or whatever

material it was, to go directly down and not spread out over a large area.

Senator HICKENLOOPER. But what I am trying to get at is what reliable evaluation of the qualities of radioactive material that might in some catastrophe be dumped on this ground was at your disposal. Did you have somebody in your organization capable of evaluating that, and saying that there was any more danger when surface water runs off into a stream than when surface water soaks down through the ground? Do you know whether the soaking through the ground will in fact filter out radioactive materials out of water?

Mr. GRUBB. We don't know. I don't know that anybody could answer that question specifically.

The CHAIRMAN. Wait a minute. Maybe it can be answered. [Reading:]

In the event of the falling apart of a reactor, fission products and primary fuels will be scattered some distance. At Arco this material will percolate into the lava beds—

I might say I am reading from a memorandum. I do not endorse it as to accuracy, except that it comes from someone who has some qualifications.

At Arco this material will percolate into the lava beds and reach the Snake River 75 years later, according to the Smith Hinchman & Grylls report.

Senator HICKENLOOPER. Seventy-five years?

The CHAIRMAN. Yes.

according to the Smith, Hinchman & Grylls report.

Continuing:

By this time most of the short-lived fission products will have been dissipated, it is true, but the tons of primary fuels, uranium, or plutonium (which are extremely dangerous in even small concentrations when taken internally) will not lose their radioactivity for thousands or million of years. Seventy-five years will have no effect on their potency. How has the Commission decided to control these contaminating products underground where they will be flowing down old channels of the Snake River? What if my previous testimony regarding a show of coliform contamination in the Thousand Springs area proves correct, and fission products only take a very short time to reach the Snake River?

At Fort Peck, the Smith Hinchman & Grylls report has stated that the soil is impervious. That is a distinct advantage to Montana's site. In the event of the falling apart of a reactor there, the fission products and the primary fuels would remain on top of this impervious surface. As the site is on top of a table of land with no water drainage into the area, a simple 2-foot retaining wall would prevent any possible leakage of whatever meager rainfall might occur and the flooding of the area with oil after the catastrophe would insure its protection from any winds. After a few month this area would be a valuable uranium mine which could be worth millions of dollars. The uranium or plutonium could be collected and reused to good advantage, and no danger of any kind would accrue to man or beast.

What do you say to that?

Mr. GRUBB. I think it is an oversimplification of the problem?

Senator MURRAY. You have already stated, though that you did not have anybody in your firm competent to make this analysis.

Senator HICKENLOOPER. That 75-year business is what surprises me. How far is it from the Snake River?

Senator MURRAY. It is a very short distance. I do not know the exact mileage. Does anybody here have that?

Mr. GRUBB. It is about 150 miles.

Senator MURRAY. It would not take 75 years to go that far, I should think.

Representative MANSFIELD. Following up the same question which you raised, and maybe quoting the same individual, according to the Montana Standard of May 1, 1949, Mr. R. L. Ewing, highway commission district engineer at Wolf Point, Mont., informed Mr. T. J. Hocking, Glasgow publisher, that—

all of southern Idaho could be endangered by radioactive waste waters—

I will give the remainder of this material to the reporter for insertion in the record.

(The material supplied is as follows:)

According to the Montana Standard, May 1, 1949, Mr. R. L. Ewing, highway commission district engineer at Wolf Point, informed Mr. T. J. Hocking, Glasgow publisher, that "all of southern Idaho could be endangered by radioactive waste waters which the Atomic Energy Commission claims would be dumped down cracks in lava beds at the Arco, Idaho, site of the AEC's atomic reactor plant."

Mr. Ewing contends that "radioactive waters could be controlled easily at the proposed Glasgow site by low reservoirs, where gumbo bottoms are impervious and water would not seep away."

I request the committee to check a statement carried in the Montana Standard, April 24, 1949; Great Falls Tribune of May 1, 1949, and the Glasgow Courier to the effect that "the Montana area was rejected as the site for the atomic reactor station partly because a report declared there was danger from earthquakes and floods."

This statement is in the report of Smith, Hinchman & Grylls, the industrial engineers, who surveyed the various sites for the Atomic Energy Commission. There is, of course, no foundation of fact in this statement by the industrial engineers but I am calling it to the attention of the committee and requesting, in behalf of the people of Montana, information as to why and how this conclusion was arrived at.

Senator HICKENLOOPER. Mr. Chairman, if I may suggest, we are getting into this question of contamination. I believe it ought to be emphasized that if there were any real anticipated danger of contaminations or blow-ups or anything of that kind, we would not be building these plants with nearly so much freedom. The fact is that the contamination in the ground that we are talking about is only the almost unforeseeably remote possibility that some accidental thing might happen. The probability is extremely remote, and I do not think we would urge reactor plants being built at either of these sites if it was going to contaminate the ground for miles around.

Senator MURRAY. It is a well-known maxim that the impossible sometimes happens.

Senator HICKENLOOPER. The only reason I said this is that I thought maybe we might be in our conversation creating a suggestion, Mr. Chairman, that there was great danger. The danger is in fact extremely remote. It is one to be considered, of course.

Senator MURRAY. I understood there were a lot of springs in this area, there, and they do not know where the spring water comes from.

Now, if these radioactive particles are going to get into those springs, what is going to happen down there? It seems to me that is a pretty serious problem. That is a well-known fact: that there are all kinds of springs in that neighborhood that are used by the people there.

Did you get any information about that?

Mr. GRUBB. That there were springs there?

Senator MURRAY. Yes.

Mr. GRUBB. Certainly. We know they are there.

Senator MURRAY. Then what about the danger of contamination of those springs as a result of these radioactive particles?

Mr. GRUBB. The best information we could obtain, I will say first, is that the rate of flow of the water through the ground is very slow. According to the best sources of information that we have, the average is perhaps a half mile a year. In the event of a catastrophe, such fissionable products might be expected to join the underground water table and flow through these natural outlets, the springs along the banks of the river, and at the same time considerable dilution would occur and the effect would be greatly minimized.

The CHAIRMAN. Senator, I think Senator Hickenlooper is entirely correct in insisting that the probabilities of any contamination due to catastrophe, to which, of course, we are directing our attention, are very remote. The big point to me is that drainage has been listed as one of the factors. It turns out that it is a very slight factor indeed.

Of course, we do not know what percentage, if any, was allocated by you to this factor, as a percentage of your decision; how you weighed it. But certainly as to your rating of "fair" or "good," it did not weigh very heavily in your decision and recommendation.

Mr. GRUBB. Perhaps not too strongly. I think it should be said again, as was the case with security, that we did not consider ourselves wholly competent to judge this, and the Commission itself would have to weight it in any manner they saw fit. How heavy a weight they placed on it, I do not know.

Representative DURHAM. Did you visit any of the other plants that are operating at the present time?

Mr. MACKENZIE. I have been to two of them, but not from the standpoint of studying or learning anything about them. I merely saw the office at the gate, and that is about all. We are not familiar with the internal lay-outs.

Representative DURHAM. It probably would have been helpful to you in deciding some of these factors, because we have had drainage problems, and we have had contamination problems, and so far we have had no accidents.

Mr. GRUBB. That is right, sir.

The CHAIRMAN. Mr. Grubb, in an effort to speed this thing up: Who made this listing of these factors? Who listed these factors for you to arrive at a formula? Yourselves?

Mr. GRUBB. I think it can be said that we prepared this list from a list of factors that was specifically mentioned in the contract under which this work was performed.

The CHAIRMAN. Well, let us quickly go through the list for the factors that you adjudge to be of importance. Isolation certainly is one.

Mr. GRUBB. And climate.

The CHAIRMAN. Climate. Security is out, because you were not competent. Climate, you think, is important. Geology?

Mr. GRUBB. Yes.

The CHAIRMAN. That is important. Drainage?

Mr. GRUBB. I think it is important; yes.

Senator HICKENLOOPER. I have marked drainage off my list, Mr. Chairman, because they say that they are not competent to judge the drainage factor.

The CHAIRMAN. I think you are right. Water supply?

Mr. GRUBB. That is important.

The CHAIRMAN. Well, they are both marked "very good," so we can mark that out.

Mr. GRUBB. It is even.

The CHAIRMAN. Manpower?

Mr. GRUBB. It is very important, but neither one had a very high rating.

Senator MURRAY. We can furnish all the employees you want. We did at Fort Peck; 20,000.

The CHAIRMAN. Let us continue the list, and then go back.

Senator HICKENLOOPER. I wonder if he would care to specify why he listed one in one way and one in another?

Mr. GRUBB. I would like to make a comment on the offer of the Montana people to supply all the labor needed in this project. It is anticipated that a labor total of some 10,000 people will be required in the construction of this plant, construction people. The Labor Department records for the State of Montana show approximately that number of construction people for the entire State, and within a 200-mile radius of Glasgow there are available less than 4,000 construction workers.

Senator MURRAY. But we have them in the State of Montana, and we are accustomed to traveling out there, so a little distance of a few hundred miles to get a job is not going to hurt anyone.

Mr. GRUBB. I think the point is that the total number of construction workers available within the State is barely in excess of the amount that would be required for this project.

Representative PRICE. Does not the construction contractor bring the workers in from all over the country?

Mr. GRUBB. Most assuredly. And we recognize that both places will have to draw on distant points for their labor supply.

The CHAIRMAN. Then why did you make it "poor" in the case of Fort Peck and "fair" at Pocatello?

Mr. GRUBB. Pocatello has a larger number of construction workers resident within a 200-mile radius of the site, approximately two and a half times as many as are available within the corresponding radius around Glasgow.

The CHAIRMAN. How many in the 200-mile radius?

Mr. GRUBB. At Pocatello? About 10,000. At Fort Peck, less than 4,000.

Furthermore, Salt Lake City, which is a fairly large city, is about 200 miles distant, or slightly over.

In addition, within a radius of a hundred miles around the Pocatello site, there are a fairly large number of fair-sized communities.

Senator ECTON. Did you confer with the heads of the labor organizations in Montana on this labor situation?

Mr. GRUBB. I believe we did.

Senator MURRAY. Did you contact the State unemployment compensation commission?

Mr. GRUBB. I believe we did. I won't be specific, though. I can't be.

Senator MURRAY. They made a serious study of the labor sources, and guaranteed 10,000 workers, and we now have on the unemployed rolls in Montana three or four thousand people.

Mr. GRUBB. Perhaps so. But surely they are not all construction workers. The nature of the industrial work in Montana and in Idaho, too, perhaps, is that it is dependent to some extent on agricultural production, and such work is necessarily seasonal. Perhaps later

in the year, when agricultural products are being processed, you won't have such a large number of unemployed?

Senator MURRAY. I cannot see that that is an important factor, because whenever we have had occasion to require a great number of workers for a project, we have had no difficulty in getting them. We have 3,000 working up at Hungry Horse Dam now.

Representative MANSFIELD. And we will have pretty close to a thousand at Canyon Ferry very soon. We have a surplus of labor in the Hungry Horse area. We can take care of them. They are construction people who have come in looking for jobs, and of course, as far as the situation at Glasgow-Fort Peck is concerned, we would have no trouble at all getting the necessary labor.

Mr. GRUBB. I think you could make the same general sort of statement about Pocatello.

Senator MURRAY. Then it ought to be a 50-50 proposition here.

Mr. GRUBB. On the basis of the survey, Pocatello is far superior.

The CHAIRMAN. How about materials?

Mr. GRUBB. I would say in regard to materials that we don't know, except in a general way, what is going into this plant. Cement, steel, concrete aggregate, and the like are certainly going to be used in large quantities, as well as steel in many forms—pipe, fence, reinforcing steel, and structural steel. For most of those items there are points of supply closer to Pocatello than is the case with Fort Peck.

Consider for a minute a couple of them. The source of supply for concrete aggregate for the Fort Peck Dam was Cole, Mont., which is some 40 miles or so from Glasgow, I believe it is.

Senator MURRAY. I understand at the last hearing a statement was submitted showing the access to raw materials that will be needed in this work. I have no recollection of what the facts are, but they are in the record here.

Mr. GRUBB. I don't know that we have had time to read your exhibits too carefully, but let me say that in the case of the Fort Peck Dam the aggregate was taken from Cole, Mont., from the deposit at Cole, Mont., some 40 miles distant from Glasgow. At Pocatello aggregate is available substantially on the site. Within the area there are numerous pits where gravel has been screened and is being used. All the gravel that was used in the Navy installation was obtained locally and on the site.

Representative MANSFIELD. What about cement?

Mr. GRUBB. Cement? We were informed by the cement plant at Trident, which is the obvious source of supply for the project at Fort Peck, that they are pretty well tied up. They are committed to the Hungry Horse Dam for the next 2 years.

Representative MANSFIELD. We have a cement plant at Lewistown, as I recall, and also Henry Kaiser came into Montana last year in the vicinity of Helena. He is contemplating setting up a \$6,000,000 plant for the manufacture of cement.

Mr. GRUBB. Perhaps so. Those plants don't produce too much cement.

Representative MANSFIELD. But he has a lease on all the ground and he is a go-getter and he could put the stuff out if there was a market for it in Montana.

Mr. GRUBB. Be that as it may, building that is not an overnight job, and we were concerned with sources of supply—existing sources of supply.

At Idaho, there is a plant at Inkom, which is just outside Pocatello—quite a bit closer.

Senator MURRAY. We had an expert here at the hearings we held a short time ago, Mr. Brown, who said that all of these materials would be supplied more easily and cheaply at Fort Peck.

Mr. GRUBB. I don't think that is a fair statement of the facts.

Senator MURRAY. I beg your pardon?

Mr. GRUBB. I don't think that is a fair statement of the facts. I don't think that is quite true.

Senator MURRAY. You think this man, Mr. Brown, was not telling the truth at that time?

Mr. GRUBB. Perhaps he was mistaken.

Senator MURRAY. He certainly impressed us as being a man who knew what he was talking about. He was familiar with the conditions around there, and spent a great deal of time in that area, whereas you people have only spent a few hours at Fort Peck and Glasgow.

Mr. GRUBB. Or days.

Senator MURRAY. It seems to me that a man who lives in that area and has reason to know these facts would be more reliable than someones who comes from Detroit, Mich.

Senator ECTON. Is it not the truth, Mr. Grubb, that to have written this report you would not even need to have gone to Glasgow or Fort Peck?

Mr. GRUBB. No; I don't think so. It is not true.

Senator MURRAY. Well, your trip to Glasgow did not do you any good. Here is an affidavit from Montana that says:

Paul J. Campbell, of Glasgow, Mont., being first duly sworn on oath, deposes and says:

That he is now, and for more than 10 years immediately prior to signing this affidavit has been, the manager of the Glasgow Hotel, of Glasgow, Mont.; that affiant further declares that the registration cards appearing below and bearing the respective names of Frank L. Couch, of Detroit, Mich., and Donald H. Maxwell, of Chicago 6, Ill., are exact copies of the original registration cards appearing of record in the files of said Glasgow Hotel; that affiant made the said copies appearing below herein.

So here are the registration cards, which show that you were there for 1 day, on the 13th of January. And the climatic conditions were such that you were unable to visit the actual site of the project.

I have another affidavit here from Montana by Mr. Charles E. Myers. It says:

That affiant is now, and has been for more than 2 years, the manager of the Texaco service station located at Fort Peck, Mont.

That on or about the 13th day of January 1949, a certain Mr. Donald H. Maxwell hired affiant to drive him from Fort Peck, Mont., to a place Mr. Maxwell referred to as "the Willow Creek area"; that at about 9 a. m., on said day, affiant and Mr. Donald H. Maxwell left Fort Peck, Mont., by automobile and followed the route set out by affiant in red pencil on the attached map; said map bearing affiant's signature, and herewith incorporated as a part of this affidavit; that affiant and Mr. Maxwell returned at noon of said day.

That at no time during the afore-mentioned trip did affiant drive Mr. Maxwell north of the route set out in red pencil on said map, nor did Mr. Maxwell request him to do so; that when affiant had driven Mr. Maxwell to the vicinity indicated by the most southwestern red dot on said map, he was instructed by Mr. Maxwell to return to Fort Peck, for they had "gone far enough."

And the map shows that you have not reached the site of the so-called project.

Mr. GRUBB. How do you know what the site is?

Senator MURRAY. Well, the site is marked right here on the map, where they are proposing to locate it. Here it is right here.

Mr. GRUBB. Where does that information come from, sir?

Senator MURRAY. It comes from the people in Fort Peck who were undertaking to show where this site could be located on Government land.

Mr. GRUBB. Substantially all of that enclosed within your red line is Government land?

Senator MURRAY. Yes.

Mr. GRUBB. The specification for the site location, I am quite sure, however, is in error.

Representative PRICE. How much actual time has been put into this survey?

Mr. GRUBB. How much time?

Representative PRICE. Yes.

Mr. GRUBB. That is difficult to answer. We have had somewhere around 15 people for 2½ months.

Senator HICKENLOOPER. How much actual time was spent in Montana, by anybody? I mean in connection with this.

Mr. GRUBB. Three people drove within the general site boundary.

Senator HICKENLOOPER. How much time did they spend there?

Mr. GRUBB. At least a day, and some of them 2 days, but I cannot now remember and state definitely.

Senator HICKENLOOPER. How much time was actually spent on the ground of the proposed site in Idaho?

Mr. GRUBB. About the same.

Senator MURRAY. You have included a map or plat in the record here, which purports to show the location of the site.

Mr. GRUBB. It shows the site boundary.

Senator MURRAY. The site boundary. And this plat that I am showing you here is right at that point where you assumed the site should be located?

Mr. GRUBB. That was an assumed center of the site, I believe, which we had to use for purposes of establishing characteristics of the area within certain radii of that point. That point does not indicate that a reactor or a number of reactors would be erected at that location. Presumably they would be spread throughout the area.

Senator MURRAY. But it would be in that immediate vicinity?

Mr. GRUBB. Not necessarily, sir.

Senator MURRAY. Where would they be then?

Mr. GRUBB. Anywhere within that area.

Senator MURRAY. Anywhere within the area. Anywhere within this area that is marked on your plat?

Mr. GRUBB. Within the whole large area. That is right.

Senator MURRAY. And that entire area is in the vicinity of Glasgow?

Mr. GRUBB. Correct.

Senator MURRAY. And it is the place where you went to investigate and were not able to investigate because of the climatic conditions, the snow on the ground?

Mr. GRUBB. There are many things which you can determine about an area, which you can learn regardless of whether it is covered with snow, or raining, or the sun is shining.

Senator MURRAY. I see.

Senator HICKENLOOPER. Mr. Chairman, at this point, in view of the statement that the witness made that 1 day was spent in the vicinity of Fort Peck, or maybe 2 days, and that about the same time was spent in the vicinity of the location at Idaho, it seems to me that there should be some criticism directed at somebody who will take a survey of 1 day, or 2 days at the outside, at a place where we are proposing to build installations of great permanence, and that will cost millions upon millions of the public money.

I am not saying that the survey did not spend adequate time there, necessarily, but it seems that the physical examination of the ground at each place was certainly a lick and a promise. Maybe it was not. Maybe my criticism is unfair. But it certainly indicates an extremely short time to examine two tremendous areas with all the factors of geology and drainage and all the other matters involved, upon which a decision for millions of dollars worth of installation of a vital public project is based.

Mr. GRUBB. I think my remarks were not completed, sir.

Senator HICKENLOOPER. I am sorry.

Mr. GRUBB. I was saying that three of our people went within the site boundary, insofar as they were able to, considering the weather.

Senator HICKENLOOPER. Well, right there: How much time did they spend within the site boundary?

Representative PRICE. And what were their qualifications? Were they engineers?

Mr. GRUBB. Geologists and hydrologists.

Senator HICKENLOOPER. How much time did they spend within the site boundary?

Mr. GRUBB. Each one, the better part of a day.

Senator HICKENLOOPER. Did they go in there separately, or together?

Mr. GRUBB. I think they went in together, or at least in two parties.

Senator MURRAY. Were they driven in by this man who makes this affidavit here?

Mr. GRUBB. I do not know.

Senator HICKENLOOPER. There was the better part of a day spent within the site boundary by perhaps three men at the Fort Peck area?

Mr. GRUBB. That is right.

Senator HICKENLOOPER. How much time was spent within the site boundary, or the proposed site boundary in Idaho, and how many men were there?

Mr. GRUBB. About the same amount of time.

Senator HICKENLOOPER. So that the better part of a day was spent looking over the general physical site of the area in Idaho.

Mr. GRUBB. Yes.

Senator HICKENLOOPER. Then I withdraw my statistics in my calculation of a while ago, and I will say that it is even less time than I thought to have been spent.

Mr. GRUBB. They were concerned, however, with only one phase of the problem. That was geology and the general topography of the land. Other persons who were concerned with other phases of the problem were also in each of the areas.

Senator HICKENLOOPER. As I understand it, the snow was on the ground up there, was it not?

Mr. GRUBB. That is right.

Senator MURRAY. Mr. Chairman, I understand that Mr. Shugg of the Commission, and Mr. Warner and Mr. Stearns, the geologists, never went on the ground, never visited the Fort Peck site at all. It seems to me that they should have gone there themselves and visited the proposed site. It seems to me they were competent people to make a personal investigation of this situation, and that they should have gone there themselves.

Mr. GRUBB. Mr. Stearns was on the site.

Senator MURRAY. Mr. Stearns was on the site? When was he on the site?

Mr. GRUBB. At about that time.

Senator MURRAY. My understanding is, from the last hearing, that none of them were on the site.

Mr. GRUBB. I do not recall that point being raised.

Senator HICKENLOOPER. Mr. Johnson, on behalf of the Commission, made a survey in the Fort Peck area.

The CHAIRMAN. Well, gentlemen, we have covered the social factors, have we not? There has been some discussion about the recreational factors. Now, on the matter of the land, since it is very good for both of them, that would seem to be out. Cost would seem to be the next item, in which it is fair for Fort Peck and good at Pocatello.

Senator MURRAY. I do not see how it could be good at Pocatello if it is going to cost the Government more to locate the site at Pocatello. I do not see how you could regard that as good unless spending the public funds unnecessarily is regarded as good.

The CHAIRMAN. Let us have Mr. Grubb give his classification, of course, if he can, as quickly as possible.

Mr. GRUBB. Let's say first that we were familiar only with the general nature of the facilities to be erected. We had seen no drawings at this time. We knew, of course, as we have already said, that large quantities of concrete, steel, reinforcing steel, and the like, were to be used. We formed some idea, within our own organization, and one of our men who was competent at estimating, at judging these factors, went into the field, to discuss with contractors who have worked in both areas, the difficulties which might be encountered, considering the availability of materials, manpower, climate, housing, and the like.

The consensus of all opinions was that the construction would cost more at Fort Peck.

The CHAIRMAN. You made a very exact dollar estimate of the difference, did you not?

Mr. GRUBB. We evaluated those differences as a 91½ percent difference favoring Pocatello.

The CHAIRMAN. Can you give us the list of factors that went into making that estimate?

Mr. GRUBB. Well, certainly. Those factors were labor, availability of construction materials—

The CHAIRMAN. Labor, I should imagine, would be about the same in both places, would it not? Do they work cheaper at Pocatello, than they do at Fort Peck?

Mr. GRUBB. Published labor records were about the same. The experience was that turn-over of labor was somewhat higher in Montana, resulting in a higher cost.

The CHAIRMAN. That is No. 1. No. 2 was what?

Mr. GRUBB. Availability of construction materials.

The CHAIRMAN. How did you work that?

Mr. GRUBB. That was favoring Pocatello. The third related to excavation. It was felt that the excavation, removal of overburden, was somewhat simpler at Pocatello, and on the other hand at Fort Peck the matter of sealing the freshly exposed shale would be necessary. We rated that item in favor of Pocatello.

The fourth item was nearness to existing railroads and highways.

The CHAIRMAN. That comes under transportation, does it not?

Mr. GRUBB. Well, it is a factor in construction costs.

The CHAIRMAN. Yes, that is right. It would be.

Mr. GRUBB. At Pocatello, the railroad and highway both run through a corner of the site. The construction of roads there is not too difficult, and it would appear that there is some advantage to Pocatello in that case again.

Representative MANSFIELD. May I interrupt, there, Mr. Chairman?

Glasgow is on a main line. You have good highways out there. The Arco site is not on a main line, and I do not think your roads down there would compare to what we have in the Fort Peck-Glasgow area. So I do not see where you get the advantage there.

Mr. GRUBB. The roads at Pocatello enter the site right now.

Representative MANSFIELD. What kind of roads are they?

Mr. GRUBB. Well, U. S. 20 from Blackfoot to Arco is a good hard-surfaced road.

Representative MANSFIELD. Is it paved?

Mr. GRUBB. Yes, sir.

Representative MANSFIELD. All right. But you have Arco 87 miles away on a branch line from Pocatello. And Glasgow is right on the main line.

Mr. GRUBB. Perhaps so. I don't think that makes too much difference as to the railroad, though.

Senator MURRAY. We had a rate expert here at the last hearing who testified, and he said there would be a big saving on freight costs by selecting the site of Montana.

Mr. GRUBB. Yes, I recall that he said that. Further analysis will not, I believe, prove his case.

Senator MURRAY. I think we would say that with reference to your testimony.

Mr. GRUBB. Perhaps so.

Senator MURRAY. And with reference to your report; and if we got another group of engineers to follow your tracks, I think we could disprove about 98 percent of your report.

Mr. GRUBB. You are welcome to try, sir. I don't believe that would happen.

Senator MURRAY. You would be surprised to see what these experts do to each other. I have had a lot of experience with them.

The CHAIRMAN. Does that conclude your costs statement?

Mr. GRUBB. No, sir. There are several other items. One of them, the fifth item, is the possibility that a construction camp, which is

located near Pocatello, could be utilized in the present case, was mentioned but not evaluated.

The sixth item is the general character of the site and it was such that it would involve less expense for site clearance and drainage.

Opposed to those items there was one which favored the Fort Peck site, and that was the added expense for excavating lava at Pocatello.

The CHAIRMAN. Did you assign a percentage to each of these factors that aggregated  $9\frac{1}{2}$  percent?

Mr. GRUBB. I didn't understand you, sir.

The CHAIRMAN. Did you assign a percentage to each one of these factors that in sum total aggregated  $9\frac{1}{2}$  percent?

Mr. GRUBB. That is correct.

The CHAIRMAN. Will you read them and give us the percentage?

Mr. GRUBB. Item 1, labor, was 5 percent, favoring Pocatello. No. 2 was 4 percent.

The CHAIRMAN. What was 2?

Mr. GRUBB. Number 2 was availability of construction materials.

The CHAIRMAN. Four percent?

Mr. GRUBB. Yes. Three, a matter of excavation and sealing of footings, sealing of excavations was 2 percent. Four, relating to roads and highways existing and in the site, was 1 percent. Five was not evaluated. Six related to general character of the site and site clearance and drainage, 1 percent all favoring Pocatello. And item 7, the matter of added expense for excavating in lava was  $3\frac{1}{2}$  percent in favor of Fort Peck.

The CHAIRMAN. That makes an aggregate of  $9\frac{1}{2}$  percent?

Mr. GRUBB. Nine and a half percent.

The CHAIRMAN. Let us leave transportation for a moment and go to fuel. We will come back to transportation.

How about fuel, now? That is "fair" for Fort Peck, and "good" for Pocatello.

Mr. GRUBB. Our analysis of fuel was based on availability of various grades of coal and the delivered cost. In the cast of Fort Peck, it was found that the lowest-priced fuel on a B. t. u. basis for the quantity of steam required was about \$2,800 per day. At Pocatello, the amount of fuel required on the same basis was \$2,000 a day.

The CHAIRMAN. Let me read you a short paragraph from this memorandum:

According to the Smith Hinchman & Grylls report the laboratory will need 6,320,000 cubic feet of gas daily.

Mr. GRUBB. Of gas? Yes, sir.

The CHAIRMAN. I suppose that is coal equivalent. Do you not think so?

Mr. GRUBB. I presume it is. I don't know that we made any such statement in the report.

The CHAIRMAN (reading):

For good measure, we have brought in a well which produces 51,500,000 cubic feet of gas daily at a depth of only 1,420 feet. An immediate expansion is going forward improving the total potential of this field, but it can be said now that the nuclear reactor laboratory can have the cheapest, cleanest, and most efficient fuel in America, Montana natural gas, at Fort Peck, Mont.

Do you know anything about that?

Mr. GRUBB. Well, this 6,320,000 cubic feet is the equivalent amount of gas compared to the amount of coal which was required.

The CHAIRMAN. Mr. Skibbins tells me that field has just been brought into being since the last time we met here on this subject.

Mr. GRUBB. I see.

The CHAIRMAN. I presume, therefore, you did not consider natural gas at all?

Mr. GRUBB. We considered it very briefly. There is a gas line which runs from fields southwest of Glasgow. I guess it is from Sunburst and Shelby over to Williston. That line is overloaded, and we didn't anticipate taking any service from that line for the reactor station.

The CHAIRMAN. You mean at Arco?

Mr. GRUBB. At Fort Peck.

The CHAIRMAN. At Fort Peck.

Mr. GRUBB. Yes, sir.

The CHAIRMAN. Would the fact that this new field has been brought in, with consequent economy, influence your judgment?

Mr. GRUBB. I don't know, sir. How much is the gas going to cost?

The CHAIRMAN. Well, as to that, I would not know, but they certainly got the production, if these figures are accurate, of 511½ million feet a day, and you are going to use 6,320,000. I suppose that is figured on a B. t. u. coal basis.

Mr. GRUBB. That is right.

The CHAIRMAN. I presume that they would sell the gas for the market rates.

Senator MURRAY. Our rates in Montana are lower than in any other section of the country. We send gas three or four hundred miles in Montana. We bring gas all the way from the northern end of the State down to Butte, Mont., where I live.

The CHAIRMAN. Right now the Commission has a project under consideration for building a gas line at Oak Ridge, costing some \$20,000,000. Apparently the Commission gives considerable weight to the value of having that natural gas.

Mr. GRUBB. Is it for the plant or for the residences?

The CHAIRMAN. No; we are bringing it in for the plant. We are not up to \$20,000,000 for the residences yet, no.

Mr. GRUBB. Getting back to your question: Before the use of such gas could be evaluated, we would want to know how much it cost.

The CHAIRMAN. I assume that it would be the going market rate. What is the rate? Does anybody here know what the rate is for 1,000 cubic feet?

Mr. SKIBBINS (G. J. Skibbins, industrial consultant, Montana Chamber of Commerce). It is in the low 10 percent of the Nation. I can't give you the exact rate now, but I know it is in the low 10 percent of all the gas rates of the United States.

Mr. GRUBB. In evaluating the gas here, we assumed an estimated cost of 50 cents a thousand feet.

The CHAIRMAN. Of course, I do not know whether it is so or not, but there might be a contract made on the basis of using 6,000,000 cubic feet a day.

Mr. GRUBB. That is possible, sir.

The CHAIRMAN. That would be highly advantageous.

Mr. GRUBB. Yes.

Senator ECTON. Did your company look into the possibility of obtaining coal at Garrison Dam? I understand that the Army engineers

have uncovered 6,000,000 tons of good coal there, and they do not know what to do with it. That is not very far from the Fort Peck area.

Mr. GRUBB. Yes, sir. Testimony at the last session of the hearing indicated that that coal could be delivered from Garrison to Fort Peck or Glasgow for about \$3 a ton; and on the basis of 500 tons a day it was shown that that would cost \$1,500, which would be less than the fuel cost at Pocatello.

Senator ECTON. Less? You mean less than at Pocatello?

Mr. GRUBB. Yes. That is on the basis of the freight cost only. However, I presume that coal is lying on the ground or in the ground somewhere, and that somebody is going to have to pay for taking it out and putting it in cars and grading it and cleaning it and washing it, or doing whatever else is necessary. And before it is done, the 500 tons a day are going to be dissipated and some more put back in, in order to deliver coal at Fort Peck.

Senator HICKENLOOPER. What is the cost of delivering coal at the Idaho site?

Mr. GRUBB. Well, it is a little difficult to answer that, because the B. t. u. value of the coal available at each of the places is not the same.

Senator HICKENLOOPER. The transportation costs ought to be the same.

Mr. GRUBB. It won't be, no. On the basis of a certain number of B. t. u.'s delivered, we anticipate that the cost for fuel, for coal, at Pocatello, would be approximately \$2,000 a day. That is taking it from the most economical source. At Fort Peck, the coal, from the most economical source, is \$2,800 a day.

Senator ECTON. Did you make any inquiry as to the coal-strip mines there in Montana, south of the Fort Peck site? Those are the most efficient mines in the whole world.

Mr. GRUBB. Yes, we did.

Senator ECTON. It is a fine grade of coal. What did they offer to supply?

Mr. GRUBB. I don't now recall. It does not appear here, and I assume that it was somewhat higher than the other minimum cost.

Senator ECTON. But you did go into that?

Mr. GRUBB. Yes.

Representative MANSFIELD. This is the coal mined by the Northern Pacific Railroad at Colstrip south of Forsyth?

Mr. GRUBB. That is the one. It is in the southern part of the State.

Senator HICKENLOOPER. How far are the deposits where you would get the coal?

Mr. GRUBB. The nearest source is less than 200 miles, I would estimate.

Senator HICKENLOOPER. How far is this source of coal uncovered by the Army engineers in Montana from the site?

Mr. GRUBB. Well, it is difficult to say. Some is between 250 and 300 miles.

Senator HICKENLOOPER. Some place between 250 and 300 miles?

Mr. GRUBB. Yes.

Senator MURRAY. From Garrison to Glasgow?

Mr. GRUBB. Yes.

Senator MURRAY. It is not any such distance from Fort Garrison to Glasgow. I think it would be in the neighborhood of 200 miles.

Mr. GRUBB. It is 170 miles to Williston, or a little better, and from Williston to Glasgow by rail must be another 100 miles.

Senator ECTON. Mr. Chairman, if I may, I would like to ask Mr. Grubb another question on this coal at Colstrip.

Your chart opposite page 143, I believe, does not show that you ever contracted the Colstrip people to get a price, does it?

Mr. GRUBB. Yes. I don't now recall why this wasn't filled in. I do now recall that we did contact the Colstrip people, however.

Senator ECTON. I question it, for the simple reason that it is blank.

Mr. GRUBB. I can see why you question it. I can assure you that that contact was made. I don't now remember why the data was not filled in.

Senator ECTON. You do not remember what the offer was?

Mr. GRUBB. I beg your pardon, sir?

Senator ECTON. You do not remember what the price was?

Mr. GRUBB. No. It was more than the minimum cost from Carbon County, Mont., however.

Representative MANSFIELD. May I ask the gentleman a question?

On the basis of the information brought out about these new coal deposits at Garrison, plus the fact that we have a great deal of electric power at Fort Peck, that would seem to indicate to me that as far as both hydro- and steam-plant facilities are concerned, there would be plenty of power at Fort Peck to take care of this project.

Getting back to the gas situation, does not the new gas field at Roundup, available at low rates, change all of the fuel costs in favor of the Fort Peck area over the Arco site?

Mr. GRUBB. Not necessarily. We don't know anything about the low rates. Furthermore, there is no steam power at Fort Peck.

Representative MANSFIELD. No; but you could create steam power through the building of a plant and the bringing in of this coal which is being dumped, at the present time, because there is no market for it, at the Garrison Dam site.

Mr. GRUBB. We could do many things. Again, let us get back. We were judging these sites on the basis of what is there now.

Representative MANSFIELD. That is true.

Mr. GRUBB. As far as power is concerned, there isn't the tremendous surplus of power at Fort Peck, either, that perhaps you would have us believe.

Representative MANSFIELD. Well, I disagree with you there, because there is a surplus of power at the present time which is under lease to the Montana Power Co. on a temporary basis, but all of that could be used for the construction and maintenance of this plant, and we could be able to generate well in excess of 85,000 kilowatts of power at that site.

Mr. GRUBB. Well, do you wish to discuss power now, Mr. Chairman?

The CHAIRMAN. I think so. As to electrical power, of course, there is not much use in going into it, because you listed it "very good" in both places.

Representative PRICE. But you give the preference to Pocatello?

Mr. GRUBB. On the basis of rates.

Senator ECTON. Where did you get that rate at Pocatello?

Mr. GRUBB. About the same place we got the rate at Peck.

Senator MURRAY. The Fort Peck rate is a Government rate?

Mr. GRUBB. Fort Peck? Five and one-half.

Senator ECTON. What was it at Pocatello, that you figured?

Mr. GRUBB. Let me say first that there were a number of statements made about the capacity of the Fort Peck Dam. Presently there are 50,000 kilowatts installed, two units, one 15,000 and the other 35,000. And a contract has just been let for another 35,000 unit, which will bring the total, some 2½ or 3 years hence, up to 85,000. Now, that is designed maximum capacity for the Fort Peck Dam. In order to attain this figure of 105,000, it will be necessary to tear out an existing 15,000-kilowatt unit and replace it with a new one.

Senator MURRAY. No, we are building another project at Canyon Ferry, which would be concluded about the time this would come in.

Mr. GRUBB. Well, as near as I recall, it was stated pretty definitely that plans were made, already made and perhaps already in progress, for installing 105,000 kilowatts at Fort Peck. I think that is in error, and might well be cleared up. I do not think that is the case.

Representative MANSFIELD. As I understand the Fort Peck power picture, that is what is contemplated to finally get the full hydro benefit out of that dam, 105,000 kilowatts of power.

Mr. GRUBB. That appears to be the maximum potential at that point. Perhaps it might be a little more. There is some difference of opinion.

Representative MANSFIELD. Surely that is more than enough power to take care of this atomic plant.

Mr. GRUBB. It is if you forget the purpose for which the dam was built. The dam was built to supply power for irrigation, and by 1953, I guess it is, or thereabouts, the irrigation load is expected to be some 55,000, as I recall. Yes. Commitments for irrigation are expected to exceed 55,000 kilowatts by 1953.

Furthermore, in the meantime, Fort Peck is intended to supply power for construction to Garrison Dam, and Garrison won't come in for another 5 or 6 years, I guess. Admittedly, Garrison is a very large project. But in the meantime, it is going to be a drain on the Fort Peck system; not an aid.

Senator ECTON. Why did you worry about how much power there was, when Mr. Shugg, I think it was, of the Atomic Energy Commission, and Dr. Raver, both told us that for the first 2 years that new plant in Idaho would not need over 4,000 kilowatts?

Mr. GRUBB. That is right.

Representative MANSFIELD. Which would be supplied through Diesel engines.

Senator ECTON. Yes, if necessary.

Mr. GRUBB. For the first few years, admittedly the power demands are going to be low. However, we had to hang our hat on something, on which to judge this thing, and to see how well it met the requirements.

Now, it is anticipated that the ultimate requirements for the project will be in the order of 70,000 kilowatts.

Senator ECTON. After it is constructed and operating?

Mr. GRUBB. After it is constructed and operating. It is fairly uncertain, but we look forward to it in a matter of 6 or 7 years.

Senator ECTON. In determining the cost, what did you figure the kilowatt rate in Idaho to be, as compared with the Montana rate at Fort Peck?

Mr. GRUBB. We figured in Idaho the power would carry a rate of 3½ mills per kilowatt.

Senator ECTON. Did you get that from Idaho Power?

Mr. GRUBB. We got that from the Department of the Interior.

Senator ECTON. The Department of the Interior does not have any electricity there now?

Mr. GRUBB. They have some. It is all marketed through Idaho Power Co., as I recall.

Senator ECTON. Well, not that much, to take care of 60,000 or 70,000 kilowatts, surely.

Mr. GRUBB. That is true. Not at the moment, at any rate. On the other hand, they, too, have a lot of projects there planned, and some under construction, and more to be started.

Senator MURRAY. That is on the basis of those projects that will be developed later on, that you get the idea that you can get the power cheap, then?

Mr. GRUBB. Well, we recognize that the Federal power program is being expanded, and that any large Government demand is bound to be supplied, either directly by Federal power, or by Federal power transmitted over privately owned transmission lines. And so the rate established by the Federal power authorities, the Department of the Interior and its branches, is bound to govern the rate at which power will be charged to this project.

Senator ECTON. So this three and a half mill rate is based on figures submitted by the Bureau of Reclamation?

Mr. GRUBB. Yes. Well, the Department of the Interior, Bureau of Reclamation.

Senator ECTON. On power that has not even been developed yet?

Mr. GRUBB. Yes. They also made the same statement at Fort Peck: On power that isn't developed yet. They further went on to say that there would always be a rate differential of about 2 mills between power at Fort Peck and power at Pocatello, the difference being that the dams are somewhat less costly in the Idaho area and the transmission lines are generally somewhat shorter. The centers of use are larger. Certainly we could not ignore those factors.

Senator MURRAY. Did they make a written statement of that character?

Mr. GRUBB. Yes, sir.

Senator MURRAY. Where is it? In your records?

Mr. GRUBB. I don't believe we have it.

Senator MURRAY. But you have a written statement from them offering to give you the power at that rate?

Mr. GRUBB. I don't believe that that is what the written statement said. The written statement said that there would always be a difference in rate of about 2 mills between Fort Peck and Pocatello, and that Pocatello would be the cheaper.

Representative DURHAM. These are the only two sites you evaluated at all?

Mr. GRUBB. That is right.

Representative DURHAM. That is, the only ones you were asked to evaluate by the Commission?

Mr. GRUBB. Yes, sir.

Representative DURHAM. The policy has been, of course, that you establish these plants where the power is already available. That

has been the policy to begin with. It looks like we are departing from a policy here that has been pretty well established.

Mr. GRUBB. I would not presume to answer the question you raised. However, power is short throughout the Pacific Northwest, as you probably well know.

Representative DURHAM. Fuel and power are highly important in the operation of these plants?

Mr. GRUBB. Yes, sir.

Representative DURHAM. It is an important factor.

Mr. GRUBB. It certainly is.

Senator ECTON. Mr. Chairman, what I wanted particularly to bring out is this: We want to find out where they got this  $3\frac{1}{2}$ -mill rate. At some of these hearings I understood that they had it from the Idaho Power Co. I sent a wire to the Idaho Power Co., and they sent this back. They said:

Our company has publicly announced both its willingness and availability to furnish power requirements for new atomic plant. Ultimate rate depends upon size of load, annual load factor, delivered voltage, and other service conditions, regarding which final engineering information not yet available.

IDAHO POWER Co., Boise, Idaho.

So, what I am getting at is that this  $3\frac{1}{2}$ -mill rate was a rate which is merely in the making.

Representative D'EWARD. Will the Senator yield to me?

I think it was brought out earlier in this hearing that Bonneville Power had no intention of serving this plant, and this is a Bonneville rate that has been quoted.

Mr. GRUBB. That might well be true. I think that Bonneville looks upon the Snake River and the Columbia River Valley more or less as one system. But, in any case, those are the figures on which we had to work. Now, we were as unsuccessful as you were, Senator Ecton, in getting any statement as to rates out of any of the private power companies, whether it was Montana, Idaho, or Utah. They just won't talk until you know definite figures, as to quantity and the manner in which the load will develop.

Representative PRICE. Specifically, who would furnish the power to the Pocatello site, the Idaho site?

Mr. GRUBB. Two private companies are in there now, Idaho and Utah.

Representative PRICE. And you would have to get the power from them?

Mr. GRUBB. That is correct, sir.

Representative PRICE. And they have not given you any rate?

Mr. GRUBB. No, sir.

Representative PRICE. Where does the  $3\frac{1}{2}$ -mill rate come in?

Senator ECTON. The only possibility, it seems, would be to build a line from Spokane into Pocatello, about 600 miles, or bring it from Hungry Horse down through Montana to Pocatello, about 400.

Mr. GRUBB. Well, within the territory covered by the Idaho Power Co., there are, I guess, sites having potential capacities of well over a couple of hundred thousand kilowatts.

Representative PRICE. Mr. Grubb, you said that power was very good at both Pocatello and Fort Peck. You said the difference, the reason you concluded that you preferred Pocatello over Fort Peck, was on the matter of rate. But you say now that you do not have any

rate for the Idaho site. So, how could you establish a preference on the basis of rate?

Mr. GRUBB. We recognize that the public power will be expanded and that most assuredly public power would ultimately be used in this project. Now, the rate for public power at these two locations, we are informed by the Department of the Interior, is going to carry a differential of 2 mills.

Representative MANSFIELD. Would the gentleman yield there?

In response to the question raised by Senator Ecton, as I interpret it, the implication was made that there was a possibility that power from Hungry Horse would go down to this proposed plant at Arco if it is located there.

I want for the record to emphatically and unqualifiedly deny that that will be the case, and to call to the attention of the committee a letter which I inserted in the hearings 2 or 3 weeks ago, dated March 29, as follows:

DEAR CONGRESSMAN MANSFIELD: At the meeting you attended with the Montana delegation at the Commission offices on March 22, certain questions relative to the AEC power requirements for the proposed reactor test station were discussed.

You will recall it was stated at that time that we planned to obtain the power for the station from generating equipment installed at the station and from the Idaho Power Co., which will be supported by the plants of the Bureau of Reclamation, either existing or under construction in the Snake River Basin in Idaho.

As you know, the Idaho Power Co. purchases some power from existing plants operated by the Bureau of Reclamation and by the Montana Power Co. Both the Idaho Power Co. and the Bureau of Reclamation have new plants and facilities under construction along the Snake River in Idaho, which we believe will be adequate to meet our needs projected over the next several years.

I am further advised by my staff that we have not entered into negotiations with the Bonneville Administration for power for the test station. We do not plan to obtain power from the Hungry Horse project or from the Montana Power Co. Furthermore, we do not expect to require special transmission facilities to bring in out-of-State power to the test station.

Very truly yours,

UNITED STATES ATOMIC ENERGY COMMISSION,  
DAVID E. LILIENTHAL, *Chairman*.

So, I hope that that letter will lay some of the statements at rest, because, as far as I am concerned, I am not boosting these transmission lines, nor the Hungry Horse, nor any other project in Montana, for the purpose of using our power in Oregon, Idaho, Washington, or Utah. Montana power should be used in Montana only, for the development of our State, and that is my contention; and, as far as I am concerned, this power is not going down into Arco.

Mr. GRUBB. May I ask a question, sir?

Representative MANSFIELD. Surely.

Mr. GRUBB. Are public funds used for the construction of the dams?

Representative MANSFIELD. Yes.

Mr. GRUBB. Then certainly the public has some right to use the power.

Representative PRICE. Reclamation, however, is more or less of a loan proposition. The people in the area pay that back into the Treasury.

Mr. GRUBB. Whoever uses the power pays for it.

Representative PRICE. That is right.

Representative MANSFIELD. But the people of Montana are the ones who are going to pay for these projects, and they are the ones who are going to get the use of the hydroelectric facilities.

Mr. GRUBB. If they use it all, then presumably they are going to get it.

Representative MANSFIELD. We will use it all and a lot more.

Senator ECTON. Mr. Grubb, in order to clear it up, what concerned some of us was this fact: We felt that we had available now, and will have within the next year or two, all the necessary electricity at Fort Peck that this plant will use.

Mr. GRUBB. I think the same statement can be made for Pocatello.

Senator ECTON. And we could not see any justification for building an additional 230-kilowatt line for several hundred miles to supply a plant in Idaho at an additional cost of, oh, \$40,000 or \$50,000 per mile, when we already had the necessary number of kilowatts on the site, practically. That is what we have not been able to reconcile in this whole deal, if electricity was one of the major factors.

These engineers have told us that electricity was not one of the important things; other engineers have told us that. Mr. Lilienthal told us that; that electricity was not the essential thing in the determination, and also Mr. Shugg, inasmuch as they would not need more than from 4,000 to 10,000 kilowatts. But now you come in here, as an engineering firm, and tell us that when it all gets set up they will need at least 70,000 kilowatts.

Mr. GRUBB. The demand for the first couple of years, perhaps, is in that order. However, the basis on which we have been working was that the ultimate demand would build up to the figure mentioned. Both sites can now handle the demand.

Senator ECTON. Yes; I think that is true.

Mr. GRUBB. And for several years to come.

Senator ECTON. For the next 2 years.

Mr. GRUBB. Furthermore, the experience of companies in both areas, perhaps, is that, generally speaking, if they are able to anticipate the demand, they can build to meet it in adequate time. Such time was available here, as far as that goes.

Senator ECTON. But I think Congressman Mansfield can recognize our position, too, in the face of this, when there has been so much pressure put on to bring Hungry Horse power down to Anaconda and Butte. Why, it would only be a little farther to bring it on down to Pocatello, and we have seen charts where the Power Commission, in their expansion program, intended to do that very thing.

So you can readily understand our questioning and our concern and our apprehension regarding this.

Representative MANSFIELD. That is true, I will say to the Senator, if the Senator will pardon me, but that question has been raised so many times, Senator Ecton, that I wrote both Dr. Raver and Mr. Lilienthal and got their answers in writing as to just where their power was coming from. I also am of the firm opinion, and have so stated in the record and on the floor of the house, that, as far as I am concerned, these lines are being built for the building up of Montana and not for the building up of Idaho, Utah, Oregon, Washington, or any other State.

You know, we have been in a pretty backward position for a good many years, and I hold pretty fast to the conclusion that it is about

time that we people from Montana got busy and started looking after our own interests, and developing our own interests, for our own benefit.

The CHAIRMAN. Well, you are busy, all right.

Senator ECTON. That is what we are here for.

Representative DURHAM. Is there a shortage of power in that area at the present time?

Representative MANSFIELD. Not in our area. There is a slight surplus. But that surplus is predicated on a number of factors, such as the difference in Pacific coast and mountain time, by means of which the Montana Power ships out power to Washington, and also because of the fact that part of the surplus comes from the use by the Montana Power Co. of the leased hydroelectric capacity from Fort Peck. The Montana Power also has a tie-up with the Utah Power & Light between Butte and Salt Lake, and part of that power from the Montana Power Co.'s tie-up line there goes to Arco, Idaho, for use at the Navy Proving Grounds there.

I do not know how much, or what the rate is, but that is the situation at the present time, and it is anticipated that this time next year there will be no surplus in the State of Montana, and we will begin to experience a shortage as well.

On the basis of the Hungry Horse Dam, we are tying in with the Bonneville at Grand Coulee, because, if Hungry Horse was to operate as an isolated unit, all we would get in Montana would be 77,000 kilowatts of firm power a year. But on the basis of this tie-up, we are assured of a minimum of 187,000 kilowatts of firm power a year in Montana. And the purpose of this line to Anaconda is not to extend down into Idaho or anywhere else, but to develop the phosphate and manganese deposits of Montana.

And Carl, you, as a farmer, know what phosphate means to the future of this country, and all of you know how important manganese is to the development of the steel industry.

**STATEMENT OF GERALD J. SKIBBINS, PERSONAL REPRESENTATIVE OF HON. JOHN BONNER, GOVERNOR OF MONTANA, AND INDUSTRIAL CONSULTANT, MONTANA CHAMBER OF COMMERCE, HELENA, MONT.**

Mr. SKIBBINS. To complete our testimony, I would like to introduce for the record several studies which are pertinent to these hearings.

It is our hope and our respectful request that the questions raised in these studies be answered in detail by the Commission. I am presenting this material as the personal representative of Gov. John Bonner of the State of Montana. Governor Bonner is vitally interested in obtaining adequate answers to each of these points and feels that they might be the subject matter for additional surveys on the subject of locating this reactor laboratory, along with the testimony presented by Montana at the previous hearing.

If the Commission has enough time to spend the entire year of 1949 in drilling for water while a 175-mile-long lake sits unused at Fort Peck, Mont., then there is time to make careful and responsible studies of all the plant location factors which should be considered in locating this billion dollar installation. That money is the prop-

erty of the citizens of the United States, and I feel it would be the highest expression of responsible administration for the Atomic Energy Commission to insist that every type of social, economic, engineering, and field study be completed before they come to a final decision on the location of their new installation.

The well-drilling going on at Arco is in the nature of a field exploration of underground water resources. Negotiations with the Navy Department are exploring the availability of the naval proving ground at Arco. In order to complete the information which should be available before a final decision is reached on the location of this plant, the people of Montana, through their Governor, respectfully suggest that the private engineering firm and the Commission initiate studies to answer all the questions raised at both hearings as well as all the problems and questions raised in the papers I am submitting today.

As a sovereign entity within the United States of America, the State of Montana respectfully requests that the Senate-House Committee on Atomic Energy and the Atomic Energy Commission seriously consider the advisability of this suggested procedure in order to satisfy the serious concern of the people of Montana.

If careful studies on all the subjects involved in this plant location are made, we are willing to abide by a decision made in line with those results. It is our lack of confidence in the premises which have prompted the preliminary decision on Arco, Idaho, which has prompted our recent and present actions in the matter, however, should an adequate body of knowledge be assembled on both sites, and should it clearly demonstrate that every problem involved can be more easily and economically solved at Arco than at Fort Peck, then we will consider the matter closed and will heartily congratulate the good people of Idaho.

On or about April 16 in Salt Lake City, Utah, Mr. Lilienthal released to the press a statement to the effect that the location of this plant at Fort Peck, Mont., would endanger the water in the Missouri River. We had thought that the subject of contamination of river systems was so disturbing to the public at large that it might be avoided in public statements, however, seeing that the subject has been raised, we have urgently requested a study of the matter and I submit a paper prepared by Mr. Norman J. Holter, physicist, director of the Holter Research Foundation at Helena, Mont., and formerly senior physicist in charge of wave measurements with the Bikini expedition. Mr. Holter makes no claim to ultimate wisdom on the subject but he does say, in effect, that it can be argued that the Fort Peck site offers greater protection in the event of an industrial catastrophe than does the Arco site.

Briefly, here is the argument. In the event of the falling apart of a reactor, fission products and primary fuels will be scattered some distance. At Arco, this material will percolate into the lava beds and reach the Snake River 75 years later, according to the Smith, Hinchman & Grylls report. By this time most of the short-lived fission products will be dissipated, it is true, but the tons of primary fuels, uranium or plutonium—which are extremely dangerous in even small concentrations when taken internally—will not lose their radioactivity for thousands or millions of years. Seventy-five years will

have no effect on their potency. How has the Commission decided to control these contaminating products underground where they will be flowing down old channels of the Snake River? What if my previous testimony regarding a show of coliform contamination in the Thousand Springs area proves correct and fission products only take a very short time to reach the Snake River?

At Fort Peck, the Smith, Hinchman & Grylls report has stated that soil is impervious. That is a distinct advantage to Montana's site. In the event of the falling apart of a reactor there, the fission products and the primary fuels would remain on top of this impervious surface. As the site is on top of a table of land with no water drainage into the area, a simple 2-foot retaining wall would prevent any possible leakage of whatever meager rainfall might occur and the flooding of the area with oil after the catastrophe would insure its protection from any winds. After a few months this area would be a valuable uranium mine which could be worth millions of dollars. The uranium or plutonium could be collected and reused to good advantage and no danger of any kind would accrue to man or beast.

I am sure that the people of Idaho ought to be seriously interested in an explanation of the contamination problem. In Montana we respectfully request that this argument be answered in detail because contamination has been used in the newspapers as a reason for the Commission's rejection of the Fort Peck site.

I submit Mr. Holter's paper on the subject which was prepared at our request in good faith.

I also submit excerpts from United States Geological Survey No. 199, entitled "Geology and Water Resources of the Snake River Plains of Idaho" by Israel C. Russell. These excerpts discuss the climate of the Arco-Pocatello area. In one paragraph, Mr. Russell discusses the high winds in the area and the phenomena of miniature whirlwinds which spiral across the area during the summer, forming tall columns of dust. This is a serious point to consider in relation to a possible catastrophe, should such a whirlwind move across the plant site after a catastrophe has occurred.

If, as Mr. Lilienthal and Mr. Pike have stated publicly, the subject of contamination is of great importance, then the measures taken to prevent it are matters of serious public interest wherever this plant is located.

Next, I wish to submit for the record a series of discussions and questions of a technical nature on the subjects of geology, topography, drainage, water supply, disposal of waste water, et cetera, dealing with both the Fort Peck and Arco sites. These questions and discussions relate directly to points in question or in need of amplification within the Smith, Hinchman & Grylls report. They might properly be regarded, along with other testimony submitted in these hearings as the subject matter for further surveys regarding the location of the nuclear laboratory.

On behalf of Gov. John Bonner and the people of Montana, let me say that we are anxious to prove to this committee and to the Atomic Energy Commission our friendliness and our eagerness to help them in this matter. Most of us in Montana are blessed with large supplies of natural gas which is the finest fuel in the world for heating and home and industrial use. You all know that the State of Montana

has every natural resources known to man in superabundance. We proved this statement when we learned that the Commission would like to have natural gas for their use in this new laboratory. We opened up an entirely new gas field in Mussellshell County, Mont., a field that is ideally located for piping gas into the Fort Peck-Glasgow area.

According to the Smith, Hinchman & Grylls report, the laboratory will need 6,320,000 cubic feet of gas daily. For good measure, we have brought in a well which produces 51,500,000 cubic feet of gas daily at a depth of only 1,420 feet. An immediate expansion is going forward in proving the total potential of this field but it can be said now that the nuclear-reactor laboratory can have the cheapest, cleanest, and most efficient fuel in America, Montana natural gas, at Fort Peck, Mont. That one fact should reverse all calculations of engineering and operating costs and place the Fort Peck site in a superior position.

Because this is a time when several very important measures are before the Congress, the people of Montana wish to sincerely thank the Senate-House Committee on Atomic Energy and its vigorous chairman, Senator Brien McMahon, for having displayed a high sense of public responsibility in hearing out our case. We are all grateful for this democratic treatment and hopeful that this entire subject of locating the nuclear-reactor laboratory will now proceed toward its logical conclusion.

(The memorandum from Mr. Holter, dated April 27, 1949, is as follows:)

Memo to G. J. Skibbins.

Subject: Possible catastrophic accident at nuclear-reactor plants.

Herewith a few quick thoughts on possible advantage of Glasgow area over the Arco area in case of explosion. It has previously been emphasized that the soil at Arco is very porous whereas that at Glasgow is very impervious. On this basis it might be argued that the Arco location provides greater hazards to those living at a distance than does the Glasgow area for the following reasons.

Whatever type of nuclear reactor is in operation it will be using some basic fuel such as uranium or plutonium. Both of these materials have long half-lives; that is, they stay radioactive for a long time—many millions of years in the case of uranium. As these materials are "burned" in a reactor they are converted to fission products which in general are more radioactive than the basic fuel elements but which have relatively shorter half-lives; that is, their radioactivity dies out much faster than does that of say uranium. Assume a large-scale industrial-type explosion (i. e., not an explosion in the atomic-bomb sense) occurring in a nuclear reactor. Among the materials scattered about by such an explosion will be the moderator (e. g., graphite) which is present in large quantities but which is harmless, the fission products existing in the reactor at the time of the explosion (highly radioactive at first but "cooling off" within a reasonable interval) and the basic fuel (present in large amounts) with radioactivity which, though less than that of fission products, does not change appreciably in millions of years.

If, as has been stated by the report of Smith, Hinchman & Grylls such materials were to seep through the Idaho soil and take as much as a hundred years to reach a surface river, it is true that the radioactivity of the fission products would by such time have decreased to a safe level but there is some question in my mind whether the tons of primary fuel will have been sufficiently diluted to prevent a hazard to health in such river. Even in a hundred years they will be essentially as radioactive as when they first started seeping into the lava. If uranium or plutonium were to reach any river or water supply which might be used for drinking, the hazard to health would be very great unless it can be conclusively shown that the concentration would be well below the tolerance level.

On the other hand, consider the Glasgow area and assume a protection screen such as a concrete wall 1 or 2 feet high surrounding the plant at a distance

great enough to contain material ejected by an explosion. Regardless of the area of such enclosure a 2-foot wall would require 2 feet of rainfall (so remote as to be considered impossible) at the time of catastrophe in order to wash dangerous materials to surrounding streams. Here likewise consider an explosion with the materials as described above scattered within the enclosure. The imperviousness of the soil if sufficiently great would prevent the materials from seeping down where they would eventually enter the headwaters of the Mississippi. If one then waited until the fission products had lost most of their radioactivity they could reenter the area and operate it as a "uranium mine" thus recovering the primary fuel rather than letting it be transported to where it might cause damage, e. g., through porous soil such as that at Arco. During the time required for fission delay, the area could possibly be flooded with a heavy viscous material which would serve to keep the material from being blown about until it could again be approached.

I do not offer the above as a workable method but to remind you that the hazard from an Arco plant might be as great or greater than at Glasgow when long-lived primary nuclear fuel is considered. The principal objection which I see to the concrete enclosure idea is that radioactive material would be carried into the headwaters by winds at the time of the explosion. This is probably a real difficulty but here again though not solving the Glasgow problem it makes Arco equally untenable if, as I understand it, there are sometimes dust storms reaching thousands of feet high in southern Idaho.

NORMAN J. HOLTER,

*Former senior physicist in charge of wave measurements with the Bikini expedition, now director, Holter Research Foundation.*

(The excerpt from the Bulletin of the United States Geological Survey, No. 199, Geology and Water Resources of the Snake River Plains of Idaho, by Israel C. Russell, is as follows:)

*Climate.*—The climate of the Snake River Plains has for its leading characteristics aridity, prevailing high temperatures in summer, and severe cold in winter. One of the most marked features in the atmospheric conditions at nearly all seasons is the great range in temperature between day and night.

The mean annual precipitation is about 13 inches, but many local variations occur. Nearly all the water that reaches the thirsty lands comes in winter and spring. During the growing season the soil is invariably parched and successful agriculture without irrigation is seemingly impossible.

The summers are decidedly hot. Not infrequently for many consecutive days and even for weeks at a time the temperature during the hours of sunshine is over 100° Fahrenheit and frequently reaches 105° Fahrenheit, and reports by local observers of 110° to 115° in the shade are not rare. Owing to the dryness of the atmosphere, however, the heat is seldom oppressive, and sunstroke is said to be unknown. Under the prevailing clear skies in summer radiation is rapid and the nights are nearly always cool. Exceptionally warm nights occur when the sky is clouded, and radiation from the heated soil and rocks is checked.

In winter the atmosphere is even clearer than in summer, as the rain and snow remove the dust which is ever present when the soil is dry. The air is cold and the temperature has a greater daily range in winter than in summer, frequently falling far below zero Fahrenheit. During the winter of 1898-99 the minimum temperature at Blackfoot was minus 30° F., and at Minidoka, minus 28° F., while the year following at Lost River, situated on the western border of the plains, in the entrance to a tributary valley, a temperature of minus 41 degrees was recorded. During the year 1898 the last killing frost in spring at Blackfoot was on June 5, and the first frost during the succeeding fall was on September 29; at Minidoka the corresponding conditions occurred on May 14 and September 4. The snowfall, while aggregating during certain winters from 30 to 45 inches or more, varies greatly from year to year and from place to place, but seldom remains long on the ground. The sudden snowstorms are usually succeeded quickly by thaws during the hours of sunshine and sleighing is seldom practicable. Warm winds, termed "Chinook winds," frequently occur in winter, during the prevalence of which snow, if present, disappears as if by magic, leaving the plains and the lower slopes of the bordering mountains bare. Large numbers of horses, cattle, and sheep are pastured on the plains throughout the winter and require to be fed only during the more severe storms. In winter the skies, although frequently clouded, are usually clear, especially at night, and the stars are of phenomenal brilliancy.

The prevailing winds, often heavily dust-laden, are from the west, and at many times, especially in the fall, blow with such strength and constancy as to become

trying to a person's nerves. In summer and fall strong afternoon winds frequently occur, which die away at sunset; these are almost invariably from the west. These strong breezes are nearly as regular in their periods as the sea breezes on lands bordering warm seas, but instead of bringing a refreshing coolness they are frequently hot, and to one facing them seem the breath of a furnace. On the broad plains miniature whirlwinds are of frequent occurrence, particularly on hot afternoons, and the dust carried upward by them forms tall columns with hollow centers in which, when they are near the observer, a spiral motion can be discovered. These dust columns are sometimes 2,000 or 3,000 feet high, and are a characteristic feature of the parched desert-like plain when heated by the intense summer sun.

Owing to the great extent of the plains, their variations in altitude, the influence of the adjacent mountains, and other factors, there are many local variations in the climatic conditions. The most marked differences are in temperature and in the length of time the land is snow covered.

These variations are most marked in the broad, nearly flat areas forming the general surface and in the limited tracts of level land in the canyons and canyon-like valleys. In the canyon of Snake River and its tributaries below Shoshone Falls the atmospheric conditions are markedly different from those on the surfaces of the adjacent plains. In the canyons the temperature in summer, owing to the shelter from the winds afforded by the bordering precipices and the reflected and radiated heat from the black rocks, is usually much higher than on the open plains. Cool breezes frequently blow along the river, however, tempering the intense heat. Again, in winter, owing largely to the ameliorating influence of the river, as well as the protection afforded by the bordering cliffs from the freezing blasts that sweep over the plains, the mean daily and monthly temperatures in the canyon are considerably higher than on the neighboring undissected plain. Snow seldom lies on the ground in the canyon bottoms for more than a few days at a time.

The canyons furnish many favorable places for orchards, vineyards, and gardens, not only on account of the intense heat and strong light during the growing season, when they are essentially hothouses, but because water from springs with a temperature of about 60° F. can frequently be had for irrigation.

In brief, the Snake River plains present a typical illustration of an insular or continental climate, such as is characteristic of regions of mild relief, remote from the tempering influences of the ocean, and deprived of their requisite share of moisture by the presence of lofty mountains in the path of the prevailing winds.

One feature of the weather in early fall is the gathering of thunderstorms about the mountains and their advance with fierce lightening and deep-toned thunder over the plains, where they melt away and disappear ineffectually in the drier air. At times these struggles of opposing forces are repeated daily, and a more advanced position is gained each afternoon by the invading storm, until a few pattering raindrops fall, or perchance a brief drenching downpour occurs on the thirsty sagebrush lands. More often, however, the vast banks of brilliantly illuminated cumulus clouds are festooned below with descending rain sheets which fail to reach the earth. Accompanying these inefficient thunder squalls there sometimes comes a heavily dust-laden wind which advances across the land like a wall of blackness, obscuring the landscape, and as it passes the observer producing a twilight even when the sun is high in the heavens. At such times the eyes are blinded and the throat is choked by the all-penetrating dust particles. These dust storms, unaccompanied by rain, explain the origin of the fine yellow soil which covers much of the plains, mantles the sides of isolated volcanic hills, and extends far up the neighboring mountain slopes.

The temperature of the water pouring out of the walls of Snake River Canyon shows that it is not derived from deep fissure springs and, in fact, has not made a deep descent into the earth. The water no doubt comes from the mountains lying north of the Snake River plains and is supplied mainly by the subterranean flow of "lost rivers."

(The geology report on Fort Peck site referred to is as follows:)

#### 1. GEOLOGY

The geology of the Fort Peck area as reported by Mr. H. T. Stearns and Mr. A. M. Piper is believed to be an accurate and adequate description of the general geology of the area, namely, from Milk River to Fort Peck Reservoir and from Larb Creek to Fort Peck Dam site. The report is, however, I feel, inadequate

in specific detail in that it fails to emphasize the geology of the construction site as shown by the engineering firm, namely, ranges 36 and 37 east, township 26 north. In the report generalities have been drawn that may or may not be applicable to the specific area. The following statements as included in the report are in point.

The presence of glacial drift in the area is in general as mapped by Mr. Piper on map 3-A of his report, namely, north of the proposed site and extending across the northern side of the area. Mr. Stearns in his report on page 3, paragraph 4, states:

"A thin veneer of glacial till lies north of the site and locally obscures the Bearpaw shale. It is clay containing pebbles and cobbles of foreign rock transported by glaciers. The thickness of the till is rarely more than 10 feet."

Under III Geology, page 54, of the Smith, Hinchman & Grylls report is found:

"The Fort Peck area is everywhere covered with a gumbo topsoil (weathered Bearpaw shale) 4 to 20 feet deep."

My findings on investigation of the two townships in question were that only a very thin veneer of glacial drift of from a few inches to 2 feet in thickness composed of yellow clay, gravel-sized pebbles, and a few scattered boulders 6 inches to 1½ feet in diameter was present over this area in scattered localities where the Bearpaw shale did not crop out. Glacial drift as much as 15 feet in thickness is present east of Willow Creek in the vicinity of Fort Peck Dam. Presumably based on the above-cited conflicting data, the construction firm of Alvord, Burdick & Howsan in their report under IV E. Construction and operational costs, page 111, state:

"(a) The soil at the Fort Peck site is a glacial drift containing bentonitic clay (gumbo). This soil is not suitable for supporting heavy loads as explained elsewhere in this report, and for that reason excavations for foundations and footings will need to be made to the Bearpaw shale, an average depth of approximately 15 feet."

Continuing in the next paragraph they state:

"A preliminary estimate of the cost of excavation and sealing indicates that it would be approximately \$2 in addition to the normal \$1 per square foot of ground floor area."

#### QUESTIONS

1. How much glacial drift is present at the site where major construction is planned?

2. Assuming the glacial drift is not of an average depth of approximately 15 feet as has been done by Alvord, Burdick & Howsan, what reduction in the cost of excavation, inasmuch as a total of \$3 per square foot of ground floor area is involved, can be made in favor of the Fort Peck site?

Similar discrepancies appear in the report regarding the composition and structure of the Bearpaw shale. The thickness of the Bearpaw shale in this locality is estimated at from 800 to 1,000 feet. The greatest amount of erosion of the upper beds of this shale has no doubt taken place in the valley of the Missouri River. The shale as it was encountered during the construction of Fort Peck Dam in the axis of the Missouri River is described by Mr. Piper. The thin seams of bentonite from a few inches to 1.4 feet encountered at the dam have been discussed in some detail. The elevation of the shale at this site is in the neighborhood of 400 feet lower than it is at the site chosen for construction approximately 25 miles to the west. The fault zones encountered at the dam site have also been mapped and included in the report. From this data the conclusion is drawn that similar conditions would be encountered at the proposed AEC plant site. This is an assumption sufficiently important because of its influence on the construction of foundations that, in my opinion, should not be made without benefit of some exploratory work at the proposed site.

Under III D. Foundation conditions, pages 58 and 59, of the report, following a discussion of the shale at Fort Peck Dam is found the statement, "may be expected to occur" when reference is made to the rest of the area. In my discussions with the Army engineers at Fort Peck I was advised that no serious foundation failures have occurred at the dam and that the steel and concrete power plant requires foundation pressures of 4.4 tons per square foot. The report makes no distinction in the problems that were encountered at Fort Peck that must be considered related only to the construction of a major earth fill dam as distinct from problems that would be encountered in the construction of a plant such as we understand is now under proposal.

On page 10, item 23, of Mr. Stearns' report, a comparison of the surface rocks that would be the foundation material for construction at the two sites is

made. An analysis of the basalt at Pocatello is given in some detail. In comparison in his description of the Bearpaw shales at Fort Peck is found the statement, "No analyses available," following which is cited as conclusions that abundant bentonite is present, also abundant gypsum, in the seams. It is not possible to determine what is meant by abundant and just how thick and of what frequency are the seams.

#### QUESTIONS

1. Do you know that the seams of bentonite and gypsum and the faulting conditions found in the Missouri River Valley at Fort Peck are present at the site chosen for construction of the AEC plant?
2. What is meant by an abundant amount of bentonite and gypsum?

#### II. TOPOGRAPHY AND DRAINAGE

The major part of the two townships chosen as a construction site is best described as tableland, the top of which shows the results of glacial scouring. Well-rounded knolls of bedrock shale with elevations of 30 to 40 feet above the average land surface are the principal relief features. The tableland characteristic is the result of the action of the glacial ice sheet and the large volumes of water released as the ice melted. The broad, flat, scoured-out valleys of Larb, Beaver, Willow, and Lone Tree Creeks are approximately 50 to 150 feet lower in elevation. The location and direction of flow of these creeks, namely Larb Creek on the west flowing north, Lone Tree Creek on the south flowing southeast, Willow Creek on the east flowing northeast, and Beaver Creek on the north flowing southeast, have left the area under discussion as a broad erosional remnant. The tributaries to these creeks have failed to produce any well-defined drainage channels into the tableland due to the low average annual rainfall and the resistance of the Bearpaw shale. Drainage of the proposed site is in all directions with little to no opportunity for the run-off waters to collect in any appreciable quantity until the lower part of Willow Creek is reached. The weathering action of the Bearpaw shales is distinct from that of the soft sandstones and carbonaceous shales of the Lance formation found between Willow Creek and the Fort Peck Reservoir.

In paragraph 4, page 55 of the report, the statement is made that "some terracing has been done on the site to check rapid run-off and to conserve the soil." This statement is incorrect. In the broad alluvial filled valleys under a cooperative agreement between the Soil Conservation Service and the local grazing associations small dikes varying in height from a few inches to about 2 feet were built along the contours to impound the waters released from snow melt in ponds of from 5 to 40 acres. Grass seed was planted in the impounded areas and the small amount of water supported growth of this grass for winter pasture. Such an operation would have been impractical in an area subject to flooding, and the program was not designed to prevent soil erosion.

No stream gaging records are included in the report to support the statement that flash-flooding conditions can be anticipated. A correlation is drawn between streams in the Milk River Valley at some distance from this site. It is not shown that the streams used for comparison purposes drain an area composed primarily of Bearpaw shale or what the elevation of these streams is or the nature of the valleys of these streams.

#### QUESTION

Do you know that floods occur in the creeks that drain the proposed site in the locality of the proposed site?

#### III. WATER SUPPLY

Reference is to III F and paragraph 4 of page 76 of the Smith, Hinchman & Grylls report. The report states:

"The necessary 6,000,000 gallons per day for domestic water supply would be developed by the addition of three wells to the facilities of existing communities. The estimated cost is \$65,000. The addition of an iron removal process to improve water quality would increase the total cost to about \$582,900. An alternate system would use filtered Milk River water at an estimated construction cost of \$825,000. The cost of a distribution system for either proposal is estimated at \$380,000."

It is not apparent why expenditures of these large sums of money are necessary and have been included in the report.

During the construction of Fort Peck Dam the maximum increase at any one time in Valley County of employees, their families, etc., was 50,000 people. The increased demands for water were taken care of by the local communities and by the drilling of a few shallow wells at the sites of the mushroom towns. No charge was made to the Army engineers for any of the increased installations. Neither prior to construction of the dam nor during the construction, nor since construction has been completed has it been found necessary to install iron removing equipment in any of the municipal or local water supplies. The only expense to the Army engineers was the installation of a small filtration plant designed to meet the needs of the Federal employees at the permanent installations at Fort Peck site. It is my belief that the domestic needs for construction of the atomic energy plant at the proposed site can be met in a similar manner. The saving incurred would be the sum total of \$65,000 for wells, \$582,000 for iron removal equipment, and \$380,000 for distribution system, totaling \$1,027,000.

#### QUESTION

Will the requirements for construction of this project as compared to those for construction of Fort Peck Dam be such that the water needs for the construction employees cannot be met in the same way as was done during the construction of the dam?

The water requirements of the plant in the amount of 23,000,000 gallons per year are, according to the report, available from the Fort Peck Reservoir. It is my opinion that the importance of this adequate supply has been underestimated in the report. The availability of the water needs, and more if future requirements demand, in a controlled reservoir appears to have definite advantages when compared with the estimated but inadequately proven supply described at Arco, Idaho, and discussed later in this report.

#### IV. DISPOSAL OF WASTE WATERS

It is not within my experience to know of the requirements relative to the disposal of contaminated water of the type referred to in this report. Factors of a geological and hydrological nature present at both the Fort Peck and Arco sites are, however, believed to be pertinent.

The Bearpaw shale, which is highly impermeable and is known to be present at the Fort Peck site to depths of 800 or more feet, is remarkably uniform in texture. This rock would appear to be an ideal material for the construction of discharge reservoirs with little to no danger in the Fort Peck Reservoir suggests that an available and convenient method for diluting the waste water is present at this site.

The report makes special emphasis of the possibility of a catastrophe. It is not known just what type of a catastrophe is being considered, although Mr. Piper on page 33 of his report emphasized that the location at Fort Peck is understandable inasmuch as it is adjacent to a major river system. It can only be assumed that the reference is to the possibility of contaminated waters getting into the main body of the Missouri and later the Mississippi River. I believe it is important to note that, should contaminated water reach the Fort Peck Reservoir, after dilution at this point it would move down the Missouri Valley through a relatively undeveloped area only to be further diluted and impounded in the much larger body of water that will be held back on completion of the Garrison Dam, and that following release at Garrison Dam its path would be through an undeveloped region until it reached the large reservoir that will be impounded behind Ford Randall Dam, which is also now under construction. Over this entire distance of flow it will have passed only one town of any size—namely, Bismarck, N. Dak., whose population is approximately 18,000. It is difficult under these circumstances to see why reference was made to the possible contamination of the lower Missouri River Valley and Mississippi River Valley.

#### QUESTIONS

1. Do you feel that the possibility of a catastrophe which would endanger large areas in the Missouri and Mississippi River Valleys warrants abandonment of the Fort Peck site?

2. Is the catastrophe under consideration similarly dangerous to the Arco site?

(The geology report on the Pocatello site is as follows:)

#### I. GEOLOGY

The geology of this site was described in the Smith, Hinchman & Grylls report and the reference included in this report—namely, United States Geological Survey Water Supply Paper 774—has been reviewed.

The lava beds, according to the report, are reportedly of a thickness "at least 1,000 feet." These beds are described in the report as follows: "The surface of the lava, which is very permeable, clinkery, spiny basalt with deflated vesicles \* \* \*" and, later on, as "vesicles formed by the expansion of gases as the lava cooled as well as tunnels and caves, open spaces, at contacts, shrinkage cracks, tree molds, and porous clinkery rock. \* \* \*"

Continuing the description, "Little information is available regarding the composition of the overburden. Logs of the well drilled in the Naval Proving Ground are presented as a part of the report of Mr. Harold T. Stearns. \* \* \*" Quoting further from the report, on page 66 the engineers recommend as follows: "However, to safeguard against the possibility of subsequent failure because of large cavities characteristic of this formation, a number of test borings should be made within the area to be occupied by the structure. Load tests are recommended where foundations are to be erected on the gravel and clay beds."

Inasmuch as the sand, gravel, and clay beds are outwashes built up on the surface of previously deposited lava beds, it is apparent that the cavernous nature of the lava beds can also be wash deposits. Based on the geology as described in the report and in part quoted herein, the conclusion of the engineer as stated on page 67 is: "The basalt lava at Pocatello offers excellent material on which to build heavy structures." The surface of the lava flows is described as windblown material, variable in thickness, with considerable increased thicknesses found in depressions. No cost estimates are available to cover the cost of doing the recommended boring for foundation formations nor in any estimate made as to the cost of removing the windblown and outwash material that reportedly cover the lava flows.

#### QUESTIONS

1. Do you know that the site chosen is free of caverns and tunnels and is suitable for heavy construction requiring foundation supports of 8,000 pounds or more?

2. Do you anticipate at this location that some cost will be involved in removing the windblown and outwash material to permit construction on solid basalt?

3. Assuming that borings as recommended encounter tunnels and caves, what adjustments would be necessary at the Pocatello site?

The report describes lava flows in the vicinity of Craters of the Moon National Monument as having occurred in very recent geological times. This igneous activity is described as having taken place approximately 1,000 years ago. No evidence is given to indicate that a repetition of this relatively recent, geologically speaking, igneous activity cannot be expected to reoccur.

#### QUESTIONS

1. Do you believe that this is an area of relatively recent igneous activity?

2. Is there any assurance that this igneous activity is not at present only in a state of resting and will not again become active?

#### II. WATER SUPPLY

The report describes two potential water supplies to meet the needs of the proposed plant.

After suggesting that water can be taken directly from the Snake River at a cost not competitive to the ground-water supply (and also far more expensive than the supply at Fort Peck), it practically eliminates this source by stating that the water in this area is at present committed to purposes of irrigation. The water supply to be considered, therefore, is to be taken from the underground waters found in the lava beds. A description of this potential water supply at the proposed site is given on page 3 of Mr. Stearns' report, "An insufficient number of wells exist in the area to prepare a water-table map. At Cerro Grande, 6 miles due south, the water table has an altitude of 4,430 feet. Other wells at Midway and at Tabor, to the southeast, indicate that contours of the water table slope to the southward and at Midway southwestward at the rate of about

5 feet per mile." Continuing in the next paragraph he states, "Such data as exist indicate that the underflow of Little Lost River, Birch Creek, and some of that of the Mud Lake Basin is moving southward under the site." The water-table contours as drawn on plate 19 of Water Supply Paper 774 of the United States Geological Survey and referred to in the report have not been drawn in the area of the proposed site.

The quantity of water moving underground in the area of the proposed well field is based on a rate of flow of one-half mile per year. This is the rate of flow computed for an area 72 miles northeast of the proposed site: Namely, from Egin bench to Mud Lake. As a basis for determining the specific yield of wells constructed in the proposed field, the results of pumping tests on Navy wells Nos. 1 and 2 are cited on page 9. Well No. 1 was pumped for 18 minutes at a rate of 590 gallons per minute. It has been my experience that a pump test of 18 minutes' duration is not a reliable test and that this is particularly true in aquifers that are cavernous. The large volumes of water adjacent the well are not necessarily removed to create a true cone of depression necessary to compute safe recharge. This is emphasized by the data given for the test on Navy well No. 2 located in the immediate vicinity of the No. 1 well. After 65 minutes of pumping at a rate of 150 gallons per minute, a specific yield of 15 gallons per minute was computed, considerably lower than that computed for well No. 1. Mr. Stearns has seen fit to point out that on an earlier pump test at a rate of 470 gallons per minute made by the driller the reported specific yield was  $11\frac{1}{2}$  gallons per minute or a decrease of 23.3 percent, and the time interval for the driller's test is also an unknown factor.

The logs of Navy wells Nos. 1 and 2 are cited to describe the nature of the rock formations that can be anticipated in the area of the proposed well field which is to supply this plant. The log of well No. 2 is as follows:

Two feet of soil, 8 to 15 feet of stream-laid gravel and sand, 2 to 10 feet of clay, 36 feet of basalt, 18 feet of clay, 67 feet lava, 4 feet of clay, sand, and gravel, 53 feet lava, 4 feet clay, 152 feet lava, 4 feet of clay, 41 feet of lava, 3 feet of clay, 97 feet of lava, 4 feet of sand, 140 feet of cinders and lava, 23 feet of clay, sand, and gravel, and 21 plus feet of lava. In 690 feet of lava no less than 7 interbedded impermeable clays are described. There is no evidence that similar clay beds are found in the Egin bench to Mud Lake area where the figure of one-half foot per mile for underground flow was computed.

Assuming that the direction of flow from the north and east into the well field is as described, there is apparently some question as to the underground geology at the south end of the proposed well field and as to how much recharge can be expected from the discharge of Big Lost River. Mr. Stearns points out on page 7 that much of the water from Big Lost River appears to move southward toward Snake River, a little west of the site, and that the Twin Buttes and Big Butte may be projections of a buried ridge of poorly permeable rock that separates the ground water under the site from that under the main part of the plain south of the line of these buttes or that the buried ridge may have been cut by a pre-basalt canyon, in which case the ground water south of the buttes could be made to move northward if the water table were lowered sufficiently by pumping under the site to cause the hydraulic gradient to slope northward.

#### QUESTION

Is the information available to permit making a definite statement as to the quantity of water moving into the proposed well field, the rate of this underground flow, and the specific yield that can be anticipated from wells intercepting this underground flow at the proposed Arco site?

#### III. DISPOSAL OF WASTE WATER

A very inconclusive and poorly described method for disposal of the contaminated and noncontaminated water at this site is suggested in the report.

The disposal of the waste waters as described in Mr. Stearns' report (p. 12) is as follows: "Uncontaminated waste fluids can be dumped into the lava beds, where they will slowly percolate to the basal water table and find their way to the Snake River Springs. The rate of movement of the ground water is of the order of one-half mile per year based upon the time it took the Egin bench water to reach Mud Lake." On page 8 of the Consultant's Preliminary Report (continued) under item K, Disposal of waste waters, is found, "Waters could be evaporated in the 'sinks' or sink into the basalts southwest of the site."

No mention is made as to the special handling that might be required of contaminated waste waters. If discharge is to be into the "sinks" located just

north of the proposed well field, this water can be expected to return to the well field in accordance with the gradient of the water table as contoured on plate 19 of United States Geological Survey Water Supply Paper 774. The rate of this return is unknown. It can be expected that it would be influenced by the numerous impermeable clay beds as described in the logs of the Navy wells. It is also to be expected that the rate of return would be considerably influenced by the increased draw-down resulting from heavy pumping of the proposed well field.

If the contaminated waters are to be discharged south or southwest of the well field, contamination of the well field is likewise a possibility. Mr. Stearns points out the possibility of water reaching the well field from the main lava field due to draw-downs as cited earlier in this report. The rate of underground movement of the waste water is not given for the well-field area. It appears that something less than a scientific approach to the problem has been presented for an area composed of lava beds estimated to be from a few hundred feet to a thousand or more feet in thickness where tunnels and caverns are characteristic, some of which are as large as 50 feet in diameter, and where numerous impermeable beds of clay are known to be present both near the surface and at depths of 600 feet or more and where the computed transmissibility must be considered as relative.

In addition to the increased gradient toward the well field produced by lowering of the water table by pumping, consideration must also be given to the increase in gradient of the water table at whatever site is chosen for discharging the 23,000,000 gallons of waste water. No safe distance for discharging the contaminated waters is given in the report. Any increase in distance from the site down gradient as measured on the at present unknown gradient of the ground-water table means a decrease in the distance to the ultimate point of discharge, namely, the American Falls Reservoir and the Snake River.

#### QUESTIONS

1. Has a definite location for the discharge of contaminated and noncontaminated waste waters been described in this report?

2. Would discharging contaminated waters in the lower Big Lost River channel and the "sinks" be dangerous to the water supply in the present-described well field?

3. Is it known at what distance from the present well field contaminated waters can be discharged in the main lava bed south or southwest of the present well field?

4. Would discharging contaminated water down gradient as measured on the ground-water table decrease the time interval when such water would be discharged into the American Falls Reservoir or the Snake River?

5. Is the rate on which these contaminated waters would move from any site down gradient into the American Falls Reservoir and the Snake River known to you?

6. Is there danger of contaminating wells in the area north of the American Falls Reservoir before such contaminated waters reach the reservoir or the Snake River?

The report makes no mention of a possible catastrophe that may create serious damage due to the release of contaminated water in the area downstream in the Snake and Columbia River Valleys. Since I have no information as to exactly what is meant in this report by catastrophe, it is not possible to make specific deductions. It is, I believe, worthy of note to point out that the ground waters of the Snake River lava beds are discharged into the main channel of the Snake River and thus become part of that stream's flow.

The CHAIRMAN. Now, gentlemen, we will have to recess because I have to get to the floor.

Senator Hickenlooper had to go and the Members of the House will have to leave.

The Chair will announce future proceedings.

Senator Ecxon. Before you leave I just want to again express my very deep appreciation to you and the members of this committee for listening to this testimony. I appreciate it very much.

(Whereupon, at 5:20 p. m., the committee recessed, subject to the call of the chair.)

## APPENDIX

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### UNCLASSIFIED PORTION OF THE ATOMIC ENERGY COMMISSION CONTRACT MANUAL

Bulletin  
GM-No.

Procurement and Contracts  
Contract Manual

Issuance Date:

#### CONTRACT MANUAL FOR ENGINEERING AND CONSTRUCTION SERVICES— CONTRACT BOARDS

For: Managers of Operations.

1. *Purpose.*—The purpose of this Bulletin is to make effective the attached contract manual and to provide for the establishment of Contract Boards in the several Offices of Operations.

2. *Contract Manual.*—The contract manual provides the policies, practices, and procedures to be followed by the Commission and its field offices in contracting for construction and associated architectural-engineering services. To the extent and subject to the limitations of practicality provided in the Manual, these practices and procedures (unless in conflict with the provisions of existing contracts) are to be applicable to the Commission's cost-type contractors and the subcontractors. With respect to these services the manual also establishes certain operating relationships between the appropriate Division Directors and the Offices of Operations. As additional sections and parts are completed or revisions or changes appear necessary, they will be issued by the Director of the Division of Production after appropriate clearance with other Divisions and Offices. The portions of the manual issued herewith have been prepared on the basis that the reimbursable costs and liability provisions of contracts entered into by the Commission and its contractors for engineering and construction work will be substantially similar in those respects to the Army forms of contracts. Suggestions as to improvement of the content of the manual and requests for clarification of its provisions should be addressed to the Division of Production.

3. *Contract Board.*—For the performance of the functions of selection of contractors and contract negotiation (as described in this paragraph 3), each Manager of Operations shall establish a Contract Board in order to assure the use of combined judgment and the preparation of adequate records on these important matters. The Contract Board, for each selection or negotiation, should consist of three members (or more, if desirable) of the Office of Operation's staff designated by the Manager. He should also designate the Chairman and Secretary of the Board. The members of the Board, whether permanent or not, should be individuals of recognized ability, whose collective experience includes engineering, construction, and general contract administration. In each instance of Board action on selection or negotiation, the Board should be the means of bringing to bear the necessary judgments of those members of the Operation's staff having concern with the matter. These staff members may include those concerned with Community Affairs, Finance, Legal, Personnel, Production, Research, and Security as well as representatives of the prime cost-type operating contractor. To assure continuity and uniformity in procedure, it is desirable that at least one member of the Board be a key member of the Manager's staff and carry through its varied activities on a relatively permanent basis. For contracts having an estimated construction cost of less than \$500,000, a panel of one or more members may act for the Board, subject to its review.

(a) With respect to prime contracts for engineering or construction services, the Board shall assist the Manager, as directed by him, in the following:

(1) the recommendation to the Manager of Construction Contractors and Engineer-Constructors to be selected to perform work on a cost-plus-a-fixed-fee

basis, and Architect-Engineers to be selected to perform work on a lump sum or cost-plus-a-fixed-fee basis.

(2) the negotiation of fees to be paid on cost-plus-a-fixed-fee contracts, and the amounts to be paid Architect-Engineers.

(3) the negotiation of other substantive provisions of contracts for architect-engineer services and for construction services on a cost-plus-a-fixed-fee basis.

(4) the negotiation of adjustments in fees or in contract prices because of changes in the scope of the work to be performed under architect-engineer and cost-plus-a-fixed-fee construction contracts.

(5) the performance of such other functions as are provided in the contract manual or are assigned to the Board by the Manager of Operations. Assigned functions might include advice to the Manager on recommendations to reject all bids, award of contracts to other than the low bidder as to price, and other difficult contract problems.

(b) With respect to *subcontracts*, the Manager of Operations will determine the most appropriate manner for the Contract Board to operate in accordance with the provisions of the contract concerned.

4. *Confidential Nature of Part 4, Section IV of Manual.*—Part 4, Section IV and Exhibits II-A, II-B, and III of the contract manual contain information, particularly with respect to negotiation of fees, of a confidential character which makes it incumbent upon those having access to this Part and Exhibits to see that only those employees of the Commission requiring such information in performance of their duties shall receive it.

5. *Offices of Operations.*—Offices of Operations as used in this Bulletin and in the manual includes the Schenectady Operations Office.

6. *Effective Date.*—The provisions of this Bulletin shall become effective not later than thirty days from the date of its issuance. Each Manager of Operations, at his option, may make its provisions effective prior to that date.

7. *Prior Bulletins.*—Any Bulletins, Instructions or other memoranda which provide practices or procedures inconsistent with this Bulletin and the attached manual are superseded.

8. *Administration.*—Responsibility is vested in the Manager of Operations for effective utilization of the contract manual and for the establishment and functioning of the Contract Board. Staff assistance will be provided by the Director of the Division of Production.

CARROLL L. WILSON, *General Manager.*

## CONTRACT MANUAL

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## SECTION I. GENERAL PROVISIONS

## PART 1. INTRODUCTION

1-10 *Applicability.* For the Commission and its field offices, this contract manual:

- (a) describes the policies to be followed in contracting for construction and architect-engineer services;
- (b) sets forth practices and procedures which should be followed in such contracting; and
- (c) prescribes the method for determination of fees to be paid on lump-sum architect-engineer contracts and on cost-plus-a-fixed-fee construction and architect-engineer contracts.

To the extent and subject to limitations of practicality provided in the manual these policies, practices, and procedures (unless in conflict with the provisions of existing contracts) are to be applicable to the Commission's cost-type contractors and subcontractors. The effective date of the manual is provided in the transmittal Bulletin, a copy of which is included in Appendix I.

1-11 *Supplements and Amendments.* As additional sections or parts of this manual are completed, or revisions or changes appear necessary, they will be issued by the Director of the Division of Production after appropriate clearance with other Divisions and Offices. The Managers of Operations may prescribe supplementary and implementing procedures which are consistent with the provisions of this manual. A copy of any written procedures will be forwarded to the Director of the Division of Production.

1-12 *Deviations From Manual.* No substantial or major deviation may be made without the prior approval of the appropriate Division Director (see paragraph 1-22).

1-13 *Definitions.*

1-13.1 *Prime Contracts.* The term "prime contracts" refers to contracts in which the United States of America, through the Commission, is a party.

1-13.2 *Prime Cost-Type Operating Contracts.* The term "prime cost-type operating contracts" refers to prime contracts for the establishment and operation of Commission facilities and under which the contractor is reimbursed his allowable costs as defined in the contract.

1-13.3 *Subcontracts.* The term "subcontracts" as used in this manual refers to contracts for engineering or construction work made by a prime contractor or by any contractor in a contractual chain wherein all the preceding contracts are on a cost basis.

1-13.4 *Construction.* The term "construction" refers to the erection or installation of any building, structure, plant, ground facility or other real property and material alterations or improvements thereto, regardless of purpose.

1-13.5 *Commission's Representative.* The term "Commission's representative" refers to the Manager of Operations or his duly authorized representative.

1-13.6 *Office of the General Counsel.* The term "Office of the General Counsel" refers to the counsel in the field or his designated representative.

1-13.7 *Director of Finance.* The term "Director of Finance" refers to the staff member having responsibility for accounting, auditing, and related matters in each Office of Operations.

1-13.8 *Other Definitions.* Other necessary definitions are contained in the appropriate portions of this manual.

#### PART 2. AUTHORITY TO MAKE ENGINEERING AND CONSTRUCTION CONTRACTS

1-21 *Commission's Authority.* The Commission's contract authority is set forth in the Atomic Energy Act of 1946, 60 Stat. 755 (42 U. S. C. secs. 1801, *et seq.*).

1-22 *Delegated Authority.* By GM Bulletin to each Office of Operations, and subject to the limitations contained in the Bulletin, the Managers of Operations have been given authority to negotiate and enter into contracts which are in accordance with approved programs and policies. Some of the limitations on this authority are—

(a) the approval of the appropriate Division Director<sup>1</sup> is required of purchases, contracts, extensions or modifications in excess of the amount set forth in the Bulletin;

(b) the Manager of Operations is required to bring to the attention of the appropriate Division Director all new or unusual types of contractual transactions;

(c) restriction of the authority to redelegate, and

(d) further stipulations imposed from time to time by the appropriate Division Director.

1-23 *Division Director's Approval.* Proposed contracts and subcontracts (and amendments) for engineering or construction services which are not within the authority of the Manager of Operations under the applicable Bulletins must be submitted with the information set forth in Exhibit I, attached, to the appropriate Division Director,

(a) for clearance before award and execution or approval of the contract by the Manager of Operations,

(b) after execution or approval by the Manager of Operations, for formal approval of the contract by the appropriate Division Director. The approval of the Division Director is also required in certain other instances as provided in other Sections and Parts of this manual.

<sup>1</sup> Division of Production for Raw Materials Operations Office, the New York Operations Office, the Oak Ridge Operations Office, and the Hanford Operations Office, including Schenectady Operations Office, Division of Military Application for Santa Fe Operations Office, and Director of Reactor Development for Chicago Operations Office.

## PART 3. BASIC POLICIES IN CONTRACTING FOR ENGINEERING AND CONSTRUCTION SERVICES

1-30 *Definitions.* The term "formal advertising" refers to that method of contracting for construction services provided in Section II. The term "invited bids" refers to solicitation of competitive bids from selected contractors qualified to perform the work and award of the contract as provided in Section III. The term "negotiation" refers to any method of contracting except by formal advertising or by invited bids.

1-31 *Statutory Provisions.*

1-31.1 *Section 3709 R. S.* In general, prime contracts are subject to and should be made in compliance with the provisions of Section 3709 of the Revised Statutes (41 U. S. C. sec. 5).

1-31.2 *Atomic Energy Act of 1946.* The Atomic Energy Act of 1946 provides that certain contracts may be entered into without regard to the provisions of Section 3709 of the Revised Statutes.

1-31.3 *Application.* The application of these statutory provisions to contracts for engineering and construction services is set forth in Part 1 of Section III.

1-32 *Methods of Contracting.* It is the policy of the Commission that—

(a) To the fullest extent feasible, construction contracts should be made on a lump sum or unit price basis using the formal advertising procedures provided in Section II.

(b) Where the procedure provided in Section II cannot be used, nevertheless there shall be obtained as full and free competition as is feasible in obtaining required engineering and construction services.

(c) A fair proportion of the total amount of contracts should be placed with small business concerns.

1-32.1 *Engineering Services.* Contracts for engineering services will be made on a lump sum basis in the manner provided in Section III, or if that is not feasible, on cost-plus-a-fixed-fee basis as provided in Section IV.

1-32.2 *Construction Services.* Construction contracts will be let by formal advertising as provided in Section II, or if that is not feasible, by invited bids as provided in Section III, or by negotiation. Construction contracts let by formal advertising or by invited bids will be let on only a lump sum or unit price basis. Construction contracts let on a negotiated basis may be lump sum, unit price, or cost-plus-a-fixed-fee type of contract.

1-32.3 *Improper Combination of Contracts.* A combination of a cost-plus-a-fixed-fee contract and a lump sum (or unit price) contract for engineering or construction services will not be awarded to the same contractor if performance of any portion of the work under each contract is to be concurrent and in the same general location. A lump sum or unit price contract or contracts shall not be let to the same firm for both engineering and construction services where the services are furnished for the same construction job.

1-32.4 *Prohibited Contracts.* Contracts may not be awarded to persons or firms who are disqualified by reason of failure to comply with the provisions of the Davis-Bacon Act (40 U. S. C. 276a to 276a-5), as provided in GM Bulletin No. 58. The cost-plus-a-percentage-of-cost type of contract will not be used.

## SECTION II. FORMAL ADVERTISING FOR CONSTRUCTION SERVICES

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### SECTION II. FORMAL ADVERTISING FOR CONSTRUCTION SERVICES

2-40 *Scope of Section.* This Section sets forth (a) the basic requirements for obtaining construction services by means of formal advertising, (b) the information to be contained in forms used for the solicitation of bids, (c) methods of soliciting bids, (d) policies with respect to the submission of bids, (e) requirements for opening of bids and evaluation of bids and for the awarding of contracts.

#### PART 1. USE OF FORMAL ADVERTISING

2-10 *Meaning of Formal Advertising.* As used in this manual, formal advertising means that method of procuring construction services by competitive bids and awards prescribed in this Section II.

2-11 *Use of Formal Advertising.* In accordance with the basic policies set forth in Part 3 of Section I, construction work shall be generally let by formal advertising. Bids shall be solicited in the manner provided in paragraph 2-21 from all those qualified contractors judged necessary by the Commission's representative, to assure full and free competition consistent with obtaining the required construction services. Subcontracts may be let without compliance with the formal advertising provisions of this Section II. However, in general, these procedures represent good business practice in the expenditure of Government funds. Consequently, insofar as practicable, procedures similar to those applicable to prime contracts should be used in letting subcontracts.

2-12 *General Requirements for Formal Advertising.* No contract shall be entered into as a result of formal advertising unless and until all of the following requirements have been satisfied.

(a) Compliance with the requirements of Part 2 of this Section II for soliciting bids.

(b) Compliance with the requirements of Part 3 of this Section II for submitting bids.

(c) Compliance with all applicable requirements of law, of this contract manual, and of procedures prescribed by each Manager of Operations.

(d) Award has been made to that responsible bidder whose bid, conforming to the invitation for bids, will be most advantageous to the Government price and other factors considered, as provided in Part 4 of this Section II.

#### PART 2. SOLICITATION OF BIDS

2-20 *Preparation of Forms.* The form or forms to be used in the solicitation of bids should contain substantially the following information:

(a) Invitation for Bids:

- (i) An invitation number to be placed in upper right-hand corner.
- (ii) Date of issuance.
- (iii) Name and address of office to which bids will be sent.
- (iv) Date, hour, and place of opening.
- (v) Any requirements as to furnishing of bid bonds and performance and payment bonds.

(b) **Bid Blanks:** Bid blanks are to be filled in by the bidder, and each bid is to be executed in accordance with instructions to bidders.

(c) **Drawings, specifications and other information:** The drawings and specifications, forms of contracts, time for commencement of work and its completion, and other data necessary for the bidder's information, or required by law, should be furnished interested bidders. Each document or attachment must be clearly identified by date, number, etc.

(d) **Other information** as is considered necessary by the Office of Operations.

**2-21 *Methods of Soliciting Bids.*** Bids should be solicited by the methods prescribed in paragraphs 2-21.1 and 2-21.2 and by any other of the following methods as are deemed necessary by the Manager of Operations or his representative in order to assure full and free competition, provided that bids shall be solicited sufficiently in advance of the opening of bids to allow bidders an adequate opportunity to prepare and submit their bids.

**2-21.1 *Mailing or Delivering to Prospective Bidders.*** The form to be used in the solicitation of bids shall be filled out and mailed (or delivered) to each prospective bidder. Each Office of Operations should maintain current lists of construction contractors, classified by type of work they are qualified to perform, such as general construction, heating and plumbing, electrical work, etc. The list should afford as broad a coverage of contractors as is reasonably possible and every effort should be made to include small business concerns on these lists.

**2-21.2 *Displaying in Public Place.*** Copies of the form to be used in the solicitation of bids shall be filled out and displayed at some appropriate public place.

**2-21.3 *Publishing in Trade Journals.*** A brief announcement of construction work proposed to be let may be made available for free publication to trade journals or other publications which inform contractors of proposed construction work.

**2-21.4 *Publishing in Newspapers.*** The essential details of any construction work proposed to be let may be made available to newspapers for free publication. Paid advertisements in newspapers shall generally not be used; but when it is necessary in order to secure effective competition, a brief announcement of the proposed construction work may be inserted in newspapers as paid advertisements, subject to the following conditions:

(a) written authority for such publication has been obtained from the Manager of Operations;

(b) all requirements of law set forth in 44 U. S. Code 321-324 have been met; and

(c) the advertisement shall be prepared in accordance with General Regulations No. 109, issued December 20, 1946, by the General Accounting Office (26 Comp. Gen. 986).

**2-22 *Addenda.*** Changes, including additions, modifications and omissions, in the information supplied prospective bidders and interpretations and explanation of this information shall be issued in the form of addenda or bulletins to all prospective bidders.

**2-23 *Office of Permanent Record.*** Each Office of Operations is the office of permanent record for every invitation for bids issued and distributed by it and for every abstract or record of bids. The file of the invitation for bids should show the distribution which was made and the date thereof.

### PART 3. SUBMISSION OF BIDS

**2-31 *Method of Submission.*** Bids shall be filled out, executed, and submitted by each bidder in accordance with the instructions accompanying the appropriate bid form. Neither telegraphic nor alternative bids shall be considered unless authorized by the invitation for bids or its accompanying papers.

**2-32 *Time of Submission.*** Bids shall be submitted in sufficient time to reach the designated office prior to the time fixed for opening. Bids received after the time fixed for opening are late bids; and the exact date and hour of mailing such bids, as shown by the cancellation stamp or by the stamp of an approved metering device, shall be recorded. Late bids shall be considered, provided they are received before the award has been made, and provided the failure to arrive on time was due solely to a delay in the mails for which the bidder was not responsible; otherwise, late bids shall not be considered but shall be held unopened until the time of award and then returned to the bidder unless other disposition is requested or agreed to by the bidder.

**2-33 *Modification or Withdrawal of Bids.*** Bids may be modified or withdrawn, at any time prior to the time fixed for opening thereof, by written or telegraphic notice received prior to the time fixed for opening. After the opening of bids, no bid may be modified (except as provided in paragraphs 2-44 and 2-45) or withdrawn unless such modification or withdrawal is received before the award has been made and either (a) failure of the modification or withdrawal to arrive prior to the time fixed for opening was due solely to a delay in the mails for which the bidder was not responsible or (b) modification is in the interest of the Government and not prejudicial to the other bidders.

#### PART 4. OPENING OF BIDS AND AWARD OF CONTRACT

**2-40 *Scope of Part.*** This part deals with (a) the opening and recording of bids, (b) the rejection of bids, (c) informalities, irregularities, and mistakes in bids, and (d) the evaluation of bids and the awarding of contracts.

**2-41 *Opening of Bids.*** All bids received prior to the time of opening will be kept secure and unopened until the time of opening (except that an unidentified bid may be opened solely for purposes of identification, provided that such bid shall be resealed immediately and that no information obtained therefrom shall be disclosed) whereupon they shall be publicly opened and read aloud by the official designated to open the bids. Although it is the primary responsibility of bidders to prepare their bids correctly and completely, nevertheless, it is the duty of the Commission's representative, after the opening of bids and prior to award, to examine all bids for minor informalities or irregularities and for obvious or apparent mistakes (as referred to in paragraphs 2-44 and 2-45.1 respectively). The original bids shall not be allowed to pass out of the hands of a representative of the Commission, except when a duplicate bid cannot be made available for public inspection, and then only under the immediate supervision of a representative of the Commissioner and under conditions which preclude the possibility of a substitution, addition, deletion, or alteration in the bid.

**2-42 *Recording of Bids.*** The names of the bidders and the prices bid shall be entered in an abstract or record which shall be available for public inspection.

**2-43 *Rejection of Bids.*** Any bid which does not conform to the essential requirements of the invitation for bids shall be rejected, *provided* that any such bid may be considered when in the interest of the Government and not prejudicial to other bidders. All bids may be rejected by the Commission's representative (a) when rejection is in the interest of the Government or (b) when he finds in writing that the bids are not reasonable, or were not independently arrived at in open competition, or are collusive, or were submitted in bad faith. The originals of all rejected bids, and any written findings with respect to rejection, shall be preserved with the papers relating to the proposed work and they shall be kept available for inspection by duly authorized representatives of the General Accounting Office. Reports of possible violation of any Federal criminal statutes relating to procurement shall be made through the Office of the General Counsel.

**2-44 *Minor Informalities or Irregularities in Bids.*** Bidders shall be given an opportunity to correct minor informalities or irregularities in bids or in the alternative, when it is not to the disadvantage of the Government, the Commission's representative may waive the same if time does not permit correction. Illustrative examples of minor informalities or irregularities are inadvertent failure to furnish bid bond with bid and failure to affix corporate seal.

#### **2-45 *Mistakes in Bids.***

**2-45.1 *Obvious or Apparent Mistakes of a Clerical Nature.*** Any clerical mistake obvious or apparent on the face of the bid may be corrected by the Commission's representative at the time of the opening of bids, if practicable, and in any event prior to award, provided there has been received from the bidder, in response to a request or verification of the bid, a statement as to any such mistake therein. An example illustrative of such mistake is an obvious error in placing a decimal point.

**2-45.2 *Other Mistakes.*** In the case of any suspected or alleged mistake in a bid, other than an obvious or apparent clerical mistake on the face of the bid, the procedure should be as follows:

(a) There should be obtained from the bidder, prior to award, either a verification of the bid or evidence in support of the mistake. If the bidder fails or refuses to furnish evidence in support of the mistake, the bid should be considered in the form submitted.

(b) If evidence in support of the mistake is furnished prior to award, the case should be referred to the Director of Finance who will consult with the Office of the General Counsel on the advisability of presentation to the General Accounting Office. If award of the contract must be made prior to a decision as to the relief, if any, to be given to the bidder alleging the mistake and if there is no room for doubt as to the price or other terms intended in the bid in which a mistake occurred, then:

(i) in the case of a mistake in the lowest bid which as clearly intended would not be the lowest bid, such bid may be disregarded.

(ii) in the case of a mistake in the lowest bid which as clearly intended would still be the lowest bid, award shall be made on the basis of such low bid as originally submitted, but subject to correction if properly authorized, or

(iii) In the case of a mistake in any bid other than the lowest bid, such bid shall be considered on the basis of its price or other terms as clearly intended.

(c) Whenever a mistake in a bid is to be processed in accordance with the procedure set forth in subparagraph (b) above, the following papers should accompany a copy of the bid which contains the suspected or alleged mistake:

(i) A copy of the invitation for bids;

(ii) An abstract or record of bids received;

(iii) A statement from the bidder, and any additional supporting evidence such as work sheets or other data used in preparing the bid, setting forth the complete facts on which the allegation of mistake is based and requesting such definite relief as withdrawal of the bid, change in bid price, etc.; and

(iv) A statement from the Commission's representative showing the date when notice of the alleged mistake was received, and any additional information he may have as to the alleged mistake, together with his recommendations.

(d) Mistakes in bids submitted on subcontracts will not be referred to the General Accounting Office but should be handled by a procedure acceptable to the managers of Operations and the prime contractor.

**2-45.3 Mistake After Award.** When an alleged mistake in a bid is disclosed after award has been made, the case shall be referred to the Office of the General Counsel.

**2-46 Award.** Award shall be made with reasonable promptness by written notice to that responsible bidder whose bid, conforming to the invitation for bids, will be most advantageous to the Government price, previous estimates, and other factors considered, provided that an award shall not be made to other than the lowest bidder as to price except with the written approval of the Manager of Operations or, if he authorizes, the written approval of the Contract Board. A responsible bidder is a bidder who possesses the financial, technical, and management abilities necessary to perform the contract. Among other factors besides price that may be considered in making an award are:

(a) judgment, skill and integrity of a bidder;

(b) reputation and experience of the bidder, and prior work of a similar nature done by him;

(c) changes made or requested in any of the provisions of the solicitation to the extent that such changes do not constitute grounds for rejection under the provisions of paragraph 2-43;

(d) restrictions or conditions imposed in the bid; and

(e) time of performance, provided that the forms soliciting bids made time a material factor.

**2-46.1 Statement and Certificate of Award.** In connection with every prime construction contract let by formal advertising, the Commission's representative shall prepare and execute a statement and certificate of award on U. S. Standard Form 1036, which shall be attached to the original documents and paper constituting the contract which are forwarded to the General Accounting Office. Such certificate shall either—

(a) state that the accepted bid was the lowest bid received in which case neither the rejected bids nor an abstract of the bids need be furnished to the General Accounting Office with the contract; or

(b) list all lower bids than the one accepted together with a detailed statement giving in full the reasons for the acceptance thereof.

**2-47 Information to Bidders.** To the extent reasonable and practicable and consistent with security regulations, any bidder or his authorized representative upon proper inquiry shall be given the name of the successful bidder, the bid amount and other authorized information.

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## SECTION III. CONTRACTS FOR ENGINEERING AND CONSTRUCTION SERVICES WITHOUT FORMAL ADVERTISING

3-10 *Scope.* This Section sets forth (a) the circumstances under which engineering and construction services will be obtained without recourse to the formal advertising procedures set forth in Section II, and (b) the procedures and practices to be followed in entering into lump sum or unit price contracts without formal advertising. Procedures and practices with respect to cost-plus-a-fixed-fee contracts for engineering and construction services are contained in a separate Section IV because of the extent of the necessary provisions and confidential nature of a portion of the text.

## PART I. PERMISSIBLE USE

3-11 *Basic Authority.* Managers of Operations are authorized, subject to the provisions of Section I, to let prime contracts without following the formal advertising procedures set forth in Section II when the procedure followed in letting the contract.

(a) complies with the requirements of Section 3709 of the Revised Statutes (41 U. S. C. sec. 5), or

(b) is authorized under the Atomic Energy Act of 1946.

3-12 *Application of Section 3709.* R. S. Sec. 3709, as amended August 2, 1946, provides as follows:

"Sec. 9 (a). Unless otherwise provided in the appropriation concerned or other law, purchases and contracts for supplies or services for the Government

may be made or entered into only after advertising a sufficient time previously for proposals, except (1) when the amount involved in any one case does not exceed \$100, (2) when the public exigencies require the immediate delivery of the articles or performance of the service, (3) when only one source of supply is available and the Government purchasing or contracting officer shall so certify, or (4) when the services are required to be performed by the contractor in person and are (A) of a technical and professional nature or (B) under Government supervision and paid for on a time basis. Except (1) as authorized by Section 29 of the Surplus Property Act of 1944 (50 U. S. C. App. 1638), (2) when otherwise authorized by law, (3) when the reasonable value involved in any one case does not exceed \$100, sales and contracts of sale by the Government shall be governed by the requirements of this section for advertising.

"(b) Exemptions from Section 3709, Revised Statutes, in other laws in amounts of \$100 or less are hereby repealed."

Subcontracts are not subject to the provisions of Section 3709. Subcontracts on a lump sum or unit price basis for construction services will be let, insofar as practicable, in accordance with the procedures set forth in Section II and, in any event, the letting of lump sum or unit price subcontracts will meet the requirements of Part 2 of this Section III. As stated in Part 3 of Section I, Section 3709 generally is applicable to the letting of prime contracts. This statute will be complied with if—

(a) the contract is let in accordance with the formal advertising procedures of Section II; or

(b) circumstances exist which make applicable one of the four exceptions enumerated in the statute and reviewed in the following paragraphs 3-12.1 through 3-12.4. Paragraphs 3-13.—pertaining to the application of the Atomic Energy Act to contracts, states certain circumstances under which contracts may be let without following the formal advertising procedures. The letting of contracts under these circumstances also may be justified in some instances under Section 3709. Whether Section 3709 or the Atomic Energy Act is used in the justification on Form 1036 will be decided by the Office of the General Counsel.

**3-12.1 Amount Less Than \$100.** Construction contracts in an amount less than \$100 are not subject to the advertising requirements of the statute. Letting of more than one contract as a subterfuge to bring the same within this exception is not to be permitted.

**3-12.2 Public Exigency.** Construction contracts may be let without advertising when the public exigencies require their immediate performance. In order for this exception to be applicable, the need must be compelling and of unusual urgency, as when the Government would be seriously injured, financially or otherwise, if the services were not performed by a certain date, and when they could not be performed by that date if they were obtained by means of formal advertising. This exception might be applicable where a facility must be altered or repaired immediately in order not to interfere with essential production and the need for the work could not have been reasonably foreseen.

**3-12.3 Sole Source of Supply.** Construction contracts may be let without advertising when only one source of supply for such services is available and the Commission's representative shall so certify. A statement of facts upon which the opinion as to the existence of a sole source of supply is based must be furnished by the Commission's representative. This exception might be applicable where a proprietary article which must be purchased from the manufacturer or sole distributor is the only one suitable, and it is customary or necessary to purchase the article on an installed basis.

**3-12.4 Personal Services.** The exception as to services required to be performed by the contractor in person is not applicable to contracts with firms of architect-engineers or to construction services which involve performance of services by more than one individual.

**3-12.5 General Limitation.** The interpretation and application of these exceptions have been the subject of numerous decisions by the Comptroller General. Where there is any reasonable doubt of the application of these exceptions to the circumstances of a case, advice should be sought from the Office of the General Counsel.

**3-13 Application of Exemptions Contained in the Atomic Energy Act.** In general, the other exceptions to the advertising requirements of Section 3709 are found in the provisions of the Atomic Energy Act of 1946. The scope of the exemptions under the Act depends in considerable part upon the factual justifi-

cation for the proposed manner of letting the contract. The manner in which it is proposed to solicit proposals from available prospective contractors, as well as the nature and urgency of the work, are important elements in this factual justification. The circumstances under which exemptions under the Act may be available are outlined in the following paragraphs. The advice of the Office of the General Counsel should be obtained where there is any doubt as to their application to any particular case.

**3-13.1 Practicality.** Formal advertising procedures may be dispensed with when it is not reasonably practicable to secure adequate competition through use of that procedure. Circumstances in which this condition is usually present are:

(a) When the information necessary to be furnished bidders includes restricted data, or when performance of the work will involve access to restricted data, and it will not be practicable to obtain necessary security clearance of personnel of the successful bidder within a reasonable time after submission of the bid. Where this exception is applicable contracts will be let either on a lump sum basis in accordance with the procedure provided in Part 2 of this Section, or if a lump sum basis is not practicable, on a cost-plus-a-fixed-fee basis in accordance with the procedure provided in Section IV.

(b) When the contract is for furnishing architect-engineer services. Contracts for these services will be let in accordance with the procedure prescribed in Part 3 of this Section or if a lump-sum basis is not practicable, that prescribed in Section IV.

(c) When it is impossible to draft, for a solicitation of bids, adequate plans and specifications or any other adequately detailed description of the required services.

(d) When, in order to meet essential program requirements by a certain date, construction work must be commenced prior to development of adequate information upon which to solicit bids by formal advertising.

**3-14 Statement and Certificate of Award.** In connection with every prime contract let pursuant to the provisions of this Part I of Section III, including contracts made pursuant to Parts 2 and 3 of Section III and Section IV, the Commission's representative shall prepare and execute a statement and certificate of award on Standard Form 1036, which shall be attached to the original documents and papers constituting the contract which are to be forwarded to the General Accounting Office. The advice of the Office of the General Counsel should be obtained in preparing Form 1036.

## PART 2. AWARD OF LUMP-SUM OR UNIT-PRICE CONSTRUCTION CONTRACTS WITHOUT FORMAL ADVERTISING

**3-20 Scope.** This Part 2 sets forth the prescribed procedures for letting lump-sum or unit-price construction contracts by invited bids and by negotiation. The procedure in awarding lump-sum architect-engineer contracts is set forth in Part 3 of this Section III, and the procedure for letting cost-plus-a-fixed-fee engineering and construction contracts is set forth in Section IV.

**3-21 Use of Invited Bids.** The invited bids procedure will be used when: (a) formal advertising is not feasible for one of the reasons enumerated in Part I of this Section, and (b) adequate information is available for the solicitation of bids.

**3-22 Procedure.** In general, the procedures followed in letting a contract by invited bids is similar to the formal advertising procedure. The objective is to obtain as full and free competition as is feasible under the circumstances. The procedure will differ to the extent indicated in the following paragraphs.

**3-23.1 Method of Soliciting Bids.** No notice need be posted in a public place nor need notice be given in any trade journals or newspapers. Bids, however, should be solicited from as many qualified contractors as it is feasible to do so. Construction work must not continue to be let, time after time, to a small group of contractors for the sole reason that they have received previous security clearance. If restricted data is involved, consideration should be given to increasing the number of qualified contractors by having security clearance obtained for the personnel concerned in preparing the bid.

**3-22.2. Submission of Bids.** If in exceptional cases time does not permit, formal bids need not be obtained, but any oral bids must be confirmed by written bids prior to award. Prior approval of the Commission's representative must be obtained to solicitation of oral bids.

3-22.3. *Opening of Bids and Award.* No formal opening of bids is required, but to encourage full, free and fair competition the provisions of Part 3 and 4 of Section II should be followed closely. While award of the contract to the lowest bidder as to price is not required where not in the best interests of the Government, award to other than the low bidder should seldom be necessary since the bidders have been selected for financial and technical qualifications. The factors, other than price, that may be considered in making an award are set forth in paragraph 2-46.

3-23 *Lump-Sum or Unit-Price Construction Contract by Negotiation.* Construction contracts may be let on a lump-sum or unit-price basis without formal advertising or invited bids, referred to as negotiation in this paragraph, when

(a) only one bid has been received after formal advertising or invited bids, provided that award may be made on the one bid as submitted, and that in no case may the price paid after negotiation exceed the amount bid.

(b) there is only one source for the furnishing of the construction services, or

(c) no responsive bid has been received from a responsible bidder after formal advertising or invited bids,

and the Commission's representative is able to satisfy himself that a lump-sum or unit-price contract at the price negotiated is in the interests of the Government. If a price which appears to be fair and reasonable cannot be negotiated, consideration should be given to letting the contract on a cost-plus-a-fixed-fee basis. Determination of whether the price is fair and reasonable should be supported by a written memorandum setting forth the Commission's estimate, market information and other available sources of information.

#### PART 3. LUMP-SUM CONTRACTS FOR ARCHITECT-ENGINEER SERVICES

3-30 *General.* The procedures in selection and the method of negotiating lump-sum architect-engineer contracts are similar to, and in many instances, identical with, those used for cost-plus-a-fixed-fee architect-engineer contracts. Accordingly, to avoid repetition cross reference will be made in this Part to the appropriate paragraphs of Section IV.

3-31 *Definition.* A large-sum contract for architect-engineer services provides for the payment of a fixed amount or lump sum to the contractor for the furnishing of architect-engineer services. It may, and as provided in this Part, does, include reimbursement for specified items of cost.

3-32 *Prescribed Use.* A lump-sum contract for architect-engineer services should be used whenever it is practicable to compile in advance of the preparation of plans and specifications adequate information specifically describing the character and extent of services required. The development of this information will not be practicable where (a) the time limits for commencement or completion of the work do not permit advance development of the information, or (b) the nature of the work is such that substantial technical development is required before these data will become available.

3-33 *Selection.* The procedure used in the selection of Architect-Engineers to furnish services on a lump-sum basis is the same as that set forth in paragraph 4-23 of Section IV. The responsibilities of the Contract Board with respect to the selection of Architect-Engineers for both prime contracts and subcontracts under prime cost-type operating contracts is contained in the transmittal GM Bulletin (Appendix I).

3-34 *Required Information.* Before negotiating a lump-sum architect-engineer contract it will be necessary to have the same information set forth in paragraph 4-33 of Section IV, as well as a description of the work as set forth in paragraph 4-36. The information as to the work should be in more detail and on a firmer basis, particularly as to estimated cost, than for a cost-plus-a-fixed-fee contract.

3-35 *Determination of Lump Sum.* The basic policy with respect to fees set forth in paragraph 4-41 is also applicable to the determination of the lump sum to be paid on architect-engineer contracts. A schedule for lump-sum architect-engineer contracts is included in Exhibit IIA. Amounts in excess of the maximum derived from this schedule as adjusted by the provisions of this Part 3 will not be negotiated with respect to original contracts or change orders or supplemental agreements covering additional or less work than was originally contemplated; provided, that if, because of unusual circumstances, a Manager of Operations believes an amount higher than the maximum should be negotiated for particular services, the Manager may request approval for such higher amount from the appropriate Division Director. In this event the request must set forth in

writing the recommended amount and the circumstances and reasons justifying payment of a larger amount.

3-35.1 *Factors Governing Amount.* The schedule in Exhibit II for lump-sum architect-engineer contracts shows the maximum amount (not including the reimbursements referred to hereinafter) to be paid to Architect-Engineers who render all of the services enumerated in paragraph 4-33 for the most complex work to be performed within a normal period. The adjustments are as follows:

(a) For complexity, the same classifications and deductions for the respective classes as those set forth in paragraph 4-42.2 are made from the lump-sum amount derived from the schedule.

(b) For less than full services, percentage deductions within the same ranges as those set forth in paragraph 4-42.3 are made from the lump-sum amount derived from the schedule.

(c) For lay-out or design of manufacturing and operating equipment, its estimated cost or a proportion thereof may be included in determining the lump-sum amount under the circumstances described in paragraph 4-42.5.

(d) For period of service, if an exceptional case arises in which an adjustment of the lump sum appears necessary because of a considerable variance in a normal period of service, the Manager of Operations should forward his recommendations as to the adjustment to be made to the appropriate Division Director.

3-36 *Reimbursable Costs.* The lump-sum amount derived from the schedule, as adjusted by the factors described above, is to be complete compensation to the Architect-Engineer for all the required services except that the Architect-Engineer may be reimbursed for the direct costs of the following items:

(a) Necessary topographical and other field surveys, test borings, and other subsurface investigations which he or his subcontractor may be required to make.

(b) Making *major* changes and deviations from the *approved* preliminary work that may involve either restudy or redesign.<sup>2</sup>

(c) Salaries, including pay-roll costs approved by the Commission's representative, of field engineers and inspectors employed by the Architect-Engineer at the site for the inspection of the construction work and their "on site" transportation. (Compensation for a responsible resident representative together with the required office force, other than the field engineers and inspectors, is included in the lump sum.) "On site" transportation does not include transportation to or from living quarters.

(d) Employment of expert technical assistance when approved by the Commission's representative (this may include services of material testing laboratories).

(e) Furnishing more than 20 copies of drawings and documents.

(f) Traveling expenses for extraordinary services, such as expediting, or inspecting materials and equipment at vendors' plants.

3-36.1 *Permissible Deviation.* If considered to be in the best interests of the Government, the lump sum to be paid the Architect-Engineer may be increased by an amount sufficient to include the estimated cost of any one or of all the items described in subparagraphs (a) to (f). The calculation of the lump sum, to be shown as a part of Exhibit I, shall clearly show the amount included for each of these items.

3-37 *Negotiation Procedure.* The procedure in negotiating lump-sum architect-engineer contracts is similar to that set forth in Part 7 of Section IV for negotiating cost-plus-a-fixed-fee contracts. GM Bulletin No. 44 relative to approval of wage, salaries, benefit plans, etc., on cost-plus-a-fixed-fee contracts is inapplicable except to approval of salaries of field engineers and inspectors or other reimbursable personnel.

3-38 *Letter Agreements.* Authorizations to proceed under a letter agreement, as provided in paragraph 4-72, should be avoided whenever possible. In any event, the letter agreement should contain the essential items agreed upon during the negotiations.

<sup>2</sup> An addition to this manual will be issued on the subject of change orders and supplements to contracts.

## SECTION IV. COST-PLUS-A-FIXED-FEE CONTRACTS

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## SECTION IV. COST-PLUS-A-FIXED-FEE CONTRACTS

4-10 *Scope.* This Section sets forth (a) the circumstances with respect to which cost-plus-a-fixed-fee contracts will be used, (b) selection of Architect-Engineers and cost-plus-a-fixed-fee Construction Contractors, (c) required information to negotiate contracts, (d) on cost-plus-a-fixed-fee contracts, (e) salaries and wages under cost-plus-a-fixed-fee contracts, (f) allowance for work in general offices, and (g) procedure in negotiating contracts.

## PART 1. USE OF COST-PLUS-A-FIXED-FEE CONTRACTS

4-11 *Definition.* A cost-plus-a-fixed-fee contract provides for the payment of all the contractor's allowable costs as defined in the contract; it establishes an estimate of the total cost; it provides for the payment of a fixed fee which does not vary with the actual cost, but is adjusted only in the event a material change in scope or character of the work is ordered by the owner.

4-12 *Prescribed Use.*

4-12.1 *Contracts for Architect-Engineer Services.* In general, cost-plus-a-fixed-fee contracts and subcontracts for architect-engineer services may be utilized only when it is impracticable to compile in advance of the preparation of plans and specifications adequate information specifically describing the character and extent of services required. The development of this information will not be practical where (a) the time limits for commencement or completion of the work do not permit advance development of the information, or (b) the nature of the work is such that substantial technical development is required by the Architect-Engineer before these data will become available.

4-12.2 *Contracts for Construction Services.* Prime cost-plus-a-fixed-fee construction contracts will be entered into only if one of the exceptions set forth in Part 1, Section III is applicable, and it is not practicable to let the contract by invited bids as set forth in Part 2 of Section III. Cost-plus-a-fixed-fee subcontracts will be entered into only if it is not practicable to use a lump sum or unit price contract.

4-12.3 *Engineer-Constructor Contracts.* Cost-plus-a-fixed-fee contracts and subcontracts for both architect-engineer and construction services (called Engineer-Constructor contracts) should not be made except (a) for the reasons set forth in paragraph 4-12.1 for the engineering services, (b) for the reasons set forth in paragraph 4-12.2 for construction services, and (c) where it is manifestly to the advantage of the Commission to combine engineering and construction services in one contract.

4-12.4 *Subcontracts.* The procedures and practices prescribed in this Section IV are applicable to cost-plus-a-fixed-fee subcontracts for architect-engineer or construction services except that Managers of Operations will determine the most appropriate manner for the Contract Board to operate as provided in the transmittal Bulletin.

## PART 2. SELECTION OF ARCHITECT-ENGINEERS AND CONSTRUCTION CONTRACTORS

4-21 *General.* The most important consideration in obtaining economical and efficient performance of work under a cost-plus-a-fixed-fee contract for engineering or construction services is the selection of the firm best qualified to perform the work, considering all applicable factors. The amount of the fee, which is relatively small in proportion to the total construction cost, the adequacy of contractual provisions, or the effectiveness of contract administration, cannot offset the disadvantage in employing an unqualified firm.

4-22 *Authority.* The Manager of Operations is responsible for the selection of Architect-Engineers, Construction Contractors, and Engineer-Constructors en-

gaged upon a cost-plus-a-fixed-fee basis. Under the G Bulletin transmitting this manual, one of the responsibilities of the Contract Board is to recommend to the Manager the Architect-Engineer or Construction Contractor to be awarded a prime contract.

**4-23 Procedure in Selection.** The procedure in selection of Architect-Engineers, Engineer Constructors, and cost-plus-a-fixed-fee Construction Contractors for both prime contracts and subcontracts is as follows:

**4-23.1 Eligible Firms.** The objective should be to give consideration to as many firms within practical limits as may offer possible qualifications for performance of the work. This objective is attained from:

(a) An analysis of the requirements of the work considering such factors as—

- (i) the nature of the work;
- (ii) the magnitude of the job;
- (iii) the time of performance; and
- (iv) the conditions under which the work is to be performed, such as location of the work, local labor conditions, and relations with other contracts.

(b) Available information as to firms possibly meeting these requirements. This information may be derived from:

- (i) the general experience of those making the selection;
- (ii) data furnished to the Office of Operations by Architect-Engineers and Construction Contractors interested in performing Commission work;
- (iii) previous performance for the Commission;
- (iv) information furnished by the Construction-Engineering Branch of the Production Division if requested by the Office of Operations; and
- (v) other various sources, such as trade journals, professional societies, other Architect-Engineers and contractors, etc.

**4-23.2 Final Selection.** To screen the firms which are to be further considered and, finally, to determine the firm best qualified to perform the work, additional data are developed on the factors set forth below through further information supplied by the firms either by letter or through personal interviews, inspection of the facilities of the firm, and any other sources which will supply pertinent and reliable information. The factors are as follows:

(a) Reputation and standing of the firm and its principal members in performance of the contemplated type of work.

(b) Past record in performing work for the Commission and, if available, for other Government agencies.

(c) Adequacy of any necessary home office facilities.

(d) The volume of work of the firm in previous years, and the extent to which the firm is currently engaged in other work.

(e) Ability to assign an adequate number of qualified key personnel, including a resident representative having considerable experience in responsible positions on work of a similar nature.

(f) Additional management qualifications:

(i) its record in labor relations, particularly, effectiveness in preventing work stoppages, and the possible effect of labor relations policies and practices on other contractors performing work at the site;

(ii) its safety record;

(iii) the adequacy of its accounting system.

(g) Ability of the firm to perform a major portion of the work with its own forces.

(h) Ability of the firm to furnish or to obtain adequate construction plant and to procure required materials and equipment.

(i) Financial resources.

(j) Geographic location of the home office and familiarity with the locality in which the project is located.

**4-23.3 Submission to Division Director.** For engineering or construction contracts, including both prime contracts and subcontracts, in which the estimated cost of the construction work is in excess of \$2,000,000, the Manager of Operations should advise the appropriate Division Director of the firms being considered when the number has been reduced to three or four.

**4-24 Records.** The Contract Board should maintain the following records:

(a) As to eligibility, to the extent reasonably practicable, a current record of engineering and construction firms which might be available for work at the Office of Operations, and their qualifications.

(b) As to selection, a record which will:

(i) show the procedure which was followed in the selection of Architect-Engineers and cost-plus-a-fixed-fee Construction Contractors;

(ii) show the reasons for the selection of the firm, including evaluation of the factors set forth in paragraph 4-23;

(iii) show the other firms considered and the reasons they were not selected.

(c) As to performance, a record which will show the effectiveness with which the firm performed cost-plus-a-fixed-fee work, in order that its qualifications may be evaluated in the light of the factors set forth in paragraph 4-23 for any further work at the Office of Operations or at other Offices of Operations. A copy of this record, which should be marked "Confidential," shall be forwarded to the Director of the Division of Production, Attention: Construction-Engineering Branch.

### PART 3. ENGINEERING AND CONSTRUCTION INFORMATION REQUIRED IN NEGOTIATING COST-PLUS-A-FIXED-FEE CONTRACTS

4-31 *General*. Before attempting to negotiate a cost-plus-a-fixed fee contract for engineering or construction services, the following information set forth in this Part 3 should be developed in written form and included as a part of Exhibit I.

4-32 *Type of Service*. Statement regarding type of service required, that is, Architect-Engineer, Construction Contractor, or Engineer-Constructor.

4-33 *Extent of Services of Architect-Engineer*.

(a) Statement showing the extent to which the services of the Architect-Engineer include those set forth in the following three titles:

#### *Title I*

Provide the necessary topographical and other field surveys, test borings, and other subsurface investigations; prepare preliminary studies, sketches, and lay-out plans and reports, including estimates of cost of the proposed project and of all structures, utilities, and appurtenances thereto.

#### *Title II*

Complete design of the work, including preparation of all required preliminary and final working drawings, specifications, estimates, and contract documents; assist in securing, analyzing, and evaluating bids or proposals for construction, check shop drawings, and consult with the owner on all questions arising in connection with the services performed by the Architect-Engineer.

#### *Title III*

Complete architect-engineer supervision and inspection of construction under the direction of a responsible representative. Furnishing of record drawings to show construction as actually accomplished.

(b) A statement showing whether the services of the Architect-Engineer will include the furnishing of a nonreimbursable representative who shall be in responsible charge of the work.

(c) Statement showing whether the services of the Architect-Engineer include process design. Process design normally requires the preparation of flow diagrams showing each operating step to perform the process, the nature, capacity and design characteristics of production equipment, and the general design of connecting flow lines to handle the calculated rates of product and byproduct flow. Under ordinary circumstances the Architect-Engineer is not required to furnish process design.

4-34 *Extent of Services of Construction Contractor*. A statement showing whether the services of the Construction Contractor include:

(a) Construction with the contractor's own forces of all work except specialty items normally subcontracted.

(b) Procurement of all required materials.

(c) Procurement of all manufacturing equipment.

(d) Installation of manufacturing equipment.

(e) Complete management of construction under the direction of a non-reimbursable resident representative who shall be in responsible charge of the work.

**4-35 Extent of Services of Engineer-Constructor.** A statement showing whether the services of the Engineer-Constructor include all of the services set forth in paragraphs 4-33 and 4-34.

**4-36 Description of the Work.** Statement containing a sufficiently detailed description of the work to permit the degree of complexity of its principal components to be evaluated adequately. The estimated cost of the component items should be furnished insofar as applicable and this should include the description and estimated cost of:

(a) Buildings and other structures for which complete designs and specifications are to be prepared by Architect-Engineer, including number and unit cost of each type, with as much information as is available (within security requirements) as to the functional requirements for such structures.

(b) Utilities, giving classifications and unit prices in as much detail as practicable.

(c) Manufacturing equipment to be—

(i) procured by operating contractor or furnished by the Commission;

(ii) to be procured by Construction Contractor or Engineer-Constructor;

(iii) designed by Architect-Engineer; and

(iv) installed by the Construction Contractor or by the Engineer-Constructor.

**4-37 Estimated Cost and Time for Completion.** Statement disclosing (a) total estimated cost of the work exclusive of Construction Contractor's fee, showing separately any amount included for contingencies, and (b) estimated time of completion of design or construction work.





# INVESTIGATION INTO THE UNITED STATES ATOMIC ENERGY PROJECT

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## HEARING

BEFORE THE

## JOINT COMMITTEE ON ATOMIC ENERGY CONGRESS OF THE UNITED STATES

EIGHTY-FIRST CONGRESS

FIRST SESSION

ON

## INVESTIGATION INTO THE UNITED STATES ATOMIC ENERGY PROJECT

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### PART 1

MAY 26, 1949

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# INVESTIGATION INTO THE UNITED STATES ATOMIC ENERGY PROJECT

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THURSDAY, MAY 26, 1949

CONGRESS OF THE UNITED STATES,  
JOINT COMMITTEE ON ATOMIC ENERGY,  
*Washington, D. C.*

The committee met, pursuant to notice, at 10 a. m., in the Caucus Room, Senate Office Building, Washington, D. C., Senator Brien McMahon (chairman) presiding.

Present: Senator McMahon (chairman), Representative Durham (vice chairman), Senators Connally, Vandenberg, Knowland, and Hickenlooper; Representatives Holifield, Price, Jackson, Elston, Hinchshaw, and Van Zandt.

Also present: David E. Lilienthal, Chairman, Sumner T. Pike, Lewis L. Strauss, and Gordon E. Dean, Members, United States

Lewis L. Strauss, and Gordon E. Dean, members, United States

The CHAIRMAN. The committee will come to order.

We meet this morning as a result of charges against the Atomic Energy Commission and numerous congressional demands that the Chairman of the Commission be removed from office. Requests for a thorough investigation have been made by Members of the Congress, including members of this committee.

The Chairman of the Commission, Mr. Lilienthal, in a letter to me dated May 25, requested an early opportunity to be heard. For these reasons today's meeting is being held.

I need not emphasize that we are dealing with matters of grave import. This would seem to be a good time for an impartial and independent committee reevaluation of the Nation's atomic energy project, both its good points and its bad. The Joint Committee on Atomic Energy should make a complete inquiry into the grave charges which have been made—so far as possible through public and open hearings.

Now, the Commission is here; the Chairman is here. Mr. Lilienthal, have you a statement which you wish to make in your own behalf and on the behalf of the Commission?

## STATEMENT OF DAVID E. LILIENTHAL, CHAIRMAN, ATOMIC ENERGY COMMISSION

Mr. LILIENTHAL. Yes, Mr. Chairman, and members of the committee, I do have a statement, and it would be helpful to me if I could make this initial statement continuously with questions to follow the statement, if that is consistent with the wishes of the chairman and the committee.

We are happy that this committee of the Congress is providing an opportunity for the Atomic Energy Commission of the United States to render an accounting of its stewardship, a full and complete accounting of this important and serious stewardship which we bear to the Congress, to the President, and to the country. We hope and believe there will be a full opportunity for an accounting.

The country can only appraise the charges, the grave charges, that have been made if the country has before it, through the medium and forum provided by this, the Legislative Committee of the Congress, an opportunity to hear not only of the mistakes and inadequacies of the operation of these some 60,000 individuals who make up the atomic energy enterprise of the country, but also of the accomplishments of this Commission.

I would like to make clear at the outset that we are firmly of the opinion that a full accounting can be made to the country without the revelation of any secret information. This is basic. There are some things, of course, of which this is not true and those must be reserved for an executive session, but it is our opinion, as will be indicated in the outline to which I will come in a moment, that there are ways through the resourceful utilization of the flexibility of democratic methods whereby an accounting of a major public trust, close to the lives and fortunes of the people of this country, can be made to the country before this committee and in public, if supplemented by executive sessions on secret matter.

Later on I shall indicate what is, in our opinion, one or perhaps many devices that can be employed to secure an opportunity for an appraisal, both of the mistakes and of the accomplishments of the Commission.

We strongly urge that the committee make a full report to the American people on these charges. They are grave charges, they are charges which affect the confidence of the American people in the state of their atomic readiness as well as in the progress that has been made in the development of new secrets to supplement the older secrets, and in the progress that has been made toward peaceful applications of this force.

These are charges that affect at once the morale of scientists and contractors—industrial contractors, university contractors—at a time when, in our opinion, as was indicated in the public report to the Congress recently filed, the atomic energy enterprise has come up from a position of being bogged down to a time when it is really rolling.

We are dealing here with something strange and new, and particularly strange and new for government. We are dealing with fundamental forces of nature, forces that are largely unknown, and which have important security implications. Therefore, it is but natural that there should be fears, apprehension, and, inevitably, dangers of panic—fears which are natural enough in dealing with forces of nature which are so little known, so portentous, so little known even by scientists, to say nothing of laymen. These fears have been accentuated by the charges that have been made and by the particular episodes involving instances of operations which have been described before this committee during the past 2 weeks.

We feel in this circumstance, and I gather that this is the disposition of the committee, that it is urgently necessary to tell the country.

whether we are, as implied, virtually bankrupt atomically, and to tell the world where we stand.

As I say, we can do this, we believe adequately, without the disclosure of secret information. So great is our faith in the adaptability of democratic processes even to as difficult a situation as this, that we believe a division line can be made and explicitly made between secret and nonsecret. If we did not believe so, then this would be a rather sad day indeed.

In the most solemn way possible we urge a speedy public report and public hearings on these charges, and we have in this respect some specific proposals to offer. We do not minimize the difficulties—we believe they can be met. We ask that in this inquiry there be a full investigation, not only one dealing with particular episodes and the occurrences and instances of operation, such as the missing uranium oxide and the fellowship issue but where, on the fundamental questions, we are after 2 years of the operation of the Atomic Energy Commission under the McMahon Act.

It seems to me—I submit it with the greatest respect and the deepest concern—that if, when grave charges are made from high places, there is no way for the people themselves to get a picture of the basic results achieved and get a chance to make up their own minds, a chance for the responsible press and radio and others of the country to judge, then this is a tragic chapter in the history of self-government. I do not believe that is the necessary conclusion to be drawn.

The outline that we will present indicates one proposal—I am sure there will be many others—whereby this dilemma can be met. We believe this is one of the deep issues here; this is one that my colleagues and I have talked about in speeches and in reports to Congress for the past 2 years—the need for the people to know the essential facts and results without infringement of secrecy and security. We believe these public hearings can show the world that American self-government can still function despite the real need for secrecy in technical areas.

As I say, we believe there is, then, a great and a solemn issue here, far more important than individuals, and even more important, in a sense, than the operations of a great enterprise. This is a time of tension which will undoubtedly continue for some years to come.

We propose that this inquiry deal not with incidents and cases alone, although these are important and should be explored to the full, but also to consider how the American people can know about their own business, their own security, their own future prospects, and yet not jeopardize the security of information and other aspects of security.

What are the ways by which the people can know where we stand, it having been asserted that we have an enterprise which is incredibly mismanaged, in which there is misplaced emphasis, and in which there is maladministration? What are the ways by which people can determine whether these broad accusations and inferences mean in a sense insolvency, that here is a concern virtually insolvent and weak, or whether it has progressed upward and is in a relatively strong position?

How can the people know what we inherited, what this Commission inherited from the Manhattan District, what the conditions were at

the time this management began, and whether we have gone up or down or simply held our place?

There are a number of obvious possibilities. This could be learned from the President, it could be learned from the Commission—and, to a considerable extent, this Commission has tried to do that in the reports, public reports, that have been presented to the Congress—and from the Commission witnesses. It can be learned from the Joint Committee by way of appraisals and interpretations, on the basis of a full hearing, both public and executive. And it can be learned from experts of great renown and distinction in this country, who know about this undertaking, who as advisers to the Commission or because of their standing in the technical, scientific world or in the world of affairs can present an interpretation and an appraisal to the Committee in open session without violation of security and in closed session on matters of greater detail.

The Joint Committee's own information as to the solvency or insolvency of this undertaking is extensive. The only major omission of information of which I am aware deals with the numbers of atomic weapons now contemplated and in stock pile and the rate of production. These are matters of which at the very first hearing of the Senate side of this Committee, involving the confirmation of the Commissioners and General Manager, it was clear, and this position has not been changed, that for reasons of security the committee itself did not request this information.

The reports to the Joint Committee on Atomic Energy during the past session of Congress are extensive. I have here a listing of over a hundred communications of various categories, ranging from non-classified letters to top secret documents, and there have been about 25 meetings of this committee during this session of Congress. There have been almost daily, I should suppose daily, discussions between the staff of the Commission and the staff of the committee, so that the committee has a great deal of information, both secret and nonsecret, and the people themselves do not have, of course, what the committee has.

This is not difficult to explain. Obviously, any material that is delivered to this committee of a secret category cannot be made public without its being made public to potential enemies.

The real issue, then, is how we are going to have a chance to respond to these charges, which obviously shake the confidence of people and make them apprehensive as to where we stand, how strong we are, what is going on.

I recall, in September 1945, a meeting I attended in Chicago which was held shortly after the drops at Hiroshima and Nagasaki, a meeting also attended by Chester Barnard, at that time president of the New Jersey Bell Telephone Co., now director of the Rockefeller Foundation. He said to me in an informal conversation something that has recurred to me many times. He said, "When I first heard on the radio on August 5 that an atomic weapon had been detonated, had been achieved and detonated, I turned to my wife and said, 'This is the end of democracy.'"

I do not believe that is by any means true, although the natural reaction at the time perhaps was justified, but here, in any case, is a test, and we therefore urge the committee to make a full and careful investigation and make a report and appraisal to the country.

We ask for an appraisal before you by great experts who have been consulted by the Commission, who are familiar with these operations, men about whose impartiality and standing there can be no doubt. We are dealing here with technical and scientific matters, and management matters of great difficulty, difficulty never before met because of the secret character of the undertaking and the strange and unknown facts with which men have to deal.

I should like, if I may, to refer to a number of individuals who, I believe, could be helpful in their appraisal of the state of this undertaking and who could do this, I believe, in open hearing and without any violation of security, and who could follow that by discussions with the committee in closed hearing.

I should like, if I may, to give the names of these men, because I believe it is necessary that men of great renown and experience participate with you in this inquiry.

Among industrial men who are qualified, in our opinion—and there are other individuals, I am sure, but these are a sampling—is Mr. George T. Felback, vice president, Carbide & Carbon Chemical Corp.; Dr. Charles A. Thomas, executive vice president, Monsanto Chemical Co.; Mr. Harry A. Winne, vice president, General Electric Co.; Mr. Malcolm Ferguson, president, Bendix Aviation Corp.; Mr. James W. Parker, president and general manager, Detroit Edison Co.; Mr. Isaac Harter, executive vice president and director, Babcock & Wilcox Tube Co., one of the great engineers of the country; Mr. E. V. Murphree, president, Standard Oil Development Co.

As to accountability, the technical problems, the management problems, the operating problems of accountability for source and fissionable materials, we would suggest the name of Mr. Manson Benedict, Hydro Carbon Research, Inc.

As to raw materials, we would suggest Dr. Donald H. McLaughlin, president, Homestake Mining Co.

All these men are men who are familiar with this undertaking.

In the field of biology and medicine, a very important aspect of this work and a very important part of any accounting of our stewardship. I suggest, among others, Dr. Robley D. Evans, professor of biophysics, Massachusetts Institute of Technology; Dr. James Sterner, medical director, Eastman Kodak Co.; Dr. Joseph T. Wearn, dean of the school of medicine, Western Reserve University; Dr. G. Failla, medical school, Columbia University; Dr. Robert F. Loeb, Presbyterian Hospital, New York; Dr. Donald D. Van Slyke, Rockefeller Institute; Dr. E. C. Stakman, chief, division of plant pathology and botany, University of Minnesota; Dr. P. U. Cardon, Administrator, United States Department of Agriculture.

These men have had an opportunity to explore this undertaking at close range.

As to the scientific and technical individuals whom we suggest might well be called to advise with the committee and to make an appraisal to the country, there are a considerable number. I emphasize the importance of scientific and technical individuals because we are dependent upon the scientific community of the country to make further headway in this field. Among the General Advisory Committee members I would suggest, in particular, Dr. J. Robert Oppenheimer, who is director of the Institute for Advanced Study, Princeton, N. J., who was the wartime Director at Los Alamos; Dr. James B.

Conant, president of Harvard University; Dr. L. A. DuBridge, president, California Institute of Technology; Dr. Enrico Fermi, Institute for Nuclear Studies, University of Chicago; Dr. E. O. Lawrence, director, radiation laboratory, University of California at Berkeley; Dr. James B. Fisk, professor of applied physics, Harvard University; Dr. W. K. Lewis, dean of engineering, Massachusetts Institute of Technology; Dr. Walter G. Whitman, professor of chemical engineering, Massachusetts Institute of Technology; Dr. Robert F. Bacher, who until very recently, May 10, I believe, was a member of the original five-man Commission and who is now chairman of the division of physics, mathematics, and astronomy of the California Institute of Technology; Dr. Edward Teller of the Institute for Nuclear Studies, University of Chicago; Mr. Harvey Brooks and Mr. Kenneth Kingdon, distinguished members of the staff of General Electric Co.; Mr. William Shoupp of Westinghouse Electric Co.; Dr. Norris E. Bradbury, now the Director of Los Alamos Scientific Laboratory; Dr. Walter H. Zinn, who appeared recently before your committee in executive session, and who is Director of the Argonne Laboratory; and Dr. Frank H. Spedding, Director of the Institute for Atomic Studies at Iowa State College.

We welcome the obvious intent and purpose of this committee to make an extensive inquiry and, with a calm and dispassionate purpose, to make a sober appraisal. All of us here realize how much is at stake. This is a good time not to get rattled and not to induce jitters and not to be preoccupied solely with personalities or special or individual incidents, but to get an over-all view, and this was indicated in the Chairman's opening statement.

This program is a great asset, it is novel, it is immense. Even the wisest know little about it; we are dealing with nature in the raw; the engineers have never been confronted with the problems of design that there are here, knowing so little about the materials with which they are dealing.

What are the questions that we urge going into in order that they may become part of this accounting of stewardship? Among these we suggest the subject of weapons, of the production of raw materials and fissionable materials, of research, the question of our relations to our wartime partners, Britain and Canada.

The Commission found this relationship with the partners during the war in a confused state. It has been discussed on a number of occasions with this committee. It was found to be causing bitterness among allies and friends. An exchange of information with these countries is currently going on, as was announced last summer, in a limited way.

We suggest here that in addition to the information presently in the committee's hands, that the committee call General Eisenhower, former Under Secretary of State Lovett, and Secretary of State Dean Acheson.

It will be helpful in this connection to review this wartime arrangement and also to make clear, because I believe it is not clear to the country, what the arrangements were during the war whereby British scientists, with the approval of this Government and of the Manhattan District, engaged in the work of bomb design, development, and production, at Los Alamos and elsewhere.

Mr. Chairman, I submitted a letter to you yesterday, which I should like, if I may, to put in the record at this point.

The CHAIRMAN. Very well.

(The letter referred to above is as follows:)

UNITED STATES ATOMIC ENERGY COMMISSION,  
*Washington 25, D. C., May 25, 1949.*

HON. BRIEN McMAHON,

*Chairman, Joint Congressional Committee on Atomic Energy,*

*Washington, D. C.*

DEAR SENATOR McMAHON: A full, complete, and speedy report on the charges that the United States atomic energy program is virtually a failure is a matter urgently necessary; the investigation initiated by the McMahon committee and to be carried out by it is welcomed.

The charges by Senator Hickenlooper of "incredible mismanagement," "misplaced emphasis," and "maladministration" involve nothing less than the security of this Nation and the peace of the world.

If it is true that the atomic energy program is in an almost bankrupt condition, then this Nation, far from being the custodian and trustee of a substantial stock pile of atomic weapons, and in a favorable production situation, is in a sadly weakened condition. If this were true it is difficult to imagine any single fact more disturbing to the peace of mind of the people of the country or to the security of the world's democracies.

The facts on this crucial test of our stewardship can be readily established. That in an enterprise requiring the services of some 60,000 human beings there have been mistakes and errors goes without saying; this has been freely admitted. Working with the atom does not make human beings perfect and beyond error. For these errors and mistakes the Commission has and will continue to accept full responsibility. The failure to follow explicit Commission regulations in the matter of the uranium oxide at the Argonne Laboratory in Chicago is such an instance. In the handling of many thousands of tons of crucial materials, in various forms, the Commission and its contractor-employees have sought and will continue to seek to improve on methods of accountability that will keep the element of human fallibility at a minimum: no system can eliminate the human factor entirely.

Among the hundreds of decisions of policy thus far made by the Commission, and those that will be made in the future, there are many the soundness of which is and will be subject to differences of judgment among equally sensible men. Such a case is that concerning the scholarships for nonsecret study, awarded by the National Research Council of the National Academy of Sciences as contractor for the Commission. The policy of the Council and the Commission has in the past 10 days been changed to meet the objections, on public policy grounds, strongly expressed by Members of the Congress. But the difference was one of judgment on which equally patriotic and reasonable men could have and do entertain differing views. The export to scientists abroad, of isotopes, announced by the President in September 1947, is another instance. This was done upon the unanimous recommendation of distinguished advisors to the Commission. There are bound to be cases of underestimating of construction costs by contractors of the Commission in connection with urgently needed facilities of a wholly new kind. There are properly subject to criticism. But they were common experience during the war and today in industry generally.

The Joint Committee on Atomic Energy of the House and Senate was established by the McMahon Act to review and consider, among other things, differences of judgment on policy, and to receive and consider and appraise the rate of progress, or lack of progress, in the substantial work of this project—one of the largest enterprises and most complex in history. Numerous reports, largely secret or top secret, and frequent hearings, conferences, and staff liaison have made your committee essentially—and rightly so—a continuous congressional investigating committee.

The test of whether there has been and is "incredible mismanagement" and a grave situation in this country's atomic energy program can be made a quite specific test, or series of tests. The country, I suggest, is entitled to and will want to know the answers to such specific questions as the following, among other, and we welcome the decision of your committee to proceed to the making of such analysis and report.

(1) Has the Commission failed in its stewardship at a time of great tension in its obligation paramount to all others; i. e., the production and improvement of these complex scientific weapons? What is the state of our atomic weapons—the order of magnitude of the stock pile; the improvements made in the past 2½ years in new weapon design? What has been the progress in the past 2½ years of our stewardship? What is the progress today in still further improvements and the quality of personnel and the morale of those engaged in this work?

(2) How about production of fissionable materials—the essential ingredients of atomic weapons? Is it on a secure basis? What situation did the project face concerning disruption of production, and how successful were the steps taken to overcome them? We assert, and our reports to you have made clear, that production is now at the highest level in history, with the same facilities; that new facilities are approaching the production state.

(3) How has basic and applied research progressed since the Commission took responsibility—and where was it when the Commission took over?

(4) How about security?

What was the state of physical protection of plants when the Commission took over? Has this improved, and in what ways?

What about security of secret documents—what was the situation when the Commission began, and what is it today?

What about accountability for source and fissionable materials? What was the situation in 1947? What is it today?

(5) What about the investigation and clearance of personnel—what was the situation, and what is it today?

There are many other areas of inquiry that your committee will engage upon, in addition to those carried on by it continuously as a regular practice in the past.

But the chief question I believe is this: Is this country weak today in atomic weapons and materials, and in their production and improvements, as implied by the broad and grave charges leveled against the Commission?

It can be stated categorically that the record in this respect is a proud one. It is one to give great reassurance to the peoples of the world who, as of this hour, rely upon the strength of the United States of America.

In order that the fears and misapprehensions on this score may be settled beyond peradventure and as promptly as it is possible, it is urged that the Joint Committee call before it immediately not only the Commission, its staff, its principal industrial and university contractors but also other citizens of the highest renown and technical standing, including the distinguished members of the General Advisory Committee and other advisory groups for their testimony and appraisal. In this way the dangerous cloud of uneasiness resulting from these charges will be dispelled.

Sincerely yours,

DAVID E. LILIENTHAL,  
*Chairman, United States Atomic Energy Commission.*

Mr. LILIENTHAL. In that letter, Mr. Chairman, five tests were suggested, and I should like in the next few minutes, with your permission, to expand on this in a rather capsule form, a documentation of the kind of things we believe a full accounting of stewardship and a full appraisal to the country would require. All of the things I shall say have been carefully reviewed, and they do not involve any restricted data.

First, as to production of materials—we suggest an inquiry into, an appraisal of, and a report on raw materials, including the tenuous supply situation when the Commission took over, the long-range program undertaken to expand and assure supply from both foreign and domestic sources, and an inquiry into the domestic programs that have been pushed forward on exploring and pricing and processing; also the development of programs for low-grade ore, the beneficiation of low-grade ores. This raw materials position, I suggest, could be described and appraised by, among other people, Dr. Donald H. McLaughlin, president of the Homestake Mining Co., who is the chairman of the Commission's Committee on Raw Materials and Mining.

As to feed materials: The chain of plants operated by the industrial contractors under the Manhattan District to make feed materials at the time the Commission took over was in need of physical improvement, process improvement, health improvement, in order to raise production, lower costs, assure continuity of production. The Commission has financed major improvements in several plants. There has been brought about the betterment of processes, the raising of yields, quality of product, and lowered costs. Details on this latter, the matter of costs, can be supplied—and they are referred to in general terms—in the Fifth Semiannual Report to the Congress. The critical deficiency in several special materials used in these processes has now been overcome.

As to plutonium production—the Hanford plant in early 1947, as the committee knows, was in need of major repairs, which could not be made until the causes of the trouble were diagnosed and methods of remedying them, technical methods of remedying them, were devised. The Commission and its contractor, the General Electric Co., have completed a major maintenance job without loss in production, have constructed spare and additional plant units, have overcome two major threats to the life of the plant itself, have increased the production rate to a new all-time high and decreased costs per unit of product, have developed plant procedures that bring about a major reduction in the feed materials required to produce a given amount of material. A major research, development, engineering, and construction program for the recovery of uranium from depleted material is well under way. The story of this plant, process improvement, and the results can be given, among other men, by Harry Winne, vice president of the General Electric Co., individuals in the DuPont Co., quite a number of distinguished engineers and business administrators.

As to the production of uranium 235—the Commission took over an efficient operation at Oak Ridge. The problem has been to expand production and cut costs. In the past 2 years the contractor, the Carbide & Carbon Chemicals Corp., with Commission aid and support, has brought about an outstanding increase in operating efficiency and a decrease in costs, and these details are available for executive session. A major maintenance program was accomplished without loss in production. A plant addition was designed to increase production at a percentage rate doubling the percent of increase in the capital cost required. How much this increase is, of course, is a classified fact. Added facilities for extending the degree of completion of product have been accomplished. There has been production and stock piling of an adequate supply of special operating materials. The progress in the uranium 235 program can be recounted by Dr. George Felbeck, vice president of the Carbide & Carbon Chemicals Corp., and by other individuals who have been consultants, experts, or who from the outside know the history and methods involved.

There are special features of this production program to which we hope this accounting of stewardship will extend. When the Commission took over, there was no centralized system of accounting for source and fissionable materials. Such a system has been set up. Dr. Manson Benedict of the Hydro Carbon Research Corp., would be able to explain the difficulties, the technical difficulties, that existed at that time, that were met, and the extent to which they have been overcome.

A radiation detection instrument industry has been developed with Commission aid. This has very great importance in terms of civil defense in the event of atomic warfare. Export control has been set up in accordance with the provisions of the act. An Advisory Committee for Equipment and Material Control, largely of business and industrial men, has been established. A large quantity of excess plant facilities has been disposed of.

As to the weapons program—and here again, I repeat, nothing I say here involves secret material—I refer you for a summary to pages 42 and 43 of the report to Congress.

The aspects to be accounted for would appear to be—

1. The stock-pile situation today in terms of potential military effectiveness and weapons production rates, as contrasted to the situation in previous years. This would be in executive session.

2. Improvement in the scientific stature of the Los Alamos Laboratory, the center of production of weapons, design, and production, since the Commission took over—this we believe can be taken care of in public hearing—rebuilding of physical plant as well as personnel strength, and establishing of outlying facilities, including Sandia and Eniwetok, the testing areas in the Marshall Islands in the Pacific. Dr. Mervin Kelly, director of Research of the Bell Telephone Laboratories, would be eminently qualified to report on this matter, as he has recently made an intensive survey, covering almost a month, of these matters.

3. The organization of the bomb-production program through expansion, dispersal, and duplication of capacity, and through the introduction of industrial management. Appraisal of the effectiveness of this could be made in open hearing without the disclosure of any information, and the details will be provided in closed hearing.

4. The development of the bomb from a “bread-board” model to a “service” weapon, referred to in the report, and the design and production of ancillary equipment for the Armed Forces.

5. Scientific improvements in weapons design, as indicated by the success of the Eniwetok tests and progress since that time, progress which is presently going on at a very encouraging rate.

6. Present research and development programs directed toward new types of weapons of improved reliability and deliverability.

Among the individuals who can make an appraisal, a general appraisal, of the progress in the last 2 years and the present status are Dr. James B. Conant, a member of the General Advisory Committee and president of Harvard; Dr. Norris E. Bradbury, present Director of the Los Alamos Laboratory; Carroll L. Tyler, Director of Los Alamos Operations Office; Malcolm Ferguson, president of Bendix Aircraft Corp.; Dr. Robert F. Bacher, chairman, division of physics, mathematics, and astronomy, California Institute of Technology; Mr. William Webster, Chairman, Military Liaison Committee; and Mr. Mervin Kelly, director of Bell Telephone Laboratories, to whom I referred.

As to the matter of security, a vital and crucial matter, this would break itself down into at least five aspects of security and perhaps more. These would be—

1. Plant protection—what it was in terms of fences, guards, badge system, and so on; what its defects were 2 years ago, what was done

about it, what it is today. It happens that we are proud of this effort and believe that an appraisal of it can be made and details provided in closed session.

2. Security of documents—the committee is aware of the hundreds of thousands of classified documents in this undertaking. We reported on the state of affairs we found when the Commission took over in a communication to the committee of July 21, read to the committee at a meeting on July 21, 1947. A report on the present status would be reassuring and relevant.

The CHAIRMAN. Is that declassified?

Mr. LILIENTHAL. That has been declassified. That letter has been declassified because of the conditions described in it being only of historic interest.

The CHAIRMAN. Do you have that with you?

Mr. LILIENTHAL. I have.

The CHAIRMAN. May I have it?

Mr. LILIENTHAL. Yes. To continue:

3. Question of personnel clearance.

4. The question of shipments of materials.

5. The question of accountability; where it was that the changes have been made, the changes that need yet to be made, and the technical difficulties. This requires a good deal of technical information to make clear.

There is the question of labor policies. The purpose of the Commission's labor policies has been to maintain continuity of vital production against stoppage and yet to preserve the American institution of collective bargaining. The policy has been to require not only that employees of contractors be investigated by the FBI and cleared, where they have access to restricted data, but that the national and international officers and supervisory individuals in unions must be of clear reliability.

This has led to a conflict with the United Electrical Workers, of which the committee has been informed, in which we requested information concerning nonemployees of the Commission or of its contractors; who are officers of the United Electrical Workers' organization. This information was refused, information relating to their reliability in terms of loyalty and other matters.

The Commission directed the General Electric Co. to sever connections at Schenectady with this organization. The problems presented here should be appraised. On the question of general labor policies there has been discussion with the committee and also a report by a special panel created by the President.

There is the matter of research. This committee is aware—I am afraid the country is not as aware as is the committee—that research in nuclear science is the basis for any national advance and progress, both in weapons and peacetime uses, and this depends upon trained men and costly machines, such as the 184-inch cyclotron at Berkeley, accelerations, and synchrotrons which have been and are being built to help solve mysteries in the field of nuclear forces.

Another item to be accounted for is the distribution of isotopes, which has been expanded enormously both in the United States and in shipments abroad. Tagged compounds are now being made available domestically, as well as new types of isotopes.

Work in laboratories and research centers is under way and is designed to increase, and is actually increasing, the uranium supply, finding new materials suitable for construction and shielding of power reactors for improving and developing materials and components for atomic weapons.

The national laboratories have been strengthened, and we believe a survey of this matter will make clear they have been expanded, the scientific and technical personnel increased, and the morale situation recovered from a very low point.

Unclassified research in nuclear physics and related sciences is being supported by direct contracts with universities on some 40 projects and by financing some 50 contracts with universities jointly with the Office of Naval Research.

The problems here—and these are extremely important to general public understanding and to the rendering of any such accounting as the charges made make necessary and relevant and appropriate and fair—can be summed up by such members of the General Advisory Committee as Dr. DuBridge, Dr. Oppenheimer, Dr. Conant, and such individuals as E. O. Lawrence, Arthur Compton of Washington University, Dr. Spedding of Iowa State, and many other individuals.

I want to say just a word about a report on biology and medicine because, where charges are made of mismanagement, grave charges of mismanagement and failures to accomplish good management, the question of the health record in a field in which dangers are involved, as here, is extremely relevant and important. The health record of the Manhattan District was unexcelled by any industry, and this record has continued.

These radiation hazards, both on-site and off-site, have been controlled. There have been only two deaths in the atomic energy program. These were in the Manhattan Engineer District days, although in the handling of radium up to 1941 a hundred persons out of a thousand workers were casualties, handling only 21½ pounds of this material; whereas, in this industry thousands of individuals were handling the equivalent of hundreds of thousands of pounds of radium.

The element beryllium is used extensively in this industry. It is highly poisonous and very tricky. The Commission has pioneered in research in beryllium, which has led to established safeguards for protection of workers. This is extremely relevant in determining quality of management.

Continued research has gone forward on standards limiting exposure of production workers involved in radiation exposure, and many other items in this field.

We suggest that among the individuals who should be consulted are persons whose names I recounted earlier.

I have only one other suggestion as to a general area, although there are many others, and that is the one relating to the development of power.

As the House Subcommittee on Appropriations indicated in its report recently, this ranks in terms of national defense as part of the first line of defense, along with weapons, as an important and consequential program, but it also has infinite possibilities for the future in peacetime applications.

The Commission's first attention had to go, as the rendering of this accounting will show, to shoring up the weapons and fissionable materials programs because this was our paramount obligation and nothing should stand in its way.

The reactor program and power development had to be developed from scratch. The wartime reactors, wartime piles, were solely for the production of atomic explosives. For the past few months it has been possible to turn to the reactor problem and put it increasingly under a head of steam.

During late 1948 and early 1949 a Reactor Development Division was set up with a distinguished gentleman in charge of it, Dr. Hafstad, and a program decided upon. On this the Commission has reported to the joint committee.

A Reactor Safeguard Committee, a very important committee indeed, has developed minimum standards for the safe location and operation of piles. This is a problem fraught with many difficulties. The program has unified efforts on development of reactors for driving ships and aircraft.

The Westinghouse Co. has been obtained as a contractor for Navy reactor work in addition to the General Electric Co. and the work at the Argonne Laboratory.

To carry this program through, action has been taken to establish a testing station at a remote site, to wit, in Idaho, in the Arco area, and to push development. All along the line a coordinated attack has been organized and should be reported upon on the problems that are basic to any and all types of power reactors, whether for ships, for central station operation, or for aircraft, such as problems of cooling, shielding, pumping, and so on.

There are a good many men who can throw light on the problems in the reactor program, and I would indicate among them Dr. Fermi, Dr. Zinn, Dr. Fisk of Harvard, Mr. William Shoupp of Westinghouse, and a number of gentlemen from General Electric, Addison M. Rothrock, Assistant Director of Aeronautical Research of the National Advisory Committee for Aeronautics.

Mr. Chairman, the Atomic Energy Commission, its staff, its employees, its contractors, both industrial and research, welcome this inquiry and look forward to it with confidence that it will be full, fair, sober, and will relate not only to inadequacies but also to the over-all general accomplishments and achievements, with particular emphasis on indicating the place from which we started and the progress that has been made. This, in any kind of audit of any kind of enterprise, would seem to be relevant.

The CHAIRMAN. Mr. Lilienthal, you have certainly outlined a lot of work for this committee. Apparently you have not read in the papers that Congress hopes to go home on August 1.

But the seriousness of it, in my view, demands that a thorough, complete, and above all, a fair investigation of the whole situation be made. Of course, the witnesses whom you have suggested should and will be called before the committee, but other witnesses also will be called before the committee, on the suggestion of any member of the committee, because obviously not only the witnesses whom you have suggested but also all who are qualified to give the committee light on the subject should, and will, be called.

Senator Hickenlooper.

Senator HICKENLOOPER. At this time, Mr. Chairman, I have no particular questions to ask because I, for some reason, did not get notice of this hearing until this morning shortly before 10 o'clock.

I do want to just make a statement, if I may, because I am somewhat involved in this matter. At the outset, I certainly agree with Chairman Lilienthal that this is not and must not be a matter of personalities, nor, by the same token, of generalities.

I call to the attention of the committee at this time that there are many extremely controversial statements made by Mr. Lilienthal this morning, which I believe will merit exhaustive inquiry on both sides. The inquiry, I think, is indicated, but I would like, Mr. Chairman, to clarify the issues. The issues are in administrative policies, not so much in the matter of quantum production.

The issues, as I have them in mind, are in the general trend and tenor of the progress of administration and policies which not only in the past but now, and, from an indication, in the future will mitigate one way or another on the future progress and development of this great new and unique operation in which the American people are so vitally interested.

I cannot, of course, canvass Mr. Lilienthal's statement this morning. I will have to take a look at it. I can say there are many things I can agree with in his statement. There are some substantial things with which I will eventually present violent disagreement to the committee in whatever manner the committee wants to receive it.

I did attempt this morning, just before 10 o'clock, to try to make a short statement here, which I hope will help to maintain the clarity of this issue, not the emotional end of bomb-making or things of that sort, the scientific end of the thing, but to clarify the real issues which I have in mind in a very short and, I am sure, quite unsatisfactory statement, because it is not long. I would like to read that at this time for the record, Mr. Chairman. It has reference to the text of Mr. Lilienthal's letter to you, Mr. Chairman, of yesterday, which I did not have the opportunity of reading in full until this morning.

I have read the text of Mr. Lilienthal's letter to Senator McMahon, chairman of the Joint Committee, as released yesterday evening, with respect to hearings on atomic energy matters.

The Joint Committee has been in continuous investigation and study of the atomic energy program and of the Commission's administration of it for the past 2 years. In fact, the Joint Committee under the leadership of Senator McMahon is at the present time involved in a vigorous investigation of the administration of the program, and I am confident that this investigation will continue in an orderly fashion. The chairman has so announced and certainly has indicated by his speedy action that he intends so to continue. I am of the opinion, however, that the chairman and the Joint Committee will fix the order of the inquiry and the subjects to be considered.

From the standpoint of actual production, the atomic energy program has gone forward due to the zeal and the loyalty of the scientific and technical personnel in charge of the various projects. The point of my objection is not to the activities of these people but to the administrative policies which the Commission under Mr. Lilienthal's guidance and influence has followed and continues to follow. These I believe to be harmful and not in the best interests of the continuing development of the basic programs outlined by Congress.

In Mr. Lilienthal's letter to Senator McMahon of yesterday and in his voluminous public statements he accepts the credit for any progress of the program. By the same token, therefore, responsibility and criticism for misdirected and misguided policies must be accepted by him.

I want to reemphasize that I have not in any degree impugned Mr. Lilienthal's personal honesty nor his personal patriotism to his country. I believe he is sincere in his beliefs and in his policies. It is with his policies and with a continuation of those policies that I sharply disagree.

Mr. Chairman, I merely want to suggest that it is extremely evident or it is very evident here that this matter will require a considerable length of time in developing the various points that the committee may be interested in. A vast amount—in fact, I believe all—of the evidence and the facts that are pertinent to this matter are now contained in the files of the Joint Committee. It will require an orderly examination of those and a presentation of the issues in order to get at the facts.

I believe this to be a matter of great vital interest to the American people, and I believe that it should be impartially and vigorously looked into, and I congratulate the chairman on the vigor and speed with which he is attempting to provide the forum and the means for such investigation; but at this time this morning manifestly I am not prepared to present in any orderly fashion any brief or evidence, but I shall be in a very few days, Mr. Chairman, at your convenience and at the convenience of the committee, and I would like to suggest, if I may, for your consideration the desirability of the Joint Committee, as soon as reasonably possible, having an executive meeting in which the order of this procedure could be determined and the general method of continuing an orderly inquiry in order to save time and to eliminate unnecessary and immaterial and extraneous matter coming into the matter of inquiry.

The CHAIRMAN. Mr. Durham?

Mr. DURHAM. I have no questions, Mr. Chairman.

The CHAIRMAN. Senator Vandenberg?

Senator VANDENBERG. Nothing at the moment.

The CHAIRMAN. Senator Connally?

Senator CONNALLY. I just want to make one observation. This hearing has been provoked, as I understand it, by some rather specific charges, and while it would be desirable at an appropriate time to review the whole program from the beginning, it seems to me our first attention ought to be to the matters that have been brought before us at this time.

To go back and start from the beginning, as outlined by Mr. Lilienthal, to go over the whole program, it would seem to me to tend to obscure the particular matters that Senator Hickenlooper and others have brought to the attention of the committee. It seems to me that those questions ought to be the first object of the investigation.

The CHAIRMAN. Senator Knowland?

Senator KNOWLAND. No questions.

The CHAIRMAN. Mr. Holifield?

Mr. HOLIFIELD. No questions.

The CHAIRMAN. Mr. Price.

Mr. PRICE. No questions.

The CHAIRMAN. Mr. Jackson?

Mr. JACKSON. No questions.

The CHAIRMAN. Mr. Elston?

Mr. ELSTON. I would like to ask Mr. Lilienthal: Have you ever overruled the recommendation of your security officer?

Mr. LILIENTHAL. By "you" you mean the Commission, I take it, Mr. Elston.

Mr. ELSTON. Yes.

Mr. LILIENTHAL. The Commission has in two cases, as I recall, so far as personnel security clearances are concerned, disagreed with the conclusion of its Director of Security. There may be other instances of which I am not presently aware.

The Commission has final responsibility and could not, of course, completely delegate it.

Mr. ELSTON. Was that with respect to the employment of personnel?

Mr. LILIENTHAL. The cases I have in mind—as I say, it could be that there are others—but the cases I have in mind, so far as I can recall the only ones, involve the clearance of the Director of the Bureau of Standards, Dr. E. U. Condon, and the clearance as president of the Oak Ridge Institute of Nuclear Studies of Doctor, now Senator, Frank B. Graham.

Mr. ELSTON. Did your security officer recommend against their employment?

Mr. LILIENTHAL. In the case of Senator Graham my recollection, Mr. Elston, is that the Director of Security at that time was Admiral Gingrich, now Chief of Staff to the Commanding Admiral of the Pacific Fleet, and he sent the file to the General Manager with the statement that in view of the information in this file, he was submitting it to the General Manager under the procedures that existed.

I am not clear whether Admiral Gingrich indicated an adverse report, but it was a matter that called for reference to the General Manager. The General Manager referred it to the Commission and the Commission rendered a decision, with which the committee has been supplied a copy.

The case of Dr. Condon, my recollection is not too clear, but it is that Admiral Gingrich, on the basis of the file, concluded that clearance for the Director of the Bureau of Standards for the work involved at the Bureau should not be granted, and the Commission took a different view.

In both of these cases the conclusion of the Members of the Commission was unanimous.

Mr. ELSTON. Was there any recommendation with respect to FBI examination of candidates for the fellowship program?

Mr. LILIENTHAL. I do not recall that there was, but in any case, in this situation the Commission made a broad policy decision based on the recommendation of the National Research Council, and I do not think the question arose in terms of individual personnel clearances.

Mr. ELSTON. You did begin to have FBI examinations made of candidates for the fellowship program, did you not, and then abandoned that policy?

Mr. LILIENTHAL. Where fellowship candidates were to have access to restricted data, secret information, they were fully investigated. Where fellowship candidates and those to receive awards were to work

in universities, were to study and do research work in universities where unclassified information only was available to them, the policy decision of the Commission was to follow the recommendations of the National Research Council and not to require a full FBI clearance.

At the time the awards were made my recollection is that the Federal Bureau of Investigation took the list of awards and sent what would be in effect a file check—that is to say, the information in their files at that time—on these individuals.

The Commission's policy on this matter, by reason of the clear and unmistakable expression of the views of the Congress in the hearings on appropriations and elsewhere, and on grounds of public policy, that this was not the desire of the Congress, has been with the voluntary approval of the Research Council and the National Academy of Sciences, changed, and an oath of allegiance and an oath that one is not a Communist and does not belong to an organization that advocates the overthrow of the Government is now requested. Letters to all the individuals who have been awarded fellowships have gone out from the National Research Council or are going out tonight, which carries with it the requirement of the taking of this oath.

Mr. ELSTON. Do you think a Communist is going to pay any attention to that oath?

Mr. LILIENTHAL. A real Communist would not. He would then be subjected, as in the case of any other individual taking a false oath, to investigation by the Department of Justice for violation of the law and an indictment for perjury and the penalties therefor.

Mr. ELSTON. What is the difference between a real Communist and an unreal Communist?

Mr. LILIENTHAL. I would say that there is no difference except that a man who professes to be a Communist obviously be unable to take this oath. On the face of it, he would at once be subject to penalties for perjury.

One who is a covert Communist—and these would appear to be the most dangerous kind—might take the oath thinking he would get away with it. This would be taken care of by the Department of Justice investigation as in the case of all other perjurers.

Mr. ELSTON. Sometime ago you indicated in your testimony before this committee that even though you knew one of the fellowship candidates was a Communist, you would accept him in the program if the National Research Council recommended him. Have you changed your position on that?

Mr. LILIENTHAL. The question was then hypothetical. It need not be hypothetical now. The National Research Council, as I was well aware, would not have insisted on that kind of a basis.

They have now accepted an amendment to their contract, and on this score there is no chance of such a situation developing. I was emphasizing at that time—I was reluctant to answer your hypothetical question and, at the same time, did not want to dodge it—that we place such importance on reaching agreement on these matters with the scientific community and its representatives, the National Academy of Sciences, that we wanted this to be handled by their changing their policy and their recommendation; they have done so, and this is now a settled matter.

The fact is now that, in the case of fellows, they are required to take the oath that is required of Government employees generally, and be subjected to the penalties for violation of the oath and to the investigations that pertain to Government employees.

Mr. ELSTON. Now, have you always taken matters up with this committee that you felt were of importance?

Mr. LILIENTHAL. The Commission, as I indicated in my statement, has taken very seriously and in extenso the provisions of the law about keeping the committee fully and currently informed. There are, of course, obviously tens of thousands of items that might fall within such terminology. We have sent hundreds of documents, communications, to the committee and have appeared before the committee or met with such members as were available at the moment on many occasions and covering the widest possible areas. Mr. Elston, as I believe you know.

Mr. ELSTON. Did you inform this committee of your purpose to set up the fellowship program?

Mr. LILIENTHAL. Yes, we did; and this was in the public report to Congress as well as in communications to the committee. We also informed the committee in response to a question contained in a letter from the then chairman of the committee, now its ranking minority member, Senator Hickenlooper, what the policy of the National Research Council was in respect to FBI investigations, and so on, of fellows in the nonsecret field.

Senator Hickenlooper raised serious objection to this. The Commission responded in a letter, I believe, of October 11, 1948, which is in an earlier record of these hearings, stating the views of the National Research Council and our own agreement therewith.

Mr. ELSTON. Do you consider the loss of uranium such as disappeared from the Argonne Laboratory a matter of importance?

Mr. LILIENTHAL. The loss of any material is important in this—

Mr. ELSTON. Did you take that matter up with this committee when the loss was discovered?

Mr. LILIENTHAL. A report was made to the committee as soon as it was clear that such a report would not in anywise affect the investigation then being carried on by the FBI. This was pursuant to a general informal understanding reached quite a while ago that in cases where the FBI was engaged in an investigation of violation and where their preference would be to wait until the investigation reached the stage where it might not be impeded by possible disclosures resulting in reporting except to the FBI.

Mr. ELSTON. The law requires you to keep the committee currently and fully informed. On what date did you notify this committee of the loss of the uranium at the Argonne Laboratory?

Mr. LILIENTHAL. I think the date was April 27.

Mr. ELSTON. What was the date the loss was discovered?

Mr. LILIENTHAL. The loss in the laboratory was discovered in February, the exact date I am not aware, but early in February, as I recall. It was not reported to the Washington office until, I believe, sometime in mid or perhaps the third week in March. My recollection of the exact date is not clear and I would like to straighten it out in the record.

(The following was later submitted for the record:)

The loss was discovered on February 7. It was reported to the Washington office on March 28 by letter dated March 25.

Mr. ELSTON. When was the first time you personally knew of it?

Mr. LILIENTHAL. The matter was first reported to the Commission on April 13. I was absent, at Hanford and the west coast, from the meeting on April 20 at the time it was fully discussed.

Mr. ELSTON. Mr. Chairman, I have some other questions I want to ask later. At this time that is all I care to ask.

The CHAIRMAN. Mr. Van Zandt?

Mr. VAN ZANDT. No questions.

The CHAIRMAN. Mr. Hinshaw?

Mr. HINSHAW. No questions.

Senator HICKENLOOPER. Mr. Chairman, I did not want to go into this matter, and I do not like to raise this issue at the present time. I am not raising it as a matter of personalities, but the name of Dr. Graham was brought into this matter.

It is my understanding, Mr. Lilienthal, that you personally appeared before the Roberts Board, after they had told you what they thought their finding would be, and withdrew the consideration of the Graham matter from the Roberts Board and that thereafter the Commission acted; is that correct? So that it was not a matter of the General Manager's operation?

Mr. LILIENTHAL. The General Manager did express his view and make his conclusion and then he, without referring to the Commission, referred it to the Roberts Board.

I should answer the question, if the committee thinks it should be answered, after making this statement—that is to say, in open session:

It is evident that the relations of the Commission with its advisory bodies of citizens, voluntarily serving and sometimes in onerous capacities, is involved in discussing proceedings which they conduct rather than our own proceedings. The discussion at that hearing was reported in their minutes, and those minutes were reported to the committee, and Senator Hickenlooper and others have seen those minutes. So that the committee has the information.

I only raise the question, Senator: Whether in view of the fact that this would, presumably, require or might require that members of the Roberts Board appear here, whether you would not prefer to have this discussed in executive session. I have no reluctance in saying what the facts were.

Senator HICKENLOOPER. I do not want to request any statement that should be discussed in executive session. I understood the response to Mr. Elston was that this matter was handled by the General Manager, and I merely asked the question as to whether or not you did not appear personally before the Roberts Board and withdraw the Graham file from their consideration.

Mr. LILIENTHAL. Let me answer that question.

Senator HICKENLOOPER. If that is a matter which should be discussed in executive session, I shan't press it.

The CHAIRMAN. Mr. Durham?

Mr. DURHAM. Mr. Chairman, due to the fact that this involves a Member of the Senate, I think if you are going to discuss this any further, we should have him here.

Senator HICKENLOOPER. Mr. Chairman, I am not raising any issue on Dr. Graham one way or the other. That is not the point. It was the mechanics of the answer which was given that I wanted to get cleared, if possible.

I am not raising any issue as to a member of the Senate or Dr. Graham or anything else about any merits or demerits. That is beyond the issue raised in this case entirely.

Mr. LILIENTHAL. I think I can answer the question that has been asked without going into the merits of the matter or the discussions in the committee or with the Roberts Board in this fashion.

The CHAIRMAN. I think this, Mr. Lilienthal: Senator Graham is a Member of the Senate. If his name is going to be discussed or his case is going to be discussed in any way, Senator Graham should have the courtesy of being notified and being present, whether it is in an open hearing or executive session.

Senator HICKENLOOPER. Mr. Chairman, I again want to make clear that I have no intention now or in the future of discussing Dr. Graham's case. I am not going to bring on any discussion of the merits or demerits of this controversy.

Mr. HOLIFIELD. That is what we are doing, Senator.

Senator HICKENLOOPER. I was trying to clear up a statement made in the record. I merely wanted to get the facts.

Mr. HOLIFIELD. I do not see how you can do it with this line of questioning. I think if Senator Graham's name was brought into the hearing, he should be present.

Senator HICKENLOOPER. I am perfectly willing to, but I have no intention of going into any matter of his personally.

Mr. LILIENTHAL. Might I comment to this extent, to make it clear that the minutes of the meeting to which Senator Hickenlooper referred are minutes made by the Secretary of the Roberts Board, not by the Commission, indicating what transpired at that meeting, and those minutes have been examined by this committee and are in your possession and you are aware of what did transpire.

I just want to make it clear that there is no disposition on our part to fail to disclose anything about the proceedings.

The CHAIRMAN. That will have to be discussed by the committee and suitable arrangements made, whether in open session or in executive session, but certainly in Senator Graham's presence.

Are there any other questions, gentlemen? If there are no other questions from Mr. Lilienthal, Commissioner Strauss and Commissioner Pike are present. Have they any statement to make at this time?

Commissioner STRAUSS. I have none, Mr. Chairman.

Commissioner PIKE. I have none, Mr. Chairman.

The CHAIRMAN. I will not ask Commissioner Dean for a statement on the matter inasmuch as he was sworn in yesterday or the day before yesterday. It would appear this is as far as we can go at this session this morning. The chairman will call an executive meeting for discussion of future and further proceedings in this matter.

Mr. LILIENTHAL. May I make one comment? I would like to express my personal appreciation to Senator Hickenlooper for what he said about not having intended to raise any question about patriotism or honesty or sincerity and to say that I had no idea he had done so; there was nothing in his statement that implied any reflection on me individually but rather on the policies and management for which I was in part responsible.

Senator HICKENLOOPER. May I say in response to that, Mr. Chairman, that the reason I have on several occasions stated that I do not question Mr. Lilienthal's patriotism nor do I question his personal honesty—unfortunately, I have received two or three communications from people whom I do not believe know too much about this matter, indicating that there might be some question raised about patriotism, as people will raise some of those questions, and I want to make it abundantly clear and I shall reiterate that is not only not an issue, but I raise no question about patriotism or personal honesty. It is not an issue in this matter, as far as I am concerned.

(Whereupon, at 11:45 a. m., the Joint Committee adjourned.)



# INVESTIGATION INTO THE UNITED STATES ATOMIC ENERGY PROJECT

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## HEARING BEFORE THE JOINT COMMITTEE ON ATOMIC ENERGY CONGRESS OF THE UNITED STATES EIGHTY-FIRST CONGRESS FIRST SESSION ON INVESTIGATION INTO THE UNITED STATES ATOMIC ENERGY PROJECT

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**PART 2**  
JUNE 1, 1949

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# INVESTIGATION INTO THE UNITED STATES ATOMIC ENERGY PROJECT

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WEDNESDAY, JUNE 1, 1949

CONGRESS OF THE UNITED STATES,  
JOINT COMMITTEE ON ATOMIC ENERGY,  
*Washington, D. C.*

The joint committee met, pursuant to notice, at 10:05 a. m., in the caucus room, Senate Office Building, Washington, D. C., Senator Brien McMahon (chairman), presiding.

Present: Senator McMahon (chairman), Representative Durham (vice chairman), Senators Russell, Connally, Tydings, Hickenlooper, Vandenberg, Millikin, Knowland; Representatives Holifield, Price, Kilday, Jackson, Cole, and Elston.

Also present: Senator Owen Brewster, Senator Charles W. Tobey, Senator Edward J. Thye, and Senator J. Allen Frear, Jr.

David E. Lilienthal, Chairman, Atomic Energy Commission.

Sumner T. Pike, Commissioner; Lewis L. Strauss, Commissioner; Gordon E. Dean, Commissioner; Henry D. Smyth, Commissioner; Carroll L. Wilson, General Manager; Carleton Shugg, Deputy General Manager; Walter J. Williams, Director, Division of Production; Brig. Gen. James McCormack, Jr., Director, Division of Military Application; Lawrence R. Hafstad, Director, Division of Reactor Development; Dr. Shields Warren, Director, Division of Biology and Medicine; Kenneth S. Pitzer, Director, Division of Research; Paul M. Green, Director, Division of Finance; Morse Salisbury, Director, Division of Public and Technical Information; and Francis Hammack, Acting Director of Security, of the Atomic Energy Commission.

The CHAIRMAN. The meeting will come to order.

Mr. Lilienthal, would you take the stand, please.

Senator Hickenlooper, a member of the committee and formerly its chairman, has charged Mr. Lilienthal and the Atomic Energy Commission with incredible mismanagement.

Mr. Lilienthal, Chairman of the Atomic Energy Commission, has replied that the Nation's project is not incredibly mismanaged, that, on the contrary, the Commission's record is a proud one.

The issue is one which goes to the heart of our national defense.

The responsibility of the Joint Committee on Atomic Energy to Congress and to the people is now direct and immediate.

The purpose of the hearings which begin today is to get at the truth.

The American people can feel confident that a fair opportunity will be furnished here (within the limits of security) to throw a searchlight on the facts.

If the facts are such as to alarm our people, then they ought to be alarmed. If the facts are such as to reassure our people, let them be

reassured. We must be thorough. We must be just. There must be no persecution and no whitewash.

When the hearings are completed, the Joint Committee will report to the American people. This committee, as the responsible representative of Congress and the people, is obligated to render its judgment. Senator Hickenlooper?

Senator HICKENLOOPER. Mr. Chairman, because of the extreme importance of these hearings, it is imperative that I clarify the issues at the outset. My charges made public on May 22, 1949, and upon which these hearings are based, go solely and entirely to the question of the administrative competency of Mr. Lilienthal as Chairman of the Atomic Energy Commission. I shall produce the proof before this committee. This committee and the American public will be the judge.

It must be clearly understood beyond all question that this is not an evaluation of the Manhattan District; nor is it a comparison between the Manhattan District and the Atomic Energy Commission. The Manhattan District has been out of existence for 2 years and 5 months.

This is not and must not become a dispute between the theories of civilian as against military control. The Atomic Energy Act has established civilian control of atomic energy. That issue is, therefore, not involved in any way. I have continuously supported the principle of civilian control.

This is not, in my view, an inquiry into the production of atomic materials by the major operating contractors, all of whom have had historic connection with the program. I do not intend to inject into this hearing the matter of the scientific or technical operations involved in production.

This is an inquiry into the administrative direction and policies of Mr. Lilienthal as Chairman of the Commission itself. I will resist the attempt of anyone to divert this inquiry by beclouding the issues or introducing extraneous matters.

It must be borne in mind that the Commission does not operate as a producer of materials or directly engage in research. Those things are done through operating contractors. The Commission is charged with the over-all administration and policy direction of this great and unique enterprise.

When news of the atomic bomb first stunned the world, our Nation sought for the best means to control what we had, to advance atomic development, and to maintain our preeminence. After intensive study and exhaustive advice from among the ablest scientists, technicians, industrialists, economists, lawyers, government officials (both military and civilian), and many others, the Atomic Energy Act of 1946, authored by the distinguished chairman of this committee who was then chairman of the Senate Special Committee, was enacted. Together with the chairman and six other members of this committee, I was privileged to be a member of that Special Committee. It wrote the atomic energy program of the United States. The chairman of this committee, Senator McMahon, can take great pride in this act.

The peace of the world and the future of our civilization depend upon the degree of fidelity, integrity, and confidence maintained in

this program. The Congress and the American people consented to the setting up of the greatest Government monopoly in the history of this country. The program is clothed in secrecy, and many phases of it must necessarily remain secret. The law placed vast power and authority in the discretion of the Chairman and the members of the Atomic Energy Commission. In the appropriations of money for this activity, the veil of secrecy has hung and in some cases must hang between the Appropriations Committee and the details of the projects for which they are appropriating money. Such an atmosphere prevents current public checking of most of the policies of the Commission and establishes a climate within which errors and misdirection of human judgment can flourish without detection or restraint.

The Joint Committee on Atomic Energy was established by law to create an arm of the Congress which would constantly study this program and its development. I am certain the Congress has faith and confidence in the zeal of the Joint Committee and in its attention to this unique and new project. In this representative government of ours and under the law the Joint Committee on Atomic Energy constitutes the only real check on the operation of this strange governmental monopoly. The Atomic Energy Commission represents bureaucracy in its most perfect form. With power almost unlimited, it clothes itself with secrecy as it writes and enforces the rules of its own game.

I supported Mr. Lilienthal at the time of his confirmation in the Senate. The transition from military to civilian control had to be made. The program needed direction. Mr. Lilienthal was appointed by the President of the United States. He was a controversial figure then, as now. Long and exhaustive hearings were held which, in my opinion, failed to produce evidence to seriously challenge Mr. Lilienthal's integrity or his competence. An imposing array of witnesses testified as to Mr. Lilienthal's administrative ability in the TVA. These were sincere men. I believed them. On the basis of this testimony and the lack of adverse information I voted for Mr. Lilienthal in the committee and supported him on the floor.

For the past two and a half years I have observed Mr. Lilienthal's administrative actions and have been forced to conclude that regardless of his record at TVA he is inadequate in his present position.

It is an untenable belief to maintain that the administration of the Atomic Energy Commission differs fundamentally from the administration of other large enterprises. To accept that belief would have automatically disqualified any applicant for the position as administrator, for the program was entirely new. Barely three short years ago Mr. Lilienthal was introduced to the subject of atomic energy. He was given his present position not because of any scientific or technical ability but on the basis of his record as an administrator. To be sure the problems which he has faced in the Atomic Energy Commission differ from those which are faced by other Government administrators, but it must be emphasized that these differences are mostly differences of degree and not kind. If Mr. Lilienthal made administrative mistakes in TVA only our domestic economy would have been involved. Mistakes or misdirection of policy in the Atomic Energy Commission, however, can cost us our preeminence in the atomic field.

As the appointed Chairman of the Atomic Energy Commission, Lilienthal is responsible for administrative policies respecting personnel, labor-management relations, security, finance, program planning, and so forth. It is my contention that the Atomic Energy Commission must have the best obtainable administration. Nothing short of the maximum achievement is acceptable.

Now, Mr. Chairman, I shall proceed, but first I would like, so that there will not be any delay about this, to request the delivery to me for examination and for the records that they contain, the following list of documents, information, and records, and it is extremely important that I have them by 5 o'clock this evening.

First, I would like to request from the Commission that they deliver all correspondence and recommendations regarding the question of the custody of atomic weapons.

Second, copies of all reports of all of the Commission's advisory committees together with the status of their recommendations.

Third, the record of all overtime pay to the Washington headquarters personnel of the Atomic Energy Commission.

Fourth, the minutes, progress reports, and recommendations of the General Advisory Committee.

Fifth, the minutes, progress reports, and recommendations of the Military Liaison Committee.

Sixth, the minutes of the Atomic Energy Commission.

Seventh, the security files and local board hearings on the following persons: I shall not make public the names of these persons, but I have a list of the persons whose security files and the results of the local board hearings I request, and I shall pass these to Mr. Lilienthal. I do not want to make them public.

Mr. Chairman, you may open it and look at it.

The CHAIRMAN. Yes.

Eighth, I would like delivered to me for examination, for the benefit of the committee (a) the Quebec Agreement, which needs no further amplification; (b) the Hyde Park Aide Memoire; (c) memoranda relative to atomic energy and the Potsdam Conference; (d) the paper stating the position of the United States and the United Kingdom of January 1948.

Ninth, the inventory turned over to the Atomic Energy Commission by the Manhattan District at the time of the transfer.

Tenth, all reports (including correspondence with the FBI) relative to lost or misplaced fissionable or source material, whether recovered or still missing.

Eleventh, the engineering reports on the reactor sites.

Twelfth, the reports of investigation of all fellows participating in the fellowship program.

Now, Mr. Chairman, because I want to talk about administrative matters this morning, and because I want to go through some matters of personnel, I want to make it clear at the outset that I have no intention of attempting to cross-examine Mr. Lilienthal this morning.

I do not consider that he is, necessarily, here as a witness except as he may care to comment on matters as they go through, and I would like to start with the organization personnel because I believe a fundamental task of administrative competence is deeply involved in the continuity of personnel and in the selection of able personnel.

So, if I may proceed, Mr. Chairman.

**STATEMENT OF DAVID E. LILIENTHAL, CHAIRMAN, ATOMIC ENERGY COMMISSION; ACCOMPANIED BY CARROLL L. WILSON, GENERAL MANAGER, AND JOSEPH VOLPE, JR., GENERAL COUNSEL, ATOMIC ENERGY COMMISSION**

Senator HICKENLOOPER. Mr. Lilienthal, you are acquainted with Herbert Marks, are you not?

Mr. LILIENTHAL. Yes.

Senator HICKENLOOPER. He was the first General Counsel of the Atomic Energy Commission, was he not?

Mr. LILIENTHAL. That is correct.

Senator HICKENLOOPER. Is the office of General Counsel considered an important and a vital office in the Commission?

Mr. LILIENTHAL. It is.

Senator HICKENLOOPER. How long did Mr. Marks stay as General Counsel to the Commission?

Mr. LILIENTHAL. I have forgotten the exact period. My recollection is that it was a couple of years, but I can supply that for the record.

Senator HICKENLOOPER. Well, the Commission has been in operation now about 2 years and 5 months.

Mr. LILIENTHAL. The figure that has been supplied me is that Mr. Marks was General Counsel between October of 1946 and December of 1947, a period of—

Senator HICKENLOOPER. He has now left the Commission as General Counsel?

Mr. LILIENTHAL. That is correct.

Senator HICKENLOOPER. He had originally served in TVA when you were there; had he not?

Mr. LILIENTHAL. Yes, he had.

Senator HICKENLOOPER. Then, I believe, he served in the Bonneville district?

Mr. LILIENTHAL. That is correct. He was general counsel to the Bonneville administration.

Senator HICKENLOOPER. Yes. Then he came from the State Department to the Atomic Energy Commission; did he not?

Mr. LILIENTHAL. Yes. I believe he was an assistant or one of the assistants to the then Under Secretary of State, Mr. Acheson; yes.

Senator HICKENLOOPER. Do you know what he is doing now?

Mr. LILIENTHAL. He is in the private practice of law in Washington.

Senator HICKENLOOPER. Do you know whether he is a consultant to the State Department or to the Economic Cooperation Administration?

Mr. LILIENTHAL. No; I do not.

Senator HICKENLOOPER. Do you know whether or not he spent some time in Paris last summer as a consultant there?

Mr. LILIENTHAL. No; I do not know.

Senator HICKENLOOPER. How long did it take to replace him? Do you care to comment on that?

Mr. LILIENTHAL. I would say a matter of a couple of months, is my recollection.

Senator HICKENLOOPER. Do you consider that Mr. Marks' leaving the program was a loss to the Commission? -

Mr. LILIENTHAL. Yes, I do. He is an able lawyer.

Senator HICKENLOOPER. You are acquainted with Edwin Huddleson, are you not?

Mr. LILIENTHAL. Yes, I am.

Senator HICKENLOOPER. He was Assistant General Counsel at one time, was he not?

Mr. LILIENTHAL. That is correct.

Senator HICKENLOOPER. Did he come from Government or——

Mr. LILIENTHAL. I believe he came directly to the Commission from Government.

Senator HICKENLOOPER. And he terminated his connection with the Commission, did he not, some time ago?

Mr. LILIENTHAL. Yes. He was offered a partnership in a San Francisco law firm, that being his home city, and he accepted it and resigned some months ago.

Senator HICKENLOOPER. Did you consider him an able man?

Mr. LILIENTHAL. Yes, indeed.

Senator HICKENLOOPER. And you considered his leaving the Commission a loss to the Commission?

Mr. LILIENTHAL. Yes, sir.

Senator HICKENLOOPER. Then, your next General Counsel was Mr. Adrian Fisher?

Mr. LILIENTHAL. That is correct; yes, sir.

Senator HICKENLOOPER. And do you recall offhand when Mr. Fisher took up his duties as General Counsel?

Mr. LILIENTHAL. February 1948.

Senator HICKENLOOPER. That was February of last year?

Mr. LILIENTHAL. That is correct.

Senator HICKENLOOPER. And he came from the Department of Commerce, did he not?

Mr. LILIENTHAL. Yes, he was at that time Solicitor of the Department.

Senator HICKENLOOPER. And was appointed by Mr. Henry Wallace, I believe, as attorney or counsel in the Department of Commerce?

Mr. LILIENTHAL. My recollection is that he was appointed by Secretary Harriman, but I could be mistaken.

Senator HICKENLOOPER. I see.

Now, Mr. Fisher has left as General Counsel, has he not?

Mr. LILIENTHAL. Yes. Mr. Fisher has just been appointed by the President for the post of Legal Advisor to the Department of State.

Senator HICKENLOOPER. Incidentally, he is getting approximately the same salary there as he got under the Commission, is he not?

Mr. LILIENTHAL. I am not aware about that; perhaps that is the case.

Senator HICKENLOOPER. Do you consider Mr. Fisher a good man?

Mr. LILIENTHAL. A very able man.

Senator HICKENLOOPER. And you consider that his leaving was a loss to the Commission?

Mr. LILIENTHAL. Yes; I do indeed, and this loss was pointed out to the Under Secretary of State when conversations about the availability of Mr. Fisher were begun.

I regard him as one of the ablest young lawyers in the country.

Senator HICKENLOOPER. Yes.

Now, have you replaced Mr. Fisher?

Mr. LILIENTHAL. Yes. The Commission has appointed Mr. Fisher's deputy, the Associate General Counsel, Mr. Joseph Volpe, Jr., as General Counsel.

Senator HICKENLOOPER. So that Mr. Volpe has now been appointed General Counsel of the Commission?

Mr. LILIENTHAL. Yes.

Senator HICKENLOOPER. The point that I am indicating there is that there has been lack of continuity in the General Counsel's office. I think that is indicated there.

Now, the Director of Organization and Personnel, do you consider that an important office?

Mr. LILIENTHAL. It is.

Senator HICKENLOOPER. Are you acquainted with Mr. Lyle Belsley?

Mr. LILIENTHAL. Yes, I am.

Senator HICKENLOOPER. I believe he was the first Director of Organization and Personnel, was he not?

Mr. LILIENTHAL. That is correct.

Senator HICKENLOOPER. Do you know where he came from, that is, what his previous employment was? Did you track it down?

Mr. LILIENTHAL. He is, I think, a Government career man. Where he came from directly to the Commission, at the moment I do not recall.

Senator HICKENLOOPER. Do you know when he terminated his services in that capacity?

Mr. LILIENTHAL. September 1947. At that time he was, I believe, Secretary to the Commission. At that time his post was that of Secretary to the Commission.

Senator HICKENLOOPER. So he did go from Director of Organization and Personnel to the post of Secretary to the Commission?

Mr. LILIENTHAL. Yes. I think professionally he had both experience as a personnel man, personnel management man, and in other capacities of this character.

Senator HICKENLOOPER. Yes. Now, do you consider his separation as the Director of Organization and Personnel as a loss to the Atomic Energy Commission in that capacity?

Mr. LILIENTHAL. Mr. Belsley was an able man, but I felt at the time there were talents superior to those he had for the kind of work that the secretaryship requires, and I think that the present Secretary, Mr. Roy Snapp, his experience and talents are superior to those of Mr. Belsley for that particular purpose.

Senator HICKENLOOPER. But I was not talking about the Secretary so much as the Director of Organization and Personnel, in that capacity.

Mr. LILIENTHAL. Well, I was of the opinion that—I am of the opinion that Mr. Waller is an abler man for personnel work. This is not intended as a reflection on Mr. Belsley. These are matters of judgment as to comparative value.

Senator HICKENLOOPER. Do you know Mr. Arthur Tackman?

Mr. LILIENTHAL. Yes, I do; rather slightly, but I do.

Senator HICKENLOOPER. He was assistant to the Director of Organization and Personnel in the Washington headquarters, was he not?

Mr. LILIENTHAL. He was an assistant, yes.

Senator HICKENLOOPER. He separated or was separated from that position in that department, is that correct?

Mr. LILIENTHAL. It is my understanding he did resign.

Senator HICKENLOOPER. Do you know what his history or background was?

Mr. LILIENTHAL. I do not have it in mind at the time, no. I think he was in personnel work; that is my recollection of it.

Senator HICKENLOOPER. Do you recall the reasons for his separation?

Mr. LILIENTHAL. No, this was a management matter, and I was informed of it, but I do not have the reasons. I think he went with the Economic Recovery Administration, but I am not clear about it.

(The following was later submitted for the record:)

The agency to which Mr. Tackman went is the Office of the Secretary of Defense.

Senator HICKENLOOPER. I see.

Would you have any opinion as to whether or not he was a loss to the Atomic Energy Commission?

Mr. LILIENTHAL. The opinion of him, of his quality that I heard reported to me by the management, was always high and satisfactory and, therefore, I would assume that this was a loss.

Senator HICKENLOOPER. You are acquainted with Mr. Eric Nicol, are you not?

Mr. LILIENTHAL. Yes, I was.

Senator HICKENLOOPER. He became the second Director of Organization and Personnel in the Washington headquarters, did he not?

Mr. LILIENTHAL. That is correct, sir.

Senator HICKENLOOPER. Do you recall where he came from? When I say "where did he come from," I mean his background.

Mr. LILIENTHAL. Yes. His immediate employment prior to the coming to the Commission, as I recall, was with the Rexall Drug system, and his office, I believe, was located in Pasadena or Los Angeles or some place on the west coast. He was in private business at the time he came to the Commission.

Senator HICKENLOOPER. Do you consider him an able man?

Mr. LILIENTHAL. Yes, I thought he had a good background of experience in personnel matters.

Senator HICKENLOOPER. Do you know what his occupation is now?

Mr. LILIENTHAL. No, I do not. I understood that he had returned to private employment. I am advised that he has returned to private industry.

Senator HICKENLOOPER. I see.

Do you consider that his return to private industry was a definite loss to the organization at the time?

Mr. LILIENTHAL. I think that Mr. Nicol had qualities of understanding about personnel matters derived from his experience that were very helpful to the Atomic Energy Commission, and had he been able to afford to remain, for I am told that the salary limitation which the Atomic Energy Commission must comply with, and which presented great difficulties for him, that he would have developed into a great asset.

He was not with us long enough to make a final judgment, but our opinion was—and this was an opinion transmitted to your committee,

to the committee at the time that you were its chairman—that his work showed considerable ability.

Senator HICKENLOOPER. He was aware of the salary at the time he came to work for the Commission, was he not?

Mr. LILIENTHAL. Yes, he was. He also indicated that there was a good deal of discussion at that time that Government salaries, Government salary scales, would be improved for a man of his background and experience, and that the chance was such a good one, that he took that risk. That did not turn out to be the case, and has not turned out to be the case as of today.

Senator HICKENLOOPER. Yes. So there has been considerable shift and movement and lack of continuity in the office of the Director of Organization and Personnel, Mr. Chairman. I want to indicate that.

Getting into the office of Director of Security and Intelligence, do you consider that an important post in the Commission?

Mr. LILIENTHAL. Yes, very.

Senator HICKENLOOPER. It is a very vital office, is it not?

Mr. LILIENTHAL. It is indeed.

Senator HICKENLOOPER. And probably as highly important an office, subject to the General Manager and the Commission's policy decisions, as there is in the Commission, is that about correct?

Mr. LILIENTHAL. No, I would not say that. I would say that I would think it was a very important and very vital office. I would think that in production and other matters, they might be more important, but it is a vital area indeed.

Senator HICKENLOOPER. Well, just to clarify this, may I ask you, do you consider that the question of personnel security is secondary to other matters in the Commission's operation?

Mr. LILIENTHAL. Well, I would not use the term "secondary." I think it is a very important consideration. That of getting people and getting work done, getting production, getting atomic weapons, these are more important still.

This does not mean that the Director of Security's position is not terribly important, but if that is the only field in which we are strong, we obviously will not be strong in atomic weapons or atomic development. That is all I had in mind.

Senator HICKENLOOPER. Then, I take it that you do consider if it were a question between production and the security and safeguarding of personnel, you would put production as more important?

Mr. LILIENTHAL. I do not regard that as the alternative, Senator. I just think that is a hypothetical situation. These are on all fronts, these things are important, and they must all go together.

Senator HICKENLOOPER. I shall not press you on that point.

Now, who was the first Director of Security and Intelligence that you had, as such, that is not an acting director, but the first director?

Mr. LILIENTHAL. Admiral John Gingrich of the United States Navy.

Senator HICKENLOOPER. Now, do you recall approximately when he entered upon that office?

Mr. LILIENTHAL. I was advised it was August 1947, less than 2 years ago.

Senator HICKENLOOPER. And the Commission formally took office on January 1, 1947; is that correct?

Mr. LILIENTHAL. Well, the transfer of the Manhattan project was made on that date; yes, sir.

Senator HICKENLOOPER. And the Commission had been appointed and had been ordered to cooperate prior to that time—the official transfer took place on January 1, 1947?

Mr. LILIENTHAL. Yes. The Commission spent—did not have a great deal of time to engage in its work until the middle of April of that year, however.

Senator HICKENLOOPER. Yes, I recall the circumstances.

So that for practically the first 8 or 9 months of the Commission there was no Director of Security and Intelligence, except, perhaps, an acting director.

Mr. LILIENTHAL. There was an acting director, Mr. Thomas Jones, who had been with the Manhattan project as a security officer.

Senator HICKENLOOPER. Was Admiral Gingrich a security specialist?

Mr. LILIENTHAL. No.

Senator HICKENLOOPER. Do you know whether he had any experience in security, such as the operation of the security department at all?

Mr. LILIENTHAL. He had had a good deal of experience in dealing with scientific matters, which were matters involved in security, and had a lot of experience with people, which is an important part of a security officer's judgment, because it is mostly judgment.

As I recall, on behalf of Secretary Forrestal, the late Secretary Forrestal, he was in charge of the reserve program in the——

Senator HICKENLOOPER. Do you know whether he had any previous experience, that is of any degree at all, with subversive movements in this country or the history of subversive activities, or whether he had any training in order to be able to detect the subtle activities of the subversives?

Mr. LILIENTHAL. I am not aware that he had.

Senator HICKENLOOPER. Prior to his appointment did you ask the FBI for experienced men along this line?

Mr. LILIENTHAL. Yes. We discussed——

Senator HICKENLOOPER. That is, who might be available to take over the important security department of the Commission?

Mr. LILIENTHAL. Yes. It is the word "available" that produces the difficulty. A number of individuals were spoken highly of by the FBI. One of them, and if I may refer to two of these examples—both of these were former FBI special agents, I believe they were called, perhaps regional agents; one is now and was then the personnel director of the Ford Motor Co., Mr. Bugas.

We spent a good deal of time trying to persuade Mr. Bugas that he should render at least a couple of years' service in this important position. We were completely unable to persuade him to do so.

Then, as another example of individuals who were highly spoken of by the FBI in our consultation with them, there was a man, a former FBI agent, whose name is Whitley, now a practicing lawyer in Florida.

He was brought up here; we got on our knees to him; we did everything we knew to persuade him to give up what he was doing and to take that post, but again we were unsuccessful.

There were other instances, Senator. I do not have them on the top of my mind.

Senator HICKENLOOPER. Do you consider the FBI probably the most experienced investigative agency in the United States, with a

familiarity with subversive methods and subversive individuals in this country?

Mr. LILIENTHAL. Yes.

Senator HICKENLOOPER. Do I understand then that with all the thousands of men who had been trained by the FBI you were unable to locate one, either from that agency or one highly trained by that agency, to take over this vital job?

Mr. LILIENTHAL. We were unable to persuade any of these individuals who had all the qualities required for this post to take over this job; that is right.

Senator HICKENLOOPER. So then, you selected a man who had no qualifications for the job?

Mr. PRICE. Mr. Chairman, I would like to ask a question at this point.

Mr. Lilienthal, was Admiral Gingrich your choice?

Mr. LILIENTHAL. No, he was not, although I was very pleased with the selection. He was suggested to us, and I believe it was a good suggestion, by Admiral Strauss, a member of the Commission.

Mr. PRICE. You have a five-man Commission, do you not, Mr. Lilienthal?

Mr. LILIENTHAL. Yes, Representative Price.

Mr. PRICE. I would like to ask the Senator from Iowa, are your charges directed against the five-man Commission or are they directed against Mr. Lilienthal?

Senator HICKENLOOPER. Mr. Chairman, as I said yesterday, it is going to be essential for me to present my matters in an orderly fashion. I shall unfold them, and the evidence will be developed.

Mr. PRICE. I think we could save some time if we knew whether your charges were directed against an individual or against the Commission.

The CHAIRMAN. The Senator from Iowa is asked whether he would care to answer the Congressman as to whether he is proceeding against Mr. Lilienthal in personam or the Commission in rem.

Senator HICKENLOOPER. My criticism goes to Mr. Lilienthal as Chairman of the Commission. Matters with respect to the general Commission can be discussed at a later date.

Mr. PRICE. Mr. Lilienthal, you make the administrative decision on the basis of the action of the Commission, do you not?

Mr. LILIENTHAL. Actually, Representative Price, the statute provides that management matters may be delegated to a General Manager, as provided by law, appointed by the President, not by the Commission, and confirmed by the Senate; and the Commission, not its Chairman, is the governing body of this enterprise, and this is not only the situation as required by law, but this has been the situation in fact, as I hope, before long we may describe in extenso. There is no power delegated by law to the Chairman to act apart from the Commission.

Senator HICKENLOOPER. Mr. Chairman, inasmuch as I am involved in this matter, and I have some responsibility to present these matters in an orderly fashion, and inasmuch as I discussed this matter with the committee yesterday, I hope that I can get through as expeditiously as possible, and I certainly think that every member of the committee thereafter will have all of the opportunity and right to ask questions that occur to them. But I would appreciate the

courtesy of being allowed to pursue my matters in continuity so that the matters can be before the committee; and certainly, I will thereafter not only not object, but I shall believe it is the perfect right of any member to ask questions; but I would appreciate the opportunity of proceeding.

Mr. PRICE. I am glad that the Senator makes the concession that it is the right of the other members to ask questions.

The CHAIRMAN. All right, gentlemen, we will proceed, at least until the noon recess.

I rather imagine that Senator Hickenlooper is not going to run out of material before we recess, but if any member of the committee wishes to take up any particular matter or procedure, I suggest that we have an executive session of the committee when we come to the recess period.

Now, in the meantime, Senator, suppose you proceed.

Senator HICKENLOOPER. Admiral Gingrich has resigned or separated himself from the office of Director of Security Intelligence; that is the case, is it not?

Mr. LILIENTHAL. That is correct, as of May 1.

Senator HICKENLOOPER. Do you have a new Director at this time?

Mr. LILIENTHAL. No; we do not.

Senator HICKENLOOPER. Do you have any judgment at the moment as to how long it will take to replace him?

Mr. LILIENTHAL. I should think not too long; although it is clear that we will not be able to concentrate on that matter, still it is of such importance that I believe we will be able to replace him in a comparatively short period of time.

Senator HICKENLOOPER. Do you believe his resignation from this post was a loss to the Commission?

Mr. LILIENTHAL. I believe that Admiral Gingrich was a real—I was about to say soldier; I suppose he would resent that—was a real patriot in undertaking so difficult a task at a time when he knew other men had been unwilling to undertake it.

I believe he has served his country very well indeed in the period of the almost 2 years of the rendering of his service.

He had qualities of judgment that were very helpful to the Commission, and I believe to the country, and I, therefore, think that his going is a loss.

I do not mean to say that there are not other men if they can be persuaded to undertake this stormy assignment, who might not, and probably will at a later stage in the undertaking, add things to the enterprise which Admiral Gingrich's background and qualifications, perhaps, did not supply.

Senator HICKENLOOPER. Now, Mr. Jones, I believe you said, was Acting Director of Security prior to Admiral Gingrich.

Mr. LILIENTHAL. Yes, sir.

Senator HICKENLOOPER. Was he an experienced security man?

Mr. LILIENTHAL. Yes. He served during the war, during the Manhattan District days as, I believe, the security officer in charge at Los Alamos, at least for a part of that period.

I am not familiar with the details of that service, but that is one of the important posts he had.

Senator HICKENLOOPER. Did he have a background of security training?

Mr. LILIENTHAL. Well, he was actually a railroad rate man, and in private life that is what he did; when he came into the Army, whatever security experience he had he secured with the Manhattan District.

Senator HICKENLOOPER. He was security officer at Bikini, was he not, the Bikini tests?

Mr. LILIENTHAL. Yes, he was.

Senator HICKENLOOPER. Do you consider Mr. Jones an able security officer?

Mr. LILIENTHAL. Yes; I think he is an able security officer, and an able man.

Senator HICKENLOOPER. What is his position now with the Commission?

Mr. LILIENTHAL. He is Assistant Secretary to the Commission.

Senator HICKENLOOPER. And among other things, he assists in the preparation of minutes of the Commission that they may take?

Mr. LILIENTHAL. Yes. Mr. Jones asked to be relieved of the onerous responsibilities involved in security, and by his own choice he became Assistant Secretary.

Senator HICKENLOOPER. He asked to be relieved from that job, is that it?

Mr. LILIENTHAL. That is my understanding.

Senator HICKENLOOPER. Yes.

Are you acquainted with Dudley Frank, Deputy Director of Security, who was at one time Deputy Director of Security in the Commission?

Mr. LILIENTHAL. I was acquainted with him in a limited way, as one would be on a policy board, but I do know him.

Senator HICKENLOOPER. Do you know where he came from to the Commission?

Mr. LILIENTHAL. No, I do not.

Senator HICKENLOOPER. I believe War Assets Administration as a Government employee, and he came over as Deputy Director of Security.

I take it that you are not familiar with any background of security experience that he may have had.

Mr. LILIENTHAL. No.

Admiral Gingrich, as is true in good organization, was given rather a free hand to select those men that he wanted to work with him, and he did select Mr. Frank. I am not familiar with his background.

Senator HICKENLOOPER. Do you know where Mr. Frank is now?

Mr. LILIENTHAL. No, I do not.

Senator HICKENLOOPER. He has left the Commission, I believe?

Mr. LILIENTHAL. He has left the Commission.

Senator HICKENLOOPER. Do you know enough about him to estimate whether or not he is a loss to the Commission when he left the Commission?

Mr. LILIENTHAL. No; I would not know. I do know that the work for which he and others were responsible during the period of his incumbency has greatly improved. Of this I am sure, that at the appropriate time we will go into that here, and, therefore, he had something to contribute.

Senator HICKENLOOPER. Now, the office of the Chief of Personnel Clearance is also an important office, is it not, that is, as distinguished from personnel and security?

Mr. LILIENTHAL. It is that division; yes, it is.

Senator HICKENLOOPER. Do you know Mr. William L. Uanna who was Chief of Personnel Clearance?

Mr. LILIENTHAL. As I recall he was an officer in the Manhattan District; yes, I do remember him.

Senator HICKENLOOPER. And I believe he had something to do with the operation of the first bomb drops, and things of that kind at the Manhattan District.

Mr. LILIENTHAL. That may be; I am not familiar with that.

Senator HICKENLOOPER. Then, he became Chief of Personnel Clearance in the Washington headquarters of the Commission. Do you know where he has gone?

Mr. LILIENTHAL. No; I do not.

Senator HICKENLOOPER. He is not with the Commission any more?

Mr. LILIENTHAL. No; he is not.

Senator HICKENLOOPER. Would you consider him an able man?

Mr. LILIENTHAL. I have no way of judging. Certainly his service to the Manhattan District, I am sure, was satisfactory, or we would have heard of it. I have no way of judging the man.

Senator HICKENLOOPER. I believe he had a law degree and an engineering degree, and that he has now gone to the Armed Forces Special Weapons Group, with the special weapons group.

Are you acquainted with Judson Ford?

Mr. LILIENTHAL. Yes, I am, rather casually.

Senator HICKENLOOPER. He was the second Chief of Personnel Clearance, I believe, is that correct?

Mr. LILIENTHAL. Under Admiral Gingrich, yes, I believe that is the case.

Senator HICKENLOOPER. Do you consider that the Chief of Personnel Clearance must have a knowledge of security and Communist-front organizations and subversive-front organizations and their ramifications?

Mr. LILIENTHAL. I should think that would be one of the qualities that would make a good personnel clearance officer; yes, sir.

Senator HICKENLOOPER. Do you know where Mr. Ford came from?

Mr. LILIENTHAL. No; I do not.

Senator HICKENLOOPER. I believe he came from War Assets also.

Mr. LILIENTHAL. All I know is that Admiral Gingrich staffed himself, and Mr. Ford was one of his selections.

Senator HICKENLOOPER. I see.

Are you sure about that or was Mr. Ford there before Admiral Gingrich came in?

Mr. LILIENTHAL. That may be, but at any rate he was retained by Admiral Gingrich.

Senator HICKENLOOPER. But is not any longer in that job, as I understand?

Mr. LILIENTHAL. I so understand.

Senator HICKENLOOPER. And has been separated for some time?

Mr. LILIENTHAL. That is correct.

Senator HICKENLOOPER. Do you know Lawrence B. Brock of the Personnel Clearance Department, Lawrence B. Brock?

Mr. LILIENTHAL. No; I do not know him.

Senator HICKENLOOPER. Mr. Brock was a screener, who screened applications, and evaluated the derogatory information that might

be discovered on individuals in their applications for jobs. Do you know why he quit?

Mr. LILIENTHAL. No; I do not. I know that during the period of Admiral Gingrich's services and at his recommendation, a great deal of decentralization of this personnel clearance work took effect; that is to say, the managers of operation, with criteria agreed upon in advance, did a great deal of their personnel clearance work, and this may well have accounted for the changes.

The effort was to get out of Washington and as close as possible to the men doing their work, and their supervisors, the judgments and evaluations of the information about individuals being investigated for clearance, and this may account for the changes.

Senator HICKENLOOPER. Do you know Mr. William Moran, assistant to the Director of Security at the headquarters in Washington at one time, some time ago?

Mr. LILIENTHAL. I assume I have met him, but I do not recall.

Senator HICKENLOOPER. He was also a screener, along with Mr. Brock, who—

Mr. LILIENTHAL. What was he, Senator?

Senator HICKENLOOPER. A screener.

Mr. LILIENTHAL. Oh, I misunderstood you.

Senator HICKENLOOPER. A screener; he was one of the people who took the original applications and gave them their original evaluation as to derogatory information or the lack of it.

Mr. LILIENTHAL. Yes.

Senator HICKENLOOPER. Mr. Moran has quit the project. I take it that not knowing either of these men, you would not be in a position to evaluate their loss to the Commission.

Mr. LILIENTHAL. No; and if I may comment just for a moment on this, the Commission, at the outset, realized that the problem of personnel clearance was of such a magnitude and of such difficulty that if we did not delegate this to the best men we were able to find and set up procedures for this work, that we would be able to do nothing else. In fact, we tried for quite a while to keep in very close touch with all of these files.

There were some hundred thousand investigations involved, a very large undertaking, so we set up procedures and sought to improve them, and to try to get men with the best possible qualifications to do this work. The Commission itself did not, and I believe wisely could not, follow the details of the administration of that work.

Senator HICKENLOOPER. I understand the details could not be followed. I am talking about the key personnel, and I am discussing, of course, the evident lack of continuity in the administrative heads of these important departments.

Mr. LILIENTHAL. Of course, the Senator is fully cognizant of the fact—as fully as I—that a new organization has the problem of finding men best qualified, and it does involve changes from time to time. An organization that does not do it is not likely to be very good.

Senator HICKENLOOPER. Now, do you know Dr. William Shurcliff?

Mr. LILIENTHAL. Yes; I do.

Senator HICKENLOOPER. He was an evaluator in the Intelligence Division, was he not?

Mr. LILIENTHAL. Yes; that was his post.

Senator HICKENLOOPER. And do you consider him to be an able man?

Mr. LILIENTHAL. Everything I heard about him as a scientist, and in other ways, reflected to his credit. He was, I believe, the historian, or one of the historians, of the Bikini enterprise.

Senator HICKENLOOPER. And his job, I believe, was the highly important job of evaluating intelligence in atomic energy, is that not correct?

Mr. LILIENTHAL. Yes, that is correct.

Senator HICKENLOOPER. I believe Dr. Shurcliff quit the project. I do not know—I am not announcing the reasons, but he did terminate his employment with the Commission, is that correct?

Mr. LILIENTHAL. Yes, he did; and Dr. Colby of the University of Michigan later became Director of Intelligence.

Senator HICKENLOOPER. Yes, I am aware of that.

Would you say that the termination of Dr. Shurcliff, the termination of his services to the Commission, resulted in a loss to the Commission?

Mr. LILIENTHAL. I am not in a position to say, because that would be—I would say, my impression is, and this is without any reflection at all on Dr. Shurcliff, that Dr. Colby has the years and the maturity and the war experience that makes him a superior man for this post, so that I would say that we are better off than we were, but this is without any reflection at all on Dr. Shurcliff who is a relatively young man.

Senator HICKENLOOPER. Do you know Dr. Paul Fine?

Mr. LILIENTHAL. Yes, I do.

Senator HICKENLOOPER. Dr. Paul Fine was engaged with Dr. Shurcliff in intelligence evaluation, is that correct?

Mr. LILIENTHAL. That is correct.

Senator HICKENLOOPER. And Dr. Fine is no longer in the intelligence evaluation section or department of the Commission, is that correct?

Mr. LILIENTHAL. Yes. He is now an assistant to Gen. James McCormack, Director of Military Application of the Commission.

Senator HICKENLOOPER. Yes.

Now, in fact, Dr. Fine and Dr. Shurcliff terminated their connection with the intelligence section because of a rather substantial dispute that they got into on policies, is that correct? I do not intend to go into that in detail at the moment but—

Mr. LILIENTHAL. What the occasion for their changing was, I do not know. What I do know, and what the Commission—

Senator HICKENLOOPER. They joined in writing a letter that set out their reasons very clearly, did they not?

Mr. LILIENTHAL. Yes, there were differences about intelligence, and these are not uncommon.

Senator HICKENLOOPER. Yes.

Mr. LILIENTHAL. These are not uncommon, and Dr. Colby, I believe, is doing as good a job as one can hope for in this very difficult field.

Senator HICKENLOOPER. Now, that was a dispute between Drs. Fine and Shurcliff, on the one hand, and Admiral Gingrich on the other, I believe. Is that correct?

Mr. LILIENTHAL. Yes, I believe initially intelligence was in Admiral Gingrich's field.

Senator HICKENLOOPER. Do you care to say whether you sustained Admiral Gingrich or Drs. Fine and Shurcliff in that dispute?

Mr. LILIENTHAL. This is a matter that I do not recall the Commission's intervening in. It was a management matter, except in this respect: That the Commission did decide to separate intelligence activities from security, because of the different characteristics, to make the intelligence activities responsible directly to the office of the General Manager, and to get a man of such years and experience and judgment and maturity that working with the CIA would be more effective than it had been with the younger men.

I think the results and the improvement that occurred indicate that was a wise step to take.

Senator HICKENLOOPER. Drs. Fine and Shurcliff were both younger nuclear physicists of considerable ability and some considerable experience, were they not?

Mr. LILIENTHAL. As physicists, yes. Both of them are able men, good men. These differences were honest differences of opinion in a field in which there is not any absolute yardstick that I know of.

Senator HICKENLOOPER. Well, now, let us go out into the field offices for awhile, which were run by Washington, the administrative office here.

Are you acquainted with Mr. John Mahoney, of Chicago?

Mr. LILIENTHAL. No; I am not.

Senator HICKENLOOPER. I believe he was Chief of the Security Division of the Chicago area, and that he is no longer with the Commission.

Mr. LILIENTHAL. Yes; he has been replaced by an FBI man, Mr. Yore.

Senator HICKENLOOPER. Yes. And Mr. James Yore is now the Security Director at Chicago.

Mr. LILIENTHAL. Yes, Mr. Yore, whose background is principally FBI, is now the security officer in Chicago.

Senator HICKENLOOPER. Would you care to state whether you consider Mr. John Mahoney capable in the Chicago office or not?

Mr. LILIENTHAL. I have no basis for judgment. This was a matter of management that I do not recall being concerned about.

Senator HICKENLOOPER. Do you know how long the Chicago office was without a Security Director?

Mr. LILIENTHAL. No, I do not. I know it is difficult to recruit for the Government services these days, and there may well have been a period in which there was no security officer there.

Senator HICKENLOOPER. Do you know Mr. Walter White, who was security officer, chief security officer, in the Berkeley area field office?

Mr. LILIENTHAL. No, I do not. I know the present security officer because of my visits there.

Senator HICKENLOOPER. Do you know when Mr. White terminated his employment there?

Mr. LILIENTHAL. No, I do not.

Senator HICKENLOOPER. Do you know when the present security officer took over his job?

Mr. LILIENTHAL. No. My knowledge about the security officer at Berkeley is based on my visits there; and how long before my visit the present incumbent took office, took his post, I do not know.

Senator HICKENLOOPER. And so, you would not be in a position to evaluate Mr. White's—

Mr. LILIENTHAL. That is correct.

Senator HICKENLOOPER (continuing). Service to the program?

Mr. LILIENTHAL. There are other people in the Commission office who would be able to, but I doubt whether the Commissioners would.

Senator HICKENLOOPER. Do you know the Personnel Security Director at Los Alamos—do you know who he was? I do not mean Mr. Sidney Newburger—

Mr. LILIENTHAL. You mean during the Commission's—

Senator HICKENLOOPER. Yes.

Mr. LILIENTHAL. I had the impression that a man by the name of Smith was the security officer there during the entire period of the Commission's—

Senator HICKENLOOPER. I see.

Mr. LILIENTHAL. That was in the laboratory, I am advised.

Senator HICKENLOOPER. But I am talking about the Commission's employees, not the contractor's employees.

Mr. LILIENTHAL. No.

Senator HICKENLOOPER. Do you know who is the security officer at Los Alamos now?

Mr. LILIENTHAL. No, I do not.

Senator HICKENLOOPER. Los Alamos is one of our most vital installations, is it not?

Mr. LILIENTHAL. Yes, I know there is a security officer there, but his name I do not know.

Senator HICKENLOOPER. Do you know whether it is Mr. B. O. Wells or not?

Mr. LILIENTHAL. No, I do not.

Senator HICKENLOOPER. Have you met Mr. Wells?

Mr. LILIENTHAL. I assume I have. I have met almost everyone at Los Alamos.

Senator HICKENLOOPER. I believe Mr. Wells is a retired naval officer.

Mr. LILIENTHAL. I have sat in a good many staff meetings, large staff meetings at Los Alamos, and I am sure it is Mr. Wells, but the name, I do not remember that.

Senator HICKENLOOPER. I may suggest that Mr. Newburger was security officer or Security Director, according to my information, at Los Alamos, and he is still there, but he has had two other people superimposed over him now, and just what his job is I cannot quite find out.

Do you know who the Personnel Director of Security at Hanford under the Commission was?

Mr. LILIENTHAL. The name escapes me at the moment, Mr. Senator.

Senator HICKENLOOPER. I believe it was Mr. Ben Montjoy.

Mr. LILIENTHAL. I think I met the original security officer at Hanford on my first visit to Hanford, which was a good many months after the Commission took over. I know the present security officer, although his name for the moment escapes me.

Senator HICKENLOOPER. Mr. Montjoy, I believe, for the sake of the record, was continued as Director of Security at Hanford, and was formerly security officer under the Manhattan District when Hanford was built.

You do not know when he quit?

Mr. LILIENTHAL. No, I do not. I know that a great many changes have been made, and I would say that comparing the situation when the Commission took over and presently as to security in the over-all, this has been an improvement.

Senator HICKENLOOPER. Yes.

Now, you would have no judgment on whether Mr. Montjoy was a capable security officer or not, not knowing anything about his activities?

Mr. LILIENTHAL. No, I would not. I would assume he was.

Senator HICKENLOOPER. I believe Mr. Shuman is the present security officer at Hanford.

Mr. LILIENTHAL. That is correct. Shuman is also a Manhattan District former employee, I am told.

Senator HICKENLOOPER. Yes.

Now, do you know when Mr. Bernard Menke, the Director of Security at Oak Ridge, arrived there?

Mr. LILIENTHAL. Not exactly. It has been quite a period, but I could find out what that date is.

Senator HICKENLOOPER. Do you have an opinion as to whether or not he is a capable security officer?

Mr. LILIENTHAL. I have every reason to believe that he is an able man, a devoted security officer.

Senator HICKENLOOPER. Yes.

You are acquainted with Mr. Paul Ager?

Mr. LILIENTHAL. Yes, I am.

Senator HICKENLOOPER. He was Director of the Budget, employed by the Commission at the Washington office, and he has now left the Washington office, has he not?

Mr. LILIENTHAL. That is correct; he is at Los Alamos.

Senator HICKENLOOPER. I believe that he gave the reason for the transfer to Los Alamos as his health, is that not so?

Mr. LILIENTHAL. Yes, I believe that is true.

Senator HICKENLOOPER. Is Mr. Ager a good man?

Mr. LILIENTHAL. Mr. Ager is a fine man.

Senator HICKENLOOPER. Do you consider his loss as Budget Director here in the central office in Washington a distinct loss to the Commission?

Mr. LILIENTHAL. With no disrespect at all to Mr. Ager, I believe not, because his health had been adversely affected by the very long hours and strenuous work here, and to the point where it would be only a matter of months before he would crack, and I think, therefore, it is not a loss in that sense.

If I may complete that, I think it is also important to note that Los Alamos needed strengthening greatly in respect to budgets and accounting matters, and Mr. Ager, I believe, has been rendering good service there, so that taking it in the over-all, I would say that he is better placed now than he was before.

Senator HICKENLOOPER. Without getting into the nature of the illness of the individual particularly, if I recall correctly, there was a

visit with Mr. Ager in which he said that his difficulty, as I recall, was some temporary trouble with his back, and I did not get the impression that he was exhausted from overwork, but that may be true.

Mr. LILIENTHAL. He had a very serious operation, Senator.

Senator HICKENLOOPER. Now, you are acquainted with Dr. James Fisk, who was Director of Research for the Washington office?

Mr. LILIENTHAL. Yes; I am.

Senator HICKENLOOPER. When did Dr. Fisk come to the Commission?

Mr. LILIENTHAL. The first of February 1947.

Senator HICKENLOOPER. Yes.

And he left the Commission when?

Mr. LILIENTHAL. About a year and a half later, was it not? August 27, 1948, I am told.

Senator HICKENLOOPER. Of last year?

Mr. LILIENTHAL. That is correct.

Senator HICKENLOOPER. Now, do you consider Dr. Fisk an able man?

Mr. LILIENTHAL. An extraordinarily able man.

Senator HICKENLOOPER. I agree with you on that. He is an extraordinarily able man. In fact, I believe he is an outstanding man.

Do you consider his termination of his employment as Director of Research for the Commission as being a loss to the Commission?

Mr. LILIENTHAL. Yes; and I spent a good many hours explaining in detail just how much of a loss, but without much success. The answer is "yes," definitely.

Senator HICKENLOOPER. And I believe you have replaced Dr. Fisk now with a doctor of research, a new man, have you not?

Mr. LILIENTHAL. Yes; we have Dr. Kenneth Pitzer, formerly of the University of California, a chemist. Also an extraordinarily able man.

Senator HICKENLOOPER. Now, there was a Personnel Security Review Board set up some time ago, a year or so ago, I believe, consisting of Justice Owen Roberts, and Dr. Karl Compton, Joseph C. Grew, former Ambassador to Japan; Mr. George Humphrey, and Mr. H. W. Prentis, Jr. It has been sometime in the last year when that Board was set up, is that correct?

Mr. LILIENTHAL. Yes.

Senator HICKENLOOPER. They all resigned last fall, did they not?

Mr. LILIENTHAL. They were set up January 1948 as an interim board, and resigned in October.

Senator HICKENLOOPER. September or October, as I understand it.

Mr. LILIENTHAL. In 1948, something like that.

Senator HICKENLOOPER. So, they are no longer with the Commission. Have you appointed a new Personnel Security Review Board?

Mr. LILIENTHAL. Yes. It should be said that this board was an advisory board and was temporary in its terms, and it was understood by the members that it would be temporary, and a new board has been named.

Senator HICKENLOOPER. Well, may I suggest that so far as the temporariness of the matter—

Mr. LILIENTHAL. Pardon?

Senator HICKENLOOPER. I say, so far as the temporariness of this board is concerned, when they were set up—I am not disputing that at all, but I would say that in talks with Justice Roberts, I was not given to understand that he at that time considered it to be temporary, and these men—just to hurry on because I want to get through here, so that the other members can ask any questions they may want—I will call attention to the fact that in the Fifth Semiannual Report of the Commission, published in January 1949, there is no mention of the temporary nature of the people of the board, and they are in fact in January—regardless of whether they resigned in September or October—they are listed in January as the members of the Personnel Security Review Board.

Mr. LILIENTHAL. I think there is no question about the record as to their charter in that respect, Senator.

Senator HICKENLOOPER. Now, these people that I have canvassed who are in a few of the key positions of the Washington office, I want to leave them for just a moment.

I would like to go into the definite field operations.

Mr. LILIENTHAL. May I interrupt?

Senator HICKENLOOPER. Yes, sir.

Mr. LILIENTHAL. You asked about a review board.

Senator HICKENLOOPER. Yes.

Mr. LILIENTHAL. May I indicate the names of the new members?

Senator HICKENLOOPER. Yes.

Mr. LILIENTHAL. The chairman of the board is Charles Fahy, who is in private practice of law, and one time Solicitor General of the United States and Legal Adviser to the Department of State; President Arthur S. Flemming, now of Ohio Wesleyan University, and for a good many years member of the Civil Service Commission of the United States; and Mr. Bruce D. Smith, an industrialist of New York.

Senator HICKENLOOPER. Going to the field operations, which are not operating strictly out of the Washington office, I would like to move down to Oak Ridge for just a moment, and I do want to hurry.

Do you recall who the first Manager of the Oak Ridge operations was?

Mr. LILIENTHAL. During the tenure of the Commission?

Senator HICKENLOOPER. Yes; during the tenure of the Commission.

Mr. LILIENTHAL. W. J. Williams, who is now Director of Production, was the operating Manager.

Senator HICKENLOOPER. He was Acting Manager down there, was he not, at that time?

Mr. LILIENTHAL. That is correct. He was the builder of K-25.

Senator HICKENLOOPER. He went in, I believe, after General Nichols left and went back to the Army.

Mr. LILIENTHAL. I believe that is correct.

Senator HICKENLOOPER. Then Mr. Williams was there for a time, and Mr. John C. Franklin was brought in as Manager of the operations there; was he not?

Mr. LILIENTHAL. That is correct.

Senator HICKENLOOPER. Do you recall the approximate date that he came in?

Mr. LILIENTHAL. He came in September of 1947.

Senator HICKENLOOPER. In September 1947. Where does Mr. Franklin come from?

Mr. LILIENTHAL. From Kansas City, where he was vice president of the Trans-World Airlines, in charge of engineering and maintenance.

Senator HICKENLOOPER. I believe he came to the operation there as Manager at a salary of about \$18,000 a year; did he not?

Mr. LILIENTHAL. That is correct.

Senator HICKENLOOPER. As I understand it, that was less than he was either getting or at least as much as he was getting from the job from which he came; is that correct?

Mr. LILIENTHAL. It is my understanding that his salary of \$18,000 was less than what he was receiving with TWA.

Senator HICKENLOOPER. And he resigned from TWA, did he not, completely?

Mr. LILIENTHAL. Yes.

Senator HICKENLOOPER. Retained no connection with TWA at all?

Mr. LILIENTHAL. I believe not.

Senator HICKENLOOPER. He came willing to accept that salary; is that your understanding?

Mr. LILIENTHAL. Yes.

Senator HICKENLOOPER. So that salary was satisfactory with him when he came? Was that your understanding?

Mr. LILIENTHAL. He certainly would not have come if it had not been satisfactory.

Senator HICKENLOOPER. And he understood, I am sure, that this was a most vital and important managerial operation in the Commission when he came.

Mr. LILIENTHAL. Yes, sir.

Senator HICKENLOOPER. You do not know what is in his mind; I do not mean for you to say that.

Mr. LILIENTHAL. I assume that.

Senator HICKENLOOPER. It is a sound assumption.

Mr. LILIENTHAL. We certainly said that to him in many ways.

Senator HICKENLOOPER. He has resigned as Manager of the Oak Ridge operation; is that correct?

Mr. LILIENTHAL. That is correct, and at the appropriate time I will indicate reasons.

Senator HICKENLOOPER. I would be glad to have you do that.

Mr. LILIENTHAL. Mr. Franklin came on the distinct understanding that in not to exceed 2 years he would feel that he had made his contribution and could then return to private industry, where he has every right to expect and I myself expect that he will become in the course of time one of the principal executives in industry in the country at the compensations that are available in industry.

He has done a fine job of getting things started down there, we are very reluctant to see him go, but he has not violated his assurances to us at the outset that he could not stay for very long.

Senator HICKENLOOPER. Mr. Lilienthal, I recall the discussions with the joint committee and the Commission at the time this matter of securing able managers for these installations was had, and I may be wrong about this, but I have no recollection whatsoever of any discussion of any temporary employment on the part of Mr. Franklin, and my memory—I think that can be checked with the minutes—but my memory is that the justification which the Commission offered for paying salaries of this kind and against which no action was taken by the joint committee, but the justification

was to get men of ability from industry who would permanently stay in these jobs.

Now, I do not know—Mr. Franklin may have had some reservations in his mind, I do not say that he did not have, but I can say it was not my impression from those discussions that he did so have any reservations.

Do you know what job he is taking now?

Mr. LILIENTHAL. No; I do not. I do not know that he has any.

Senator HICKENLOOPER. So, as far as you know, he is leaving the Commission management without having definitely determined on another job?

Mr. LILIENTHAL. Yes; I am sure he is not worried on that score because he is an unusual man, unusual executive.

I think I should say, Senator, that both the case of Dr. Fisk and Mr. Franklin are not untypical of the problem the Commission has had in recruitment of people from outside sources where they have indicated that they are very dubious about whether they shall care for Government service, and where they are anxious to make a contribution and have come on that basis. We have always hoped they could be persuaded to stay on.

Senator HICKENLOOPER. Yes, I understand those difficulties.

Do you have a new Manager yet for Oak Ridge?

Mr. LILIENTHAL. No; we have not.

Senator HICKENLOOPER. How long before May 1 did you know that Mr. Franklin was going to resign?

Mr. LILIENTHAL. About 30 days prior. I think about April 1. My understanding is he will not actually leave for some weeks.

Senator HICKENLOOPER. Did he stay out the full 2 years that you understood he might stay?

Mr. LILIENTHAL. Not quite. He came in September and I believe he will leave about the 1st of July.

Senator HICKENLOOPER. Now, I want to discuss this just a moment. You know Mr. Carlton Shugg, Area Manager at Hanford?

Mr. LILIENTHAL. Yes.

Senator HICKENLOOPER. Who was Area Manager at Hanford. Mr. Shugg came from the Todd Shipyards; is that correct?

Mr. LILIENTHAL. That is correct, sir.

Senator HICKENLOOPER. You would consider him an able technical man?

Mr. LILIENTHAL. Yes, indeed.

Senator HICKENLOOPER. He came in at about the same time Mr. Franklin did and for generally the same reasons, that it was considered essential that able men from industry come into the managerial positions in these operations?

Mr. LILIENTHAL. Yes.

Senator HICKENLOOPER. Is that a fair statement?

Mr. LILIENTHAL. As much as possible to get men with industrial or business experience.

Senator HICKENLOOPER. Mr. Shugg came to the management of the Hanford Works as a technical man and at a salary of \$18,000 a year; is that correct?

Mr. LILIENTHAL. That is correct.

Senator HICKENLOOPER. How long was he at Hanford as Manager?

Mr. LILIENTHAL. About a year.

Senator HICKENLOOPER. About a year. Do you consider that he did a good job?

Mr. LILIENTHAL. I consider he did a phenomenal job, considering what he took over and the problems involved; yes.

Senator HICKENLOOPER. You consider, I take it, that he was an able and outstanding manager for that kind of job?

Mr. LILIENTHAL. Yes; he justified the hopes that his record in industry gave us as to what he could do there; yes.

Senator HICKENLOOPER. Where is Mr. Shugg now in the Commission?

Mr. LILIENTHAL. Under the new organization of the Commission, which took place last autumn, he is now Deputy General Manager.

Senator HICKENLOOPER. He came down at the time that reorganization was put into effect, did he not?

Mr. LILIENTHAL. Shortly thereafter; yes, sir.

Senator HICKENLOOPER. And so Mr. Shugg is now Deputy General Manager of the Commission. Is he still receiving the same salary?

Mr. LILIENTHAL. He is.

Senator HICKENLOOPER. \$18,000 a year?

Mr. LILIENTHAL. Yes, sir.

Senator HICKENLOOPER. What is the salary of the General Manager of the Commission?

Mr. LILIENTHAL. The General Manager's salary, as fixed by the McMahon Act, is \$15,000 a year.

Senator HICKENLOOPER. Now, who replaced Mr. Shugg at Hanford as Manager?

Mr. LILIENTHAL. Mr. Fred Schlemmer.

Senator HICKENLOOPER. He is now Manager at Hanford?

Mr. LILIENTHAL. That is correct.

Senator HICKENLOOPER. Mr. Schlemmer came immediately to Hanford from where?

Mr. LILIENTHAL. From industry, from a large woolen mill, the name of which escapes me at the moment, at Chattanooga, Tenn.

Senator HICKENLOOPER. In the South, and he had been there somewhat over a year, either as president of that company or as a top executive; is that correct?

Mr. LILIENTHAL. I have forgotten the period, but that is generally correct.

Senator HICKENLOOPER. And for some 13 or 14 or 15 years prior to that woolen mill experience, do you know what his background had been?

Mr. LILIENTHAL. Oh, yes; he was one of the chief project engineers of the Tennessee Valley Authority and was in charge of the building of Fontana, Chickamauga, Norris, and Watts Dams.

Senator HICKENLOOPER. He was there during your tenure?

Mr. LILIENTHAL. Yes.

Senator HICKENLOOPER. He is getting \$18,000 a year?

Mr. LILIENTHAL. The same salary as Mr. Shugg.

Senator HICKENLOOPER. I believe for the year or so he was with the woolen mills during the interim between the transition from TVA and Hanford, he was getting a salary reputed to be in the twenty thousands, \$25,000 or something.

Mr. LILIENTHAL. In excess of \$25,000, I believe.

Senator HICKENLOOPER. But as engineer of TVA during those years prior to that short period of woolen mills experience, he was getting just short of \$10,000, was he not?

Mr. LILIENTHAL. His dollar compensation was just short of \$10,000.

Senator HICKENLOOPER. Now, may I ask you if you care to state why it was necessary to bring Mr. Shugg to Washington as Deputy General Manager?

Mr. LILIENTHAL. Well, this is part—his coming to Washington or the creation of the office of Deputy General Manager with various functions assigned to that deputy were a part of the general reorganization of the Commission which took place during the summer and early fall. He was brought to Washington as perhaps the man best able to serve as a deputy to the General Manager for a number of reasons, which I desire to go into.

Senator HICKENLOOPER. Yes. It was considered that a reorganization was essential in the more efficient operation of the program; is that correct?

Mr. LILIENTHAL. Yes; it certainly was considered that it was important to reshape the organization after the amount of experience we had.

Senator HICKENLOOPER. In passing, in connection with that point, I have been very interested in an article written by Mr. Richard O. Niehoff, who was Special Assistant to the General Manager of the Atomic Energy Commission in the summer of 1948, and published in the Public Administration Review. I assume Mr. Niehoff, as Special Assistant to the General Manager of the Atomic Energy Commission, was writing this article about the organization of the Commission and its smooth and efficient coordination with the approval of his superiors. I would like without reading it or quoting, Mr. Chairman, to have the article, if I may, put in the record of the hearings.

The CHAIRMAN. Very well, it may be done.

(The article referred to is as follows:)

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# ORGANIZATION AND ADMINISTRATION OF THE UNITED STATES ATOMIC ENERGY COMMISSION

(By Richard O. Niehoff, special assistant to the General Manager, Atomic Energy Commission)

## STATUTORY BASIS

Within a few weeks after the first atomic bombs had exploded over Hiroshima and Nagasaki, the Congress of the United States, in full realization of the tremendous potentialities of the new force, addressed itself to the difficult task of creating an act of public policy to guide its further development. The lucid declaration of policy contained in the Atomic Energy Act of 1946 is the result of months of hearing and considering the testimony of scientists, military experts, administrators, and men of affairs qualified to evaluate the manifold aspects of the Nation's atomic energy project. The Special Committee on Atomic Energy of the United States Senate unanimously reported the draft bill, the Senate voted unanimous approval, and an overwhelming majority of the members of the House concurred in the expression of policy which follows:

Research and experimentation in the field of nuclear chain reaction have attained the stage at which the release of atomic energy on a large scale is practical. The significance of the atomic bomb for military purposes is evident. The effect of the use of atomic energy for civilian purposes upon the social,

economic, and political structures of today cannot now be determined. It is a field in which unknown factors are involved. Therefore, any legislation will necessarily be subject to revision from time to time. It is reasonable to anticipate, however, that tapping this new source of energy will cause profound changes in our present way of life. Accordingly, it is hereby declared to be the policy of the people of the United States that, subject at all times to the paramount objective of assuring the common defense and security, the development and utilization of atomic energy shall, so far as practicable, be directed toward improving the public welfare, increasing the standard of living, strengthening free competition in private enterprise, and promoting world peace.

More specifically, the Congress set forth the following programs to effectuate this general policy:

(1) A program of assisting and fostering private research and development to encourage maximum scientific progress;

(2) A program for the control of scientific and technical information which will permit the dissemination of such information to encourage scientific progress, and for the sharing on a reciprocal basis of information concerning the practical industrial application of atomic energy as soon as effective and enforceable safeguards against its use for destructive purposes can be devised;

(3) A program of federally conducted research and development to assure the Government of adequate scientific and technical accomplishment;

(4) A program for Government control of the production, ownership, and use of fissionable material to assure the common defense and security and to insure the broadest possible exploitation of the fields; and

(5) A program of administration which will be consistent with the foregoing policies and with international arrangements made by the United States, and which will enable the Congress to be currently informed so as to take further legislative action as may hereafter be appropriate.

Throughout the more than 1,000 pages of published testimony given before the Special Senate Committee to investigate "problems relating to the development, use, and control of atomic energy" and before the same committee in hearings on the proposed McMahon bill (S. 1717), plus additional hearings before the Committee on Military Affairs of the House of Representatives, there are paraded the will-considered thoughts of scores of the country's ablest and best qualified authorities on this new problem. Additional testimony presented off the record undoubtedly put the legislators in a position to become familiar with even more complex and deeply disturbing domestic and international implications of the new force with which they were dealing. Strong arguments were made to delay legislative action until satisfactory international safeguards and agreements could be developed. But the study of the problem in its entirety convinced the Congress of the necessity for the early establishment of basic policy which would place our peaceful intentions before the world and also for getting on with the work necessary to realize the great constructive possibilities which unhappily were slowly eroding as a result of the understandable postwar lack of governmental policy for peacetime development.

Out of the close questioning of witnesses and the conscientious weighing of conflicting testimony, the Congress distilled the principles out of which a legislative framework was created for the guidance of the Atomic Energy Commission. The provisions which bear most directly on the organization and administration of the country's atomic energy program are indicated below. This article does not attempt to present a detailed analysis of the legislative history of the statute; rather, it summarizes selectively the most important determinations bearing on organization and administration.

1. The provision of a full-time five-man civilian commission appointed by the President and confirmed by the Senate for an initial term of two years at salaries of \$15,000 per annum for four commissioners and \$17,500 for the chairman. Alternatives offered to the Congress included a combination of possibilities—a part civilian, part military commission; a part-time commission; a mixed commission of part-time Cabinet officers and full-time commissioners not involved in other governmental pursuits; and a commission of nine or more persons selected with a view to securing representatives of business, scientific, and other interests. Various witnesses expressed concern over the country's ability to persuade men of the necessary stature to serve on a full-time policy board, at even the highest salary levels ordinarily paid by the government, when such service required renouncing all private interests which might possibly be in conflict with the public interest in this somewhat nebulous field.

2. The provision of the position of general manager appointed by the President and confirmed by the Senate at a salary level commensurate with that of the com-

missioners. No serious debate was introduced to challenge the need for a manager to carry out commission policies. A recommendation to put the new agency under a single head was considered; it was recognized, however, that complex policy issues needed to be considered by a variety of minds and backgrounds and the appeal of this more "streamlined" conception of administration was overruled. To assure a healthy integration of policy and administration the Congress provided the commission with advisory powers to the President with respect to the appointment or removal of the general manager.

3. The provision for four statutory divisions (research, engineering, production, and military application) within the commission, each division to be headed by a director appointed by the commission with compensation at the rate of \$14,000 per annum. The commission was also authorized to create other organizational units as required. The specification by the Congress of part of the internal organization of the commission is doubtless a byproduct of the intensive and extensive acquaintance which it developed with the program content of atomic energy. The creation of the division of military application is of key importance as a recognition of the need for technical military participation in an agency essential to the military defense of the United States. The director of the division of military application is required to be a member of the armed forces; as a matter of practice all members of this division, except the secretarial and administrative staff, are members of the armed forces.

4. The provision of a part-time, nine-member General Advisory Committee to advise the commission on scientific and technical matters relating to materials, production, research, and development, to be appointed from civilian life by the President. The provision for the General Advisory Committee clearly grew out of congressional recognition of the commission's need for advice on the immensely complex technical and scientific problems of this new "industry." Furthermore, its creation cleared the way for the appointment of commissioners who, although one or more of them might well be persons with scientific background, could act on policy matters as a group from the broadest, general perspective. Being assured of independent advice on complex technical matters, the commission is not tempted to compartmentalize its judgments or specialize as members in one or another phase of the program. The independent character of the committee, assured in part by direct presidential appointment of the members; the requirement of holding at least four meetings per year; the provision of better-than-average governmental compensation (although far below fees for comparable private consultation) combine to create an essential facility which provides the commission with highly objective advice on the more technical problems which are constantly emerging.

5. The provision of a Military Liaison Committee "consisting of representatives of the Departments of War and Navy,<sup>1</sup> detailed or assigned thereto, without additional compensation, by the Secretaries of War and Navy in such number as they may determine." The commission is obliged to "advise and consult with the committee on all atomic energy matters which the committee deems to relate to military applications" and to keep the committee fully informed of all such matters before it. The committee is also obliged to keep the commission fully informed of all atomic energy activities of the War and Navy Departments. The committee is further empowered to bring to the attention of the Secretaries of War and Navy any action or proposed action on the part of the commission which is deemed adversely to affect the discharge of the responsibilities of their departments.

This very broad provision for exchange of significant information clearly sets forth the pattern of working relationships which must be maintained between the civilian commission and the armed forces. The procedure for carrying disputes arising out of these relationships to the Secretaries of War and Navy and through then to the President is important. These provisions met with the approval of the Secretaries of War and Navy, who testified in favor of the McMahon bill in all its essential features.

6. The provision of a bipartisan congressional Joint Committee on Atomic Energy empowered to make studies on its own initiative, review legislation, hold hearings, appoint staff and consultants, report to the Congress, and "keep fully and currently informed with respect to the commission's activities." The provision of this unusual vehicle of coordination between operating policy developed by the commission and legislative policy is clearly an outgrowth of concern that the ordinary congressional controls secured through voting appropriations, reporting, and similar services were not enough. The creation of the joint com-

<sup>1</sup> Now modified by passage of the National Security Act of 1947.

mittee, with its broad powers to perform continuously on behalf of congressional interests, assured the legislators that no great hiatus need develop between operating policy and congressional policy.

7. Other major statutory provisions bear directly on organization and administration of commission activities.

(a) *Methods of performing work.*—The statute provides the commission with broad powers to administer directly or secure through contracts such research, development, and production services as it requires.

(b) *Advisory boards.*—The commission has broad powers to establish advisory boards on any phase of operations, policy, or legislation.

(c) *Personnel.*—The statute provides that officers and employees "shall be appointed in accordance with the civil service laws and their compensation fixed in accordance with the Classification Act of 1923, as amended, except that to the extent the Commission deems such action necessary to the discharge of its responsibilities, personnel may be employed and their compensation fixed without regard to such laws." Congress clearly anticipated that the agency responsible for the development of this new field would encounter problems of internal management which would require flexibility, originality of approach, and freedom from complete conformity to normal governmental personnel regulations and practices.

(d) *Reports to Congress.*—Reports to Congress are of two types—those to be submitted semiannually on all aspects of commission operations and those which are concerned with the utilization of atomic energy. In connection with the latter Congress has specified that "whenever in its opinion any industrial, commercial, or other nonmilitary use of fissionable material or atomic energy has been sufficiently developed to be of practical value, the commission shall prepare a report to the President stating all the facts with respect to such use, the commission's estimate of the social, political, economic, and international effects of such use and the commission's recommendations for necessary or desirable supplemental legislation."

(e) *Other provisions.*—Other important statutory provisions having a bearing on administration cover (1) control of information, (2) compensation for patents, (3) licensing of source material, (4) ownership and procurement of fissionable and raw materials, and (5) a number of other provisions which permit the commission to administer its affairs with considerable flexibility.

In the light of the complexity and public importance of atomic energy, Congress recognized the need for the orderly amendment of the Atomic Energy Act of 1946. To date no revisions in the statute have been made. Under a rider to the 1948 Independent Offices Act, however, the commission was denied authority to except some management positions from the Classification Act salary ceiling.

#### TIME SCALES AND MAGNITUDES

In the development of atomic energy so many great events have been crowded into so short a period that it is useful to review briefly the time relationships and magnitudes of operations that have shaped the nation's program. The following highly selective time schedule is a reminder of events having particular importance for understanding the organization and administration for atomic energy development and control:

(a) June 1940–August 1942, development of plans and organization for the production of atomic weapons, starting with the National Defense Research Committee and culminating in the establishment of the Manhattan Engineer District.

(b) July 16, 1945, exploding of test bomb at Alamogordo, New Mexico.

(c) August 6 and August 9, 1945, dropping of bombs on Hiroshima and Nagasaki.

(d) December 1945–August 1, 1946, legislative hearings, ending in the passage of the Atomic Energy Act of 1946.

(e) October 28, 1946, interim appointment of five commissioners.

(f) December 30, 1946, interim appointment of the general manager.

(g) January 1, 1947, transfer of properties and responsibility for administration of the program from the Manhattan District of the Army Engineers to the commission.

(h) January 15, 1947, nomination of commissioners and general manager.

(i) April 9, 1947, confirmation of commissioners and the general manager by the Senate.

Magnitudes of commission operations which indicate something of the size of the organization and volume of operations are given in the following key statistics:

## (a) Full-time civilian employees:

1. Washington AEC staff as of Jan. 31, 1948.....	535
2. Field AEC staff as of Jan. 31, 1948.....	4, 162
3. Contractor employees as of Dec. 31, 1947.....	50, 231

## (b) Estimated budget obligations for fiscal 1948 (subject to revision):

1. Procurement, production, and processing.....	\$204, 310, 467
2. Research and development.....	76, 054, 077
3. Construction activities.....	340, 982, 072
4. Operation of community facilities.....	33, 730, 139
5. Operation of field offices.....	23, 132, 886
6. Operation of Washington office.....	4, 577, 500

Total..... 682, 787, 141

## ORGANIZATION AND INTERNAL FUNCTIONING OF THE COMMISSION

The commission officially took over the organization and operation of the war-created Manhattan District of the Army Engineers on January 1, 1947. Approximately 4,000 civilians, 235 military officers, and 2,500 enlisted men were in the Manhattan District; there were an additional 40,000 in the employ of contractors. The district had a small liaison and control office in Washington. The operating headquarters office was located at Oak Ridge, Tennessee, with principal centers of operation at New York City, Chicago, Richland, Washington, and Los Alamos, New Mexico. Smaller offices were located at Berkeley and Los Angeles, California, Ames, Iowa, and Schenectady, New York. The operations were fairly highly centralized. Because of the single objective of the district and the almost complete secrecy of its operations, a number of the management services such as budget, legal, and public information were not very well developed. The heavy reliance on military personnel for the key administrative, technical, and supervisory positions depressed, by comparison with civilian governmental organizations, the importance of the civilian personnel office.

The first urgent organization and personnel jobs of the commission under a much broadened and more complex peacetime charter were clear cut. They were (a) to transfer all personnel, delegations, properties, etc., from the Manhattan District to the Atomic Energy Commission, a transfer that was accomplished without any interruptions; (b) to build in Washington around the four statutory program divisions and the management offices the staff organizations necessary to put the commission and the general manager in a position to assume administrative direction of the giant enterprise which they inherited; (c) to establish the office of the general manager and develop effective working relationships with the commission and the staff; and (d) to recast the operating field organization in terms of greater decentralization, broadened functions, and civilian leadership.

These tasks were accomplished largely (a) through the active cooperation of the key military officials of the Manhattan District, who continued to assist the commission as needed—some through February 1, 1947, many until June 1947, and a very few until September 1947; and (b) through the establishment of the office of field operations headed by the former director of operations, who kept the going organization intact while the decentralized offices were being established and the civilian operating managers recruited.

*The Commission.*—The organization of the offices of the five commissioners reflects the fact that the commission acts exclusively as a policy board. The commission looks primarily to the general manager and through him to the rest of the organization for any information and judgment which they need to discharge their policy-making functions. The staff of their offices is limited, therefore, to secretarial and administrative assistant personnel.

Until recently, the commissioners, while becoming fully acquainted with a myriad of complex policy problems, have been in session almost daily. Regular meetings are now scheduled for three days each week for action on current business brought to the commission's attention by the general manager, for their own executive sessions, for informal meetings with individual managers and directors, and for conferences with the Military Liaison Committee. Additional meetings are held with the Joint Congressional Committee on Atomic Energy, representatives of other governmental agencies, and other organizations as required. Some unscheduled time is thus available to commissioners for individual work, planning, and policy interpretation.

As a matter of administrative practice, commission meetings are attended by the general manager, secretary, general counsel, recording secretary, and staff members who have taken primary responsibility for preparing the staff papers which are the substance of the agenda.

*The Office of the General Manager.*—Because the general manager is convinced that the principal technical and managerial strength of the organization must be located in the offices of the field managers and directors of staff divisions and offices, he has limited his immediate staff to persons concerned exclusively with coordination and special assignments: an assistant general manager, an assistant to and a special assistant to the general manager, the executive officer of the program council, and the secretary of the commission. The functioning of most of these staff members will be described in the discussion of the coordinative machinery of the commission.

The commission has authorized and directed the general manager to discharge personally, or to delegate to others responsibility for discharging, those executive and administrative functions necessary to carry out the provisions of the Atomic Energy Act of 1946. The general manager thus is responsible for the internal management of the commission under broad commission policies, subject only to such prior review of his managerial decisions as he elects. As a matter of working relationships, considerable formal and informal collaboration is obtained on such important managerial determinations as the making of major personnel appointments, the negotiation of major contracts, the solution of complex labor relations problems, and similar matters.

Although the major lines of demarcation between policy determinations and managerial determinations are understood and faithfully adhered to, the working organization is sufficiently flexible to allow for informality of relationships in the exchange of judgment on important items of mutual interest.

*The Program Divisions.*—For long-range program planning and staff judgment on the technical and scientific aspects of the program the general manager and the commission rely largely upon the directors of the four divisions created by statute (research, engineering, military application, and production) and the two divisions created by the commission (raw materials and biology and medicine). The assignment of functions and delegation of authority to each of the directors is broad. Particularly close interrelations between the divisions are specifically set forth to aid in effecting a correspondingly close integration of effort. All of the divisions are small, the maximum number of professional personnel in the largest being seventeen, thus making possible an informal give and take of professional judgment which is essential for the development of coordinated staff policies. More formal coordination is achieved through the operations of the program council which is described later in this article. All of the directors report to the general manager and as members of the general manager's staff have responsibility for participating in the evaluation of policies for the direction and appraisal of all aspects of the program. Specific obligations are placed upon the directors for keeping the director of military application apprised of developments which have a bearing in his field. The effective working of this simple requirement has made it unnecessary for the director of military application to staff his division with liaison informational personnel to assure himself that he learns of important developments.

Directors and their staffs are authorized to have the direct informational exchanges necessary for effective program planning and assistance on current operations with their counterparts on the staffs of AEC managers and contractors. Policy direction can be given on behalf of the general manager or in his name depending upon the judgment of the director and the general manager as to the importance of the directive. Generally speaking, paper directives have been kept to a minimum. In cooperation with the director of budgets, directors of divisions review program budgets and testify on program matters before the Bureau of the Budget and committees of Congress.

Most of the program problems brought before the General Advisory Committee for review and appraisal have had prior consideration by the program council.

*Management Offices.*—Organization units concerned with staff work and management policies are called offices. The offices are: security and intelligence, organization and personnel, budgets, comptroller, general counsel, public and technical information service, and administrative operations. The general counsel and the comptroller in addition to reporting directly to the general manager on all matters of regular business are expected on occasion, as required, to report directly to the commission. Most of the judgment of these two office heads, like that of the

directors, is presented in staff papers prepared by staff members of other divisions and offices and submitted by the general manager to the commission. The coordination of congressional relations is centered organizationally in the office of the general counsel. As a matter of operating procedure, however, all members of the staff are expected to work with the Joint Committee and its staff.

The director of the office of security and intelligence has particularly close relations with the general manager and the commission on complex questions of security. On difficult borderline cases of personnel security, the commission is assisted by a special Personnel Security Review Board composed of Ex-Justice Owen J. Roberts, Karl T. Compton, Ex-Ambassador Joseph Grew, George M. Humphrey, and H. W. Prentis, Jr.

Directors of offices perform in their respective spheres in much the same manner as directors of program divisions. They all report to the general manager, issue instructions by his authority or in his name as necessary, conduct their relationships with their counterpart staffs of managers of operations and contractors in much the same manner as directors of divisions, and are broadly responsible as members of the general manager's staff for participation in policy development and administration generally.

Staff coordination between offices, divisions, and the field offices of directed operations is effected through the assistant general manager, whose functions will be described more completely in the section on internal coordination.

With the exception of those offices required to perform services for Washington operations such as security and intelligence, organization and personnel, administrative operations, and to a lesser degree the office of the comptroller, these organizations are of extremely small size, being limited in their responsibility to the development of programs and policies and the creation of standards and operating guides.

#### OFFICES OF DIRECTED OPERATIONS

Responsibility for supervising the operations of the Atomic Energy Commission is delegated to the managers of five highly decentralized field offices which are organized on the basis largely of functions. All of these managers report directly to the general manager. They are responsible for the supervision of the AEC field organizations which negotiate contracts and provide policy direction, control, and assistance within the broad framework of commission policy to research, engineering, production, construction, and other contractors who do almost all of the actual operational work of the commission. Managers of directed operations have varying authority, depending upon the functions being carried out under their direction, to enter into contracts ranging from two to five million dollars for each contract on programs which have been approved by the general manager. They are obliged to bring only those operational problems to the attention of the general manager which raise new policy problems of a very complex nature or which are likely to affect the work of the entire organization.

In addition to their authority to contract, managers have broad delegations of authority to:

(a) Establish positions and make appointments, subject to general security restrictions. Exceptions to this broad grant include only those personnel actions affecting (1) persons appointed to positions involving principal supervisory responsibility for major functional units having counterparts in staff divisions and offices in Washington, (2) employees whose duties require professional legal training, and (3) persons appointed by contractors to positions at annual salaries of \$15,000 or above. The first two limitations on the delegation of appointing authority are intended merely to secure essential concurrence between managers and directors of divisions and offices on top staff. This concurrence is necessary to assure effective informal working relationships between operating and staff personnel responsible for staff policies and operating practices in the same fields of endeavor. The temptation to resort to more formal practices and cumbersome procedures is thus substantially diminished.

(b) Issue certificates and licenses where appropriate, develop instructions, and take all other administrative actions necessary for the performance of the assigned functions unless clearly inconsistent with the limited number of the directives and instructions of the general manager.

In general, the organization of each of the offices of directed operations parallels closely, but not uniformly, the organization of the Washington office, thus making it possible to conduct the business of the commission with a minimum of organizational complications or barriers. Such differences as exist reflect the responsibility

which field offices have for direct dealings with contractor organizations. Only major organizational changes require prior approval of the general manager.

In addition to their responsibility for direct supervision of the operations of the commission, managers of directed operations are considered to be members of the general manager staff *in absentia* and as such share responsibility for the development of commission policy and the effective and economical administration of directly administered and contract activity. A brief sketch of the program of each of the offices of directed operations follows:

*New York.*—The office of New York directed operations was established on June 9, 1947. This office, under the direction of the manager of New York directed operations, is authorized to administer the following principal functions:

1. Receive and warehouse source material and procure other materials as required.
2. Direct all phases of the commercial production of uranium and thorium metals, and certain compounds and special materials for AEC installations in accordance with approved AEC programs.
3. Negotiate and direct the administration of the contract provisions of all construction and related contracts entered into or assigned to the New York office.
4. Administer research contracts, including that of the Brookhaven National Laboratory.
5. Locate and negotiate with contractors for the development and manufacture of certain special materials and engineering equipment for use at other AEC installations.
6. Administer the system of source material licensing established by the commission.

*Oak Ridge (Tennessee).*—The office of Oak Ridge directed operations was established on September 15, 1947. The principal functions of this office are to:

1. Direct the operation and maintenance of plants and facilities for the production of fissionable and related materials to meet schedules under programs approved by the general manager. These research, engineering, development, and supply plants and facilities are located at Oak Ridge, Tennessee; Miamisburg, Ohio, and elsewhere.
2. Direct and design the construction of plants and facilities as may be required.
3. Administer research and development contracts including the Oak Ridge Institute for Nuclear Studies.
4. Administer the AEC program for the production and distribution of radioactive and stable isotopes.
5. Direct the construction, maintenance, and administration of housing and community facilities for the town of Oak Ridge which has a population of approximately 36,000 persons.

*Chicago.*—The office of Chicago directed operations was established on August 31, 1947. The principal functions of this office are to:

1. Administer research and development contracts for work performed at the Argonne National Laboratory. The work of this laboratory is focused chiefly on problems of reactor development, with fundamental supporting research on relevant problems in chemistry, physics, metallurgy, medicine, and biology.
2. Direct the contractors responsible for the design and construction of buildings and facilities authorized for the new Argonne National Laboratory and such other authorized buildings and facilities as are needed for the program.
3. Administer research and development contracts for work performed at Iowa State College.
4. Administer research and development contracts for work at the University of California at Berkeley concerned with research in nuclear physics, high-energy accelerators, chemistry, biology, and medicine.

*Santa Fe (Los Alamos, N. Mex.).*—The office of Santa Fe directed operations was established as of July 2, 1947. This office manages contracts for atomic research, for developmental engineering, and for the construction and maintenance of facilities for the production of atomic weapons. One of the more important facilities is the town of Los Alamos which has a population of approximately 8,600 persons.

*Hanford (Richland, Wash.).*—The office of Hanford directed operations was established as of September 1, 1947. The principal functions carried out under the authority of this office are:

1. The manufacture of plutonium and other products at Hanford and at other locations directed from Hanford.
2. The administration of research contract activities at Hanford directed toward improvement of operations.

3. The construction of new and the operation and maintenance of existing production, research, and community facilities at Hanford.

4. The direction of research activities at the Knolls Atomic Power Laboratory and other research at Schenectady, New York. Most of this work is administered by the same prime contractor which administers the work at Hanford.

5. The construction of new and the operation and maintenance of existing laboratory and other facilities for the Knolls Atomic Power Laboratory at Schenectady, New York.

6. The management of the town of Richland, Washington, which has a population of approximately 17,000 persons.

*Eniwetok Proving Ground.*—The commission is developing a proving ground for atomic weapons in Eniwetok Atoll in the South Pacific.

#### INTERNAL COORDINATIVE MACHINERY

The organization of the Atomic Energy Commission runs counter to many textbook concepts and conventionally espoused administrative principles. An important concept which appears to be violated in the AEC is the number of persons reporting to the general manager. There are twenty-three such persons in the AEC: five managers of operations; six division directors; seven office directors; and five members of his immediate staff. The successful maintenance of this simple organization arrangement, with its structural and personnel advantages, depends upon three important requirements:

1. The essential willingness of the general manager to delegate responsibility.
2. The quality of the top staff—with particular consideration of capacities for self-coordination and self-direction, which have an important bearing on the frequency and method of reporting to the general manager.
3. The functioning of effective coordinative machinery.

The first condition, namely, the willingness of the general manager to delegate responsibility, is clearly demonstrated in all that has been reported thus far. The second point will have to rest in this article with the assertion that there is a high correlation between the creation of a basically simple organization and highly responsible top personnel. There follows an abbreviated account of the coordinative machinery employed by the general manager.

*Coordination of Program Matters.*—Most program-planning work and the development of current program policy involve several divisions. The program council is designed to secure coordinated judgment on matters affecting the soundness of program planning and execution. The active members are the general manager, the directors of the divisions of research, production, military application, and engineering, and the assistant general manager. The general manager acts as chairman; each division director serves by rotation in the capacity of vice chairman to conduct the business of the council in the general manager's absence. The assistant general manager serves as a member of the council with particular responsibility for early identification of administrative problems which may arise in connection with the implementation of program policy. The directors of the divisions of biology and medicine and raw materials, and the assistant to the general manager, who aids the general manager directly on program matters, are also in the council and participate in its activities to the extent that their fields of interest are involved. The executive officer of the council is the key to the administrative effectiveness of the body. He plans the agenda, keeps the minutes, carries on many of the preparatory conferences, and otherwise keeps the council operating effectively.

The council meets regularly twice each week and has as many additional sessions as necessary. No program matter is brought to the attention of the commission without clearance through the council.

*Assistant General Manager.*—The duties of the assistant general manager for assistance in program coordination have already been described. In addition to these duties the assistant general manager is principally responsible for (1) coordinating and integrating the activities and relationships among the offices of organization and personnel, budget, comptroller, general counsel, public and technical information service, and administrative operations; (2) coordinating contracts initiated in Washington or referred by managers of directed operations and developing standards affecting contract negotiation and administration; (3) advising the general manager regarding problems requiring more extensive analysis and coordination which can be performed by the assistant to or special assistant to the general manager, by consultants, or by other means; and (4) making referrals of mail and other communications to the general manager, executive officer of

the program council, the secretary, managers, and directors for handling in accordance with assigned duties and keeping necessary control records on these referrals.

*Commission Secretary.*—The secretary of the commission assists the general manager on all matters affecting his formal relationship with the commission. With the exception of executive sessions of the commission the agenda of commission meetings are the agenda of the general manager. The secretary develops these agenda and gives staff assistance to the rest of the organization in the preparation of the formal staff papers which serve as the vehicles for putting complex problems and recommended solutions before the commission. The secretary keeps all the necessary records and minutes of commission actions. As a direct aid to the general manager and the staff he prepares summaries of commission actions, pending determinations, and other control records.

*Other Coordinative Devices.*—In addition to the organizational units directly concerned with assisting the general manager in performing his coordinative responsibilities, the following devices are used: (1) weekly meetings of the Washington staff, (2) meetings of managers and principal Washington staff at approximately quarterly intervals, (3) policy manuals and instructions, (4) communications of the secretariat, and (5) other communications.

#### THE ROLE OF ADVISORY COMMITTEES

The legislative history of the Atomic Energy Act of 1946 clearly reveals the tremendous impression made on the minds of congressmen by the stream of witnesses who pointed out the great complexities associated with guiding the young but prematurely husky infant known as atomic energy. Congress was presented with a great temptation to translate this complexity into cumbersome organizational forms. The more fortunate distillation of its judgment expressed itself in the creation of three statutory advisory bodies and the authorization of such additional advisory bodies as the commission might see fit to create. The following notes constitute a brief discussion of the utilization of advisory bodies by the commission.

##### *Statutory Bodies*

1. *General Advisory Committee.*—The nine distinguished members of the General Advisory Committee are presidentially appointed for six-year terms. Although constituted within the general framework of the AEC organization, the GAC enjoys a healthy objectivity and independence with reference to the commission as such. The committee has its own secretary who is not an employee of the commission. The agenda for committee meetings is developed out of suggestions from the general manager and commission staff—principally from the program divisions but not limited thereto—and from suggestions made by the committee's own members who are very familiar with various phases of atomic energy developed before and since the creation of the commission. The commission's appraisal of the GAC is indicated in the following quotation from the Third Semiannual Report to the Congress:

"\* \* \* Not only has the General Advisory Committee assisted in the solution of specific problems, it has provided a most helpful evaluation service in the reorientation of research and development programs. As a result of its own surveys and studies, the committee has recommended specific projects and made suggestions to strengthen the program at several points."

Although obliged to meet only four times a year, the full committee met formally eight times during the past year. In addition, there were many meetings of subcommittees and special surveys by individual members.

2. *Joint Committee on Atomic Energy.*—The eighteen-member Joint Committee on Atomic Energy was established by the Congress as its own device to receive full reports on commission activities on a current and continuing basis, including the reporting of secret matters. The recognition of the especially complex character of atomic energy and the necessity for secrecy in connection with many of its most important operations, plus an acute awareness of the difficulty of legislating with any degree of finality on atomic energy matters, doubtless motivated Congress to take this unprecedented measure to keep itself informed.

Members of the committee and the commission have frequently discussed many matters relating to the commission's activities in both formal and informal meetings. Representatives of other agencies of the government, such as the State Department and the National Military Establishment, have also participated in some of these meetings. The commission has also informed the committee of its activities by means of many letters, memoranda, and written reports. In

addition, members of the committee and the committee staff have visited the major installations of the commission throughout the country. No amendments to the Atomic Energy Act of 1946 have been passed, although a few bills have been introduced. The committee has a staff of nine professional persons and a budget for fiscal 1948 of \$150,000.

*3. Military Liaison Committee.*—The commission's Third Semiannual Report to the Congress succinctly summarizes the operating relationship between the commission and the MLC as follows:

The commission meets regularly with the Military Liaison Committee on alternate Wednesdays and oftener when required, and the staffs of both work closely together. The committee is housed in the commission's headquarters. Twenty-two formal joint conferences were held during the year, 14 of these since July 1, 1947, and there were numerous staff and informal conferences. Working relationships were maintained with the armed services at various levels in Washington and in the field and were much broader than the activities involved in establishing and meeting military requirements.

The mutual interests of the commission and the services extend throughout the broadest range of subjects: Security of information and facilities, production, procurement, construction of facilities, biology and medicine, certain field operations, intelligence, support of basic research, appropriations and other fiscal matters, export controls, mobilization planning, and participation of industry in the atomic energy program. Organizing for effective relations with the Military Establishment in these many fields—relations which recognized the responsibilities, explicit and implied, of the commission and the services—was a major objective of the commission during 1947, and progress toward this objective has been substantial, in a year which was a formative period for the commission and a period of reorganization for the services.

Differences arising in initial presentation of matters considered jointly have thus far been resolved by discussion and through analysis by the members and staffs of the Military Liaison Committee and the commission. Of the wide range of matters relating to the entire atomic energy program that have been discussed with the Military Liaison Committee, no case has yet arisen where it has been necessary to refer any disagreement to the President for decision as provided for in section 2 (c) of the Atomic Energy Act.

#### *Advisory Committees Established by the Commission*

The following listing of advisory committees suggests something of the scope of the program and of the effort on the part of the commission to secure widespread participation in the development of program and administrative policy. Each committee, whether permanent or ad hoc, is composed of persons who have distinguished themselves in the particular fields in which advisory recommendations are made. The interested reader is referred to the Third Semiannual Report of the Commission to the Congress for a more complete record of the scope and membership of these committees.

1. Advisory Committee for Biology and Medicine
2. Advisory Committee for Exploration and Mining
3. Patent Administration and Patent Advisory Panel
4. Industrial Advisory Group
5. Safety and Industrial Health Advisory Board
6. Advisory Board on Relationship of the Atomic Energy Commission with its Contractors
7. Committee on Scientific Personnel
8. Committee on Isotope Distribution

#### ORGANIZATION AND ADMINISTRATION—THE CONTINUING PROBLEMS

The first year of the nation's peacetime development of atomic energy has afforded heartening evidence of the soundness of the legal structure created by the Congress in the Atomic Energy Act of 1946. Under its provisions the commission has been able to construct an organization and an administrative machinery which is both strong and flexible in operation.

Strength and flexibility have been essential from the start and will continue to be essential. The unprecedented problems of atomic energy development, the size and complexity of operations, and the urgent time schedule of the program in both production and research demand an organization that can act positively and decisively on a nation-wide scale. At the same time, the organization must be acutely self-critical—vigilant in detecting unworkable policies or administrative

devices and quick to make improvements, whether they are called for by errors in original determinations or by unpredictable changes in circumstance.

To meet these operational demands, the commission has chosen to combine wide delegation of authority for operations with an alert and sensitive centralized staff organization. The continued workability of the organization as now conceived will be tested by:

1. The continued basic soundness of the commission determination to have all or almost all of the operations of the AEC carried on by contractors;
2. The continued effectiveness of the field organization to give useful direction to the work of contractors;
3. The continued and quickened development of basic program and management policies and standards by Washington divisions and offices to guide the operational direction of contractors by the AEC field staff; and
4. The continued effective integration of program policy and operational needs at the level of the general manager and the commission—incorporating at this level the advice of top military, congressional, and scientific bodies.

The continued effectiveness of the commission's staff and organization is now, and will be in the future, tested in the crucible of intensive internal and external scrutiny. No agency has ever been put to such severe tests. It is necessary for the public welfare that the tests be focused exclusively on the achievement of results.

Mr. LILIENTHAL. I did not understand what your assumption was, that it was written with the approval——

Senator HICKENLOOPER. I assume that inasmuch as Mr. Niehoff, the author of the article, was assistant to the General Manager at the time, that his publication in this review was with the authorization and approval of his superiors.

Mr. LILIENTHAL. I do not know whether that is true or not. I just did not understand it.

Senator HICKENLOOPER. I am not stating it is true, I assume it. But I might ask, if you care to consult Mr. Wilson, the General Manager, if he knew about that article or in any way authorized it.

Mr. WILSON. The article was written by Mr. Niehoff; the views were his own; I reviewed it; I saw no objection to his publishing it.

Senator HICKENLOOPER. Fine.

Now, do you know Captain Huntington, a retired naval officer, who was the AEC manager of division at Sandia Base?

Mr. LILIENTHAL. I certainly must have met Captain Huntington, but I do not recall his name. I have been at Sandia Base.

Senator HICKENLOOPER. You do not know why or would have no way of knowing why at the moment he terminated his employment there?

Mr. LILIENTHAL. No. I assume someone was regarded as better fitted for that particular post who had been selected, but I do not know.

Senator HICKENLOOPER. You know the present manager at Sandia Base, the so-called Z Division?

Mr. LILIENTHAL. Yes.

Senator HICKENLOOPER. Captain Kraker, also United States Navy, retired; is that correct?

Mr. LILIENTHAL. That is correct.

Senator HICKENLOOPER. You have no way of evaluating at the moment Captain Huntington's loss or the Commission's gain in connection with his separation?

Mr. LILIENTHAL. No, sir; I assume before the hearings are completed, an evaluation of that whole Sandia enterprise will, I hope, be presented to you by the executive vice president of the Bell Laborato-

ries, who recently made a survey of it, and you will get then an outside and qualified appraisal of the whole undertaking, including—

Senator HICKENLOOPER. Are you acquainted with Mr. Ted Jensen, Chief of the Atomic Energy Construction Division at Los Alamos?

Mr. LILIENTHAL. I have met Mr. Jensen.

Senator HICKENLOOPER. Do you know when he quit his employment there?

Mr. LILIENTHAL. No, I do not, Senator.

Senator HICKENLOOPER. Do you have a new chief of construction at Los Alamos now?

Mr. LILIENTHAL. I am not offhand familiar with the answer to that question.

Senator HICKENLOOPER. Do you know the amount of construction in dollars currently going on at Los Alamos in the general program?

Mr. LILIENTHAL. Very large, I do not carry the figure in my head, but I can get it.

Senator HICKENLOOPER. There is no necessity for that, but it is probably in the neighborhood of \$150,000,000 in operation or more.

Are you acquainted with Dr. Philip Morse, who was Director of the Brookhaven Laboratories?

Mr. LILIENTHAL. I have met Dr. Morse and I knew him slightly.

Senator HICKENLOOPER. Do you recall when he terminated his employment as Director of the Brookhaven Laboratories?

Mr. LILIENTHAL. Not very long ago. I am advised that is exactly a year ago, last summer.

Senator HICKENLOOPER. Do you consider his termination of employment as a loss to the Brookhaven Laboratory?

Mr. LILIENTHAL. Here I have to depend on the judgment of those who were responsible for the Brookhaven Laboratories, the Trustees of Associated Universities, and they quite evidently thought there was an individual better qualified for that post and, therefore, the answer would probably be "No."

Senator HICKENLOOPER. I see.

Mr. LILIENTHAL. The Brookhaven Laboratory, as the Senator is aware, but others may not be, is not operated directly by the Commission, but by the Associated Universities, nine major universities of the Northeast; their governing board and management selected Dr. Morse in the first instance, and replaced him a year ago in the second instance.

Senator HICKENLOOPER. You are acquainted with Mr. Hood Worthington, who was a member of the General Advisory Committee?

Mr. LILIENTHAL. Yes, sir; I am.

Senator HICKENLOOPER. The General Advisory Committee is a very vital and important arm of the Commission?

Mr. LILIENTHAL. Yes.

Senator HICKENLOOPER. Composed of eminent men?

Mr. LILIENTHAL. That is correct, sir.

Senator HICKENLOOPER. How long has it been since Mr. Worthington resigned as a member of the Advisory Committee?

Mr. LILIENTHAL. His term expired, Senator, his term under Presidential appointment expired in August of last year.

Senator HICKENLOOPER. He was not reappointed. Do you know whether at his own request?

Mr. LILIENTHAL. It is my understanding he did not only not desire reappointment, I recall he very firmly did not desire appointment in the first place, but at his request, he was not considered, and Dr. Oliver Buckley, the director of the Bell Laboratories, was appointed by the President in his stead.

Senator HICKENLOOPER. The General Advisory Committee maintains a current fund of very vital information of the operations of the Commission in order to be better able to give advice to the Commission, does it not?

Mr. LILIENTHAL. That is correct.

Senator HICKENLOOPER. Do you know Mr. William Waymack?

Mr. LILIENTHAL. Yes.

Senator HICKENLOOPER. One of the Commissioners who resigned.

Mr. LILIENTHAL. Yes; I do.

Senator HICKENLOOPER. Last December, I believe. I believe Mr. Waymack you testified you had recommended for appointment to the Commission.

Mr. LILIENTHAL. That is correct, sir.

Senator HICKENLOOPER. Mr. Waymack, I take it, we consider to be, both of us consider to be, an able man.

Mr. LILIENTHAL. Yes. I think both of us do consider him that.

Senator HICKENLOOPER. Dr. Robert F. Bacher, a Commissioner, who I believe was the other one you recommended to the President for appointment, resigned a short time ago.

Mr. LILIENTHAL. As of May 9 or 10, I believe.

Senator HICKENLOOPER. And a few weeks ago new appointments were made in those cases and they are now confirmed.

Mr. LILIENTHAL. That is correct.

Senator HICKENLOOPER. Now, Mr. Chairman, I have tried to hurry on this matter to illustrate and develop the point that there has been a startling lack of continuity in key positions in the operation of the atomic energy program from the general administrative viewpoint in Washington.

I have here that I can run through very quickly—the committee may want to look at it further—I have here a statement of the employment and the terminations of the Commission since it was set up.

In the Fifth Semiannual Report of the Commission to the country in which the Commission says it is telling the country everything that can be told about the operation of the program, on page 121 I find this statement, and I quote:

The number of people employed by the Commission itself is small and the turn-over among them is relatively low.

Now, I want to be sure to make clear that I am not talking about the employees of the contractors, I am talking about the employees of the Atomic Energy Commission, who number somewhere in the neighborhood on an average of around 5,000 people, and I would like to read in summary—I have the figures here month by month, which I will not at this moment burden the record with, but I would like to read this statement, which is a compilation of the first 2 years.

This statement is based upon the Commission's reports to the joint committee.

In order that a continuing study may be made of the personnel situation of the Atomic Energy Commission, the joint committee early in 1947 requested a monthly report from the Commission

reflecting the strength, hires—that means the people hired, promotions, and terminations of all Federal employees of the Atomic Energy Commission.

Information has been received for 24 months beginning with January 1947 and concluding with December 1948.

An analysis of the information reveals the following:

Number of Federal civilian employees of the Commission as of the end of 1948 or as of January 1, 1949, was 4,971. The largest number of Federal civilian employees on the Commission pay roll at any one time was in August 1948 when the total was 5,010.

During the year 1947, 2,581 employees were separated for all causes. Since the highest number of employees at any one time in 1947 was 4,715, this makes a turn-over of 54 percent.

In 1948, 1,685 persons were separated for all causes, and since the highest number of employees at any one time in 1948 was 5,010, this was a turn-over of 33½ percent in the employment of the Commission.

In the 2-year period of the Commission's operations, 4,366 employees have been separated for all causes. The highest number of employees on the Commission's pay roll at any one time has been 5,010; which means that in the 2 years of operation the percentage of turn-over has been 87 percent of the total number.

In 1948 the highest number of employees at any one time, any one month, in the Washington headquarters was 986, and during the year 1948, 228 persons were separated for all causes, for a percentage turn-over in 1948 of 23 percent.

In the Offices of Directed Operations, the largest number of Federal employees was 4,185 in the year 1948. There were separations for all causes of 1,427, for 34 percent in that year.

In January 1948 Santa Fe Office of Directed Operations had 1,139 employees, and in December 1948, the same office had 1,314 employees, for an increase of 175 employees.

During 1948, 448 employees were separated for all reasons, for a percentage turn-over of 34 percent in the AEC in 1947—34 percent.

In the Atomic Energy Commission in 1947, 761 persons were separated under the category of reduction in force; yet, during the same 12-month period the total employees were increased from 4,103 to 4,715.

In 1948, 319 individuals were separated by reduction in force, and over the 2-year period there were 1,180; yet, the increase in personnel from January 1, 1947, to January 1, 1949, is 721, or a total increase of 17 percent.

In other words, I have the month-by-month records of separations or terminations, or as we call it—well, I think I should use the words “separations and terminations”—and those that were hired, and it shows this startling percentage turn-over among the almost 5,000 employees.

Now, I have taken the figure of 5,010 as the highest number at any time on the rolls, and I have not taken the average employment during 1947 and 1948. I believe if I took the average employment, the percentage of turn-over in total would, of course, be somewhat higher.

Now, Mr. Chairman, this morning in hurrying through I wanted to present this matter of what I believe to be administrative indecision and administrative noncontinuity as a basis, because administration depends upon human beings, administration depends upon ability,

and continuity of work, and the familiarity of people with their jobs; so at this point—I have transgressed a little longer than I thought I would on the time of the other members—so at this point I believe I will summarize this by saying that I believe at least what I have put in this morning is very ample and substantial evidence of lack of continuity in key positions in these important and vital areas and a lack of continuity in the ordinary personnel run of the Commission's operations.

I believe that I should now stop at this point and let other members pursue their own questions.

The CHAIRMAN. Mr. Lilienthal, have you any comment to make upon the figures which have just been read to you as indicating a turn-over of rather high proportions?

Mr. LILIENTHAL. Not at this time, and I assume we will have an opportunity to submit an analysis of these figures.

The CHAIRMAN. I think it would be very helpful if you would give us such an analysis and a break-down of the classifications in which the turn-over took place.

Mr. LILIENTHAL. Yes. I assume also an opportunity will be afforded at the proper time to make a statement of organization so as to provide a background for the criticisms that have been made this morning, and I think it would serve the interest of the atomic energy program and of the country as a whole if an opportunity were afforded to describe with examples the grave problems of the recruitment of able men, particularly from industry and universities, into the Government service or into the service of contractors in the atomic energy program, because this is one of the problems that I am sure from a legislative point of view the joint committee will want to consider in its report.

The CHAIRMAN. I want you to go ahead with it right now, because we are talking now about the rapid turn-over in the Commission. That is, Senator Hickenlooper has been emphasizing that, and, as he just summed it up, he believes there has been a lack of continuity in the top positions.

Now, from you, sir, let's have your explanation right now. This is the place for it, and I think this is the occasion for it. You can proceed.

Senator HICKENLOOPER. Mr. Chairman, if I may interrupt: I have the records here, which I would like to put in the record at this point, of the details and the numbers and the reasons and the classifications, if that is satisfactory.

The CHAIRMAN. Do you have the break-down?

Senator HICKENLOOPER. The break-down is right there in those documents.

The CHAIRMAN. Well, they will be put in the record.  
(The data referred to is as follows:)

Atomic Energy Commission, strength, hires, promotions, and terminations, January through October 1947

Month	Full time strength end of month	Hires	Promotions					Separations						
			Total	CAF	P	SP	CPC	Others	Total	By voluntary separation	By re-duction in force	By removal and sepa-ration for disqualifi-cation and inefficiency	By ex-tended leave without pay	By other types of separations
January.....	4,103	14,201	67	46	6	-----	4	11	110	95	3	2	5	5
February.....	4,240	107,84	107	84	5	-----	7	11	158	101	31	5	8	13
March.....	4,115	322	103	84	3	-----	8	4	456	99	293	3	31	30
April.....	4,182	215	97	80	12	4	3	2	148	123	3	2	8	12
May.....	4,132	155	109	63	16	-----	37	3	205	165	9	8	4	19
June.....	4,178	330	109	77	13	3	6	10	284	104	66	1	7	106
July.....	4,063	175	58	38	6	2	7	5	290	108	157	6	5	14
August.....	3,922	160	148	90	11	2	42	3	301	127	125	5	6	38
September.....	4,151	383	94	68	11	3	3	9	154	112	15	3	2	22
October.....	4,333	340	126	92	22	-----	5	7	158	106	11	1	1	39

<sup>1</sup> Mass transfer of employees from MED to AEC.

## Atomic Energy Commission, Federal Civilian Employees' strength, hires, promotions, and terminations

NOVEMBER 1947

	Full time strength end of month	Hires	Promotions					Separations					By other types of separations	
			Total	CAF	P	SP	CPC	Others	Total	By voluntary separation	By reduction in force	By removal and separation for disqualification and inefficiency		By extended leave without pay
Total.....	4, 604	424	166	124	28	4	4	6	153	95	32	2	4	20
Headquarters, total.....	543	58	44	37	4	1	1	1	16	9				7
Washington.....	470	53	36	33	1		1	1	15	8				7
Extensions.....	73	5	8	4	3	1			1	1				
Offices of directed operations total.....	4, 061	366	122	87	24	3	3	5	137	86	32	2	4	13
Chicago.....	236	7	11	11					38	8	20			1
Hanford.....	340	26	24	24	2				7	3	2			2
New York.....	448	15	15	8	5		2		12	7			1	4
Oak Ridge.....	2, 075	26	52	33	15	2	1	1	52	48	1	1		2
Santa Fe.....	962	292	18	11	2	1		4	28	20		1	3	4

DECEMBER 1947

	Full time strength end of month	Hires	Total	CAF	P	SP	CPC	Others	Total	By voluntary separation	By re-duction in force	By removal and separation for disqualification and inefficiency	By extended leave without pay	By other types of separations
Total.....	4,715	275	99	81	12	2	3	1	164	97	16	5	1	45
Headquarters, total.....	584	54	20	19			1		13	4				9
Washington.....	505	46	16	15			1		11	3				8
Extensions.....	79	8	4	4					2	1				1
Offices of directed operations total.....	4,131	221	79	62	12	2	2	1	151	93	16	5	1	36
Chicago.....	237	4	12	12					3	2				1
Hanford.....	361	26	8	5	3				5	4				1
New York.....	454	22	7	5			2		16	8				8
Oak Ridge.....	2,033	37	33	23	9	1			79	54	16	5		4
Santa Fe.....	1,046	132	19	17		1		1	48	25			1	22

## JANUARY 1948

Total.....	4, 824	319	134	107	19	1	2	5	210	94	11	1	4	100
Headquarters total.....	662	98	23	14	7			2	23	11				12
Washington.....	535	44	14	11	3				15	9				6
Extensions.....	127	54	9	3	4			2	8	2				6
Offices of directed operations total.....	4, 162	221	111	93	12	1	2	3	187	83	11	1	4	88
Chicago.....	231	8	5	4				1	14	6	2		1	5
Hanford.....	364	13	38	35	3				10	6	4			49
New York.....	419	20	11	9	2				52	3				10
Oak Ridge.....	2, 009	31	31	20	6	1	2	2	55	39	5	1	3	24
Santa Fe.....	1, 139	149	26	25	1				56	29				

## FEBRUARY 1948

Total.....	4, 890	139	160	127	14	2	17		128	87	16	1	4	18
Headquarters total.....	705	60	23	19	3		1		20	13				7
Washington.....	577	48	14	12	1		1		7	2				5
Extensions.....	128	12	9	7	2				13	11				2
Offices of directed operations total.....	4, 185	129	137	108	11	2	16		106	74	16	1	4	11
Chicago.....	235	7	7	5					3					1
Hanford.....	366	18	16	13	3				16	13			2	4
New York.....	430	20	9	9					8	5				4
Oak Ridge.....	1, 995	34	57	34	6	2	15		48	27	16	1		4
Santa Fe.....	1, 169	50	43	47			1		30	26			2	2

## Atomic Energy Commission, Federal Civilian Employees' strength, hires, promotions, and terminations—Continued

MARCH 1948

	Full time strength and of month	Hires	Promotions						Separations					
			Total	OAF	P	SP	OPO	Others	Total	By voluntary separation	By reduction in force	By removal and separation for disqualification and inefficiency	By extended leave without pay	By other types of separations
Total.....	4,902	190	152	106	17	---	24	5	178	91	44	---	4	39
Headquarters total.....	730	40	40	32	5	---	3	---	15	5	---	---	---	10
Washington.....	598	35	32	28	1	---	3	---	14	5	---	---	---	9
Extensions.....	132	5	8	4	4	---	---	---	1	---	---	---	---	1
Offices of directed operations total.....	4,172	150	112	74	12	---	21	5	163	86	44	---	4	29
Chicago.....	239	10	5	4	1	---	---	---	6	6	---	---	---	---
Hanford.....	375	16	16	11	2	---	---	3	7	7	---	---	---	---
New York.....	439	17	3	1	2	---	---	---	8	5	---	---	---	2
Oak Ridge.....	1,927	21	50	25	5	---	20	---	39	39	1	---	2	5
Santa Fe.....	1,192	86	38	33	2	---	1	2	53	29	43	---	2	22

APRIL 1948

	Full time strength end of month	Hires	Total	CAF	P	SP	OPO	Others	Total	By voluntary separation	By re-duction in force	By removal and separation for disqualification and inefficiency	By extended leave without pay	By other types of separations
Total.....	4,939	164	144	118	18	3	5	---	127	75	15	1	2	24
Headquarters total.....	773	68	30	27	2	---	1	---	15	6	---	---	---	9
Washington.....	631	45	26	24	1	---	1	---	12	4	---	---	---	8
Extensions.....	142	13	4	3	1	---	---	---	3	2	---	---	---	1
Offices of directed operations total.....	4,166	106	114	91	16	3	4	---	112	69	15	1	2	25
Chicago.....	237	4	9	9	---	---	---	---	6	4	---	---	---	1
Hanford.....	335	22	18	12	0	---	---	---	12	7	---	1	---	5
New York.....	446	13	25	17	4	---	1	---	16	4	---	---	---	2
Oak Ridge.....	1,897	26	39	31	2	3	3	---	58	35	15	---	1	5
Santa Fe.....	1,201	41	23	22	1	---	---	---	32	19	---	---	1	12

MAY 1948

Total.....	4,970	161	207	167	18	2	14	6	130	89	9	1	6	26
Headquarters total.....	795	36	56	46	7			3	14	5			1	8
Washington.....	632	27	48	41	7				6	2			1	3
Extensions.....	143	9	8	5				3	8	3				6
Offices of directed operations total.....	4,175	125	151	121	11	2	14	3	116	84	9	1	4	18
Chicago.....	245	12	6	6					4	3			1	2
Hanford.....	396	21	24	21				3	10	7			1	2
New York.....	445	16	21	17	2		2		17	8	4			6
Oak Ridge.....	1,866	20	71	49	9	2	11		51	43	4			4
Santa Fe.....	1,223	56	29	28			1		34	23	1	1	2	7

JUNE 1948

Total.....	4,975	157	157	119	11	3	24		152	85	25		2	40
Headquarters total.....	814	41	19	17	2				22	5			1	16
Washington.....	664	22	14	14					10	4			1	5
Extensions.....	150	19	5	3	2				12	1				11
Offices of directed operations total.....	4,161	116	138	102	9	3	24		130	80	25		1	24
Chicago.....	236	7	4	4					16	6	8			2
Hanford.....	408	19	12	10	1		1		17	6				1
New York.....	452	21	18	13	1	2	2		14	10	1			3
Oak Ridge.....	1,841	34	76	51	7	1	17		59	35	16			8
Santa Fe.....	1,224	35	28	24			4		34	23			1	10

## Atomic Energy Commission, Federal Civilian Employees' strength, hires, promotions, and terminations—Continued

JULY 1948

	Full time strength end of month	Hires	Promotions						Separations					
			Total	CAF	P	SP	CPO	Others	Total	By voluntary separation	By reduction in force	By removal and separation for disqualification and inefficiency	By extended leave without pay	By other types of separations
Total.....	5,002	153	134	102	16	4	12	---	125	65	9	---	5	46
Headquarters total.....	824	29	26	22	1	---	3	---	18	6	---	---	3	9
Washington.....	669	14	22	18	1	---	3	---	9	4	---	---	3	2
Extensions.....	155	15	4	4	---	---	---	---	9	2	---	---	---	7
Offices of directed operations total.....	4,178	124	108	80	15	4	9	---	107	59	9	---	2	37
Chicago.....	236	9	5	3	---	---	2	---	9	8	1	---	---	---
Hanford.....	404	5	15	12	3	---	---	---	9	7	---	---	---	2
New York.....	461	28	10	7	2	---	1	---	19	16	---	---	3	3
Oak Ridge.....	1,851	40	37	19	10	4	4	---	30	14	8	---	---	8
Santa Fe.....	1,226	42	41	39	---	---	2	---	40	14	---	---	2	24

AUGUST 1948

	Full time strength end of month	Hires	Total	CAF	P	SP	CPC	Others	Total	By voluntary separation	By reduction in force	By removal and separation for inefficiency	By extended leave without pay	By other types of separations
Total.....	5,010	121	69	56	6	1	5	1	113	67	13	3	1	29
Headquarters total.....	826	23	13	9	3	—	1	—	21	11	4	—	—	6
Washington.....	678	22	10	9	—	—	1	—	13	10	—	—	—	3
Extensions.....	148	1	3	—	3	—	—	—	8	1	4	—	—	3
Offices of directed operations total.....	4,184	98	56	47	3	1	4	1	92	56	9	3	1	23
Chicago.....	244	10	3	3	—	—	—	—	2	2	—	—	—	—
Hanford.....	402	4	11	9	2	—	—	—	6	5	—	—	—	1
New York.....	473	17	5	5	—	—	—	—	5	5	—	—	—	4
Oak Ridge.....	1,839	27	22	16	1	1	4	—	39	26	9	—	—	18
Santa Fe.....	1,226	40	15	14	—	—	—	1	40	18	—	3	1	—

SEPTEMBER 1948

Total.....	4,981	93	135	120	4	1	8	2	122	84	12	4	22
Headquarters total.....	824	17	11	8	3	-----	-----	-----	19	14	-----	-----	5
Washington.....	678	14	8	5	3	-----	-----	-----	14	9	-----	-----	5
Extensions.....	140	3	3	3	-----	-----	-----	-----	5	5	-----	-----	-----
Offices of directed operations total.....	4,157	76	124	112	1	1	8	2	103	70	12	4	17
Chicago.....	244	4	6	3	-----	-----	3	-----	4	4	-----	-----	-----
Hanford.....	407	12	33	29	1	1	-----	2	7	2	3	-----	2
New York.....	472	8	10	8	-----	-----	2	-----	9	5	-----	-----	4
Oak Ridge.....	1,800	16	9	6	-----	-----	3	-----	55	44	9	-----	2
Santa Fe.....	1,234	36	66	66	-----	-----	-----	-----	28	15	-----	4	9

OCTOBER 1948

Total.....	4,904	342	174	150	17	2	5	-----	419	123	75	1	220
Headquarters total.....	997	203	21	16	4	1	-----	-----	30	10	6	-----	14
Washington.....	659	4	16	14	2	-----	-----	-----	23	9	-----	-----	14
Extensions.....	1,338	199	5	2	2	1	-----	-----	7	1	6	-----	-----
Operations offices total.....	3,907	139	153	134	13	1	5	-----	380	113	69	1	206
Chicago.....	224	1	4	4	-----	-----	-----	-----	21	10	6	-----	5
Hanford.....	409	7	13	10	2	-----	1	-----	5	5	-----	-----	1
New York.....	483	23	10	7	-----	-----	-----	-----	12	6	3	-----	3
Oak Ridge.....	1,489	0	16	6	7	1	2	-----	320	66	59	-----	195
Santa Fe.....	1,302	99	111	107	2	-----	2	-----	31	27	1	1	2

<sup>1</sup> Reflects the organizational transfer of the Technical Information Division, an AEC-wide function formerly performed by the Oak Ridge Operations Office, to the Public and Technical Information Division, Washington.

*Atomic Energy Commission, Federal Civilian Employees' strength, hires, promotions, and terminations—Continued*  
NOVEMBER 1948

	Full time strength end of month	Hires	Promotions						Separations					
			Total	CAF	P	SP	CPC	Others	Total	By voluntary separation	By reduction in force	By removal and separation for disqualification and inefficiency	By extended leave without pay	By other types of separations
Total.....	4,855	106	304	269	21	1	12	1	155	58	47	---	3	47
Headquarters total.....	986	18	22	19	2	---	---	1	29	12	7	---	1	9
Washington.....	650	5	14	14	---	---	---	---	14	9	---	---	1	4
Extensions.....	336	13	8	5	2	---	---	1	15	3	7	---	---	6
Operations offices total.....	3,869	88	282	250	19	1	12	---	126	46	40	---	2	38
Chicago.....	225	7	1	---	1	---	---	---	6	3	2	---	---	1
Hanford.....	410	5	18	13	4	---	1	---	4	3	---	---	---	1
New York.....	491	18	16	14	1	---	1	---	10	3	3	---	---	4
Oak Ridge.....	1,431	6	42	21	11	1	9	---	64	21	32	---	2	9
Santa Fe.....	1,312	52	205	202	2	---	1	---	42	16	3	---	---	23

DECEMBER 1948

Total.....	4,791	84	120	108	5	---	7	---	148	69	43	1	8	27
Headquarters total.....	980	26	33	33	---	---	---	---	32	14	9	---	5	4
Washington.....	639	5	32	32	---	---	---	---	16	8	1	---	5	2
Extensions.....	341	21	1	1	---	---	---	---	16	6	8	---	---	2
Operations offices total.....	3,811	58	87	75	5	---	7	---	116	55	34	1	3	23
Chicago.....	225	2	7	7	---	---	---	---	2	1	---	---	---	1
Hanford.....	408	3	5	3	2	---	---	---	5	5	---	---	---	---
New York.....	498	12	5	3	1	---	1	---	5	3	1	---	---	---
Oak Ridge.....	1,366	11	12	4	2	---	6	---	76	28	28	---	1	20
Santa Fe.....	1,314	30	58	58	---	---	---	---	28	18	5	1	2	2

JANUARY 1949

Total.....	4,756	99	112	97	11	1	2	1	134	58	44	1	4	27
Headquarters total.....	975	14	23	17	4	1	-----	1	20	8	6	-----	2	4
Washington.....	641	10	11	9	1	-----	-----	1	8	3	1	-----	1	3
Extensions.....	334	4	12	8	3	1	-----	-----	12	5	5	-----	1	1
Operations offices total.....	3,781	85	89	80	7	-----	2	-----	114	50	38	1	2	23
Chicago.....	228	5	7	7	-----	-----	-----	-----	5	3	-----	1	-----	1
Hanford.....	408	4	4	4	-----	-----	-----	-----	4	3	-----	-----	-----	1
New York.....	498	10	5	2	2	-----	1	-----	11	5	2	-----	-----	4
Oak Ridge.....	1,318	7	20	15	4	-----	1	-----	64	13	35	-----	2	4
Santa Fe.....	1,333	59	63	52	1	-----	-----	-----	40	26	1	-----	-----	13

FEBRUARY 1949

Total.....	4,753	81	110	83	19	2	6	-----	84	48	14	1	1	20
Headquarters total.....	989	20	27	18	6	2	1	-----	10	3	-----	-----	1	6
Washington.....	651	17	15	10	4	-----	1	-----	8	1	-----	-----	1	6
Extensions.....	338	3	12	8	2	2	-----	-----	2	2	-----	-----	-----	1
Operations offices total.....	3,764	61	83	65	13	-----	5	-----	74	45	14	1	-----	14
Chicago.....	228	6	11	9	-----	-----	-----	-----	6	4	-----	-----	-----	2
Hanford.....	406	3	14	12	1	-----	-----	-----	5	5	-----	-----	-----	3
New York.....	500	13	9	7	1	-----	1	-----	9	4	2	-----	-----	4
Oak Ridge.....	1,240	12	27	17	8	-----	2	-----	30	14	12	-----	-----	5
Santa Fe.....	1,340	27	22	19	1	-----	2	-----	24	18	-----	1	-----	5

## Atomic Energy Commission, Federal Civilian Employees' strength, hires, promotions, and terminations—Continued

MARCH 1949

	Full time strength end of month	Hires	Promotions						Separations					
			Total	CAF	P	SP	CPC	Others	Total	By voluntary separation	By reduction in force	By removal and separation for disqualification and inefficiency	By extended leave without pay	By other types of separations
	4, 657	62	194	84	12	1	96	1	133	43	94		4	17
Total.....	993	17	29	24	3	1		1	12	4	1		4	3
Washington.....	653	8	23	21	1			1	5				3	2
Extension.....	340	9	6	3	2	1			7	4	1		1	1
Operations offices total.....	3, 664	45	165	60	9		96		146	39	93			14
Chicago.....	229	3	4	3	1				3	2				1
Hanford.....	411	6	4	3	1				2	2				1
New York.....	598	12	11	7	3		1		4	2	1			1
Oak Ridge.....	1, 190	9	107	16	2		89		107	14	89		4	4
Santa Fe.....	1, 326	15	39	31	2		6		30	19	3		6	8

APRIL 1949

	Full time strength end of month	Hires	Total	CAF	P	SP	CPC	Others	Total	By voluntary separation	By re-duction in force	By removal and separation for disqualification and inefficiency	By extended leave without pay	By other types of separations
Total.....	4, 570	84	162	134	13	1	8	6	171	59	95	1	6	10
Headquarters total.....	1, 005	16	40	34	4	1	1	—	11	4	—	—	2	5
Washington.....	661	12	28	26	1	—	1	—	5	1	—	—	—	2
Extensions.....	344	4	12	8	3	1	—	—	6	3	—	—	2	3
Operations offices total.....	3, 565	68	122	100	9	—	7	6	160	55	95	1	4	5
Chicago.....	237	10	4	4	—	—	—	—	3	2	—	—	—	1
Hanford.....	399	4	7	6	1	—	1	—	16	14	—	1	—	1
New York.....	529	26	9	8	1	—	—	—	6	6	—	—	—	—
Oak Ridge.....	1, 071	3	19	12	3	—	4	—	112	14	94	—	4	3
Santa Fe.....	1, 329	25	83	71	4	—	2	6	23	19	1	—	—	—

Senator HICKENLOOPER. Mr. Chairman, I would like to have put in, for the sake of the record, two reports, one filed on January 30, 1948, which is a report of the joint committee, to the Congress; another filed on May 17, 1948, which is a majority report on S. 2589.

The CHAIRMAN. Without objection, it is so ordered.

(The reports referred to are as follows:)

[S. Rept. No. 850, 80th Cong., 2d sess.]

## DEVELOPMENT AND CONTROL OF ATOMIC ENERGY

### FIRST REPORT OF THE JOINT COMMITTEE ON ATOMIC ENERGY TO THE CONGRESS OF THE UNITED STATES

This report is submitted to the Congress by the Joint Committee on Atomic Energy in order to give the Members of Congress a brief outline of the general fields of activity of the joint committee from the time of its active organization, to date. The Atomic Energy Act of 1946 imposes strict injunctions of secrecy against revealing details or other information falling within the classification of restricted data and in order that these legal prohibitions be observed, it will be necessary to make this report in general terms.

Section 15 (b) of the Atomic Energy Act of 1946 (Public Law 585, 79th Cong.), among other provisions, states:

"The joint committee shall make continuing studies of the activities of the Atomic Energy Commission and of problems relating to the development, use, and control of atomic energy."

#### HISTORY OF THE ACT

Shortly after the first military use of the atomic bomb in August 1945, a number of proposals for exercise of control over the production, use, and development of atomic energy were introduced in both Houses of Congress. On October 3, 1945, the President sent a message to the Congress stressing the necessity of legislation. On October 29 the Senate adopted Senate Resolution 179 establishing the Special Committee on Atomic Energy, and all bills concerning atomic energy introduced in the Senate were referred to this committee. Bills concerning atomic energy introduced in the House were referred to the Military Affairs Committee. Both committees held open and executive hearings, receiving the testimony of a large number of witnesses in the scientific, technical, military, business, and Government fields.

Following weeks of discussion in the Senate special committee, S. 1717, introduced by Senator McMahon, chairman, was reported back to the Senate on April 19, 1946, as amended in committee. On June 1, the bill was passed by the Senate and was referred to the House Military Affairs Committee. After a number of amendments, this committee reported H. R. 5364 (S. 1717, as amended), which passed the House of Representatives on July 20 and went to conference. Here the bill was agreed upon in its final form and the conference report was accepted by both Houses on July 26. With the affixing of the President's signature on August 1, 1946, Public Law 585 came into force and effect.

With the enactment of this law, it was declared to be the policy of the people of the United States that—

"\* \* \* Subject at all times to the paramount objective of assuring the common defense and security, the development and utilization of atomic energy shall, so far as practicable, be directed toward improving the public welfare, increasing the standard of living, strengthening free competition in private enterprise, and promoting world peace."

Following the effective date of the act, the President, on October 28, 1946, announced the recess appointments of the members of the Atomic Energy Commission as follows:

David E. Lillienthal, Chairman

Robert F. Bacher

Sumner T. Pike

Lewis L. Strauss

William W. Waymack

These appointees took their oaths of office and assumed their duties on November 1, 1946, and it was directed by the President in Executive Order 9816 that title

to the properties of the Manhattan Engineer District be transferred to the Atomic Energy Commission effective midnight, December 31, 1946, and this was done.

On December 12, 1946, the President appointed, as provided by the act, members of the General Advisory Committee, as follows:

Dr. James B. Conant, president of Harvard University  
 Dr. Lee A. DuBridge, president of California Institute of Technology  
 Dr. J. Robert Oppenheimer, University of California  
 Dr. Enrico Fermi, University of Chicago  
 Dr. I. I. Rabi, Columbia University  
 Mr. Hartley Rowe, chief engineer of United Fruit Co.  
 Dr. Glenn T. Seaborg, University of California  
 Dr. Cyril S. Smith, University of Chicago  
 Mr. Hood Worthington, chief chemist of E. I. du Pont de Nemours & Co.

These appointments are not subject to Senate confirmation.

Thereafter, on January 4, 1947, Dr. J. R. Oppenheimer was named chairman of this General Advisory Committee.

On December 30, 1946, the President announced the recess appointment of Carroll L. Wilson, to be General Manager of the Commission, subject to Senate confirmation. The announcement of this appointment completed the Presidential appointees provided for in the act who are subject to Senate confirmation.

Pursuant to section 2 (c) of the act, the Secretary of War and the Secretary of Navy appointed, as representatives of their respective Departments, members of the Military Liaison Committee, as follows:

Lt. Gen. Lewis H. Brereton, United States Army, Chairman  
 Maj. Gen. Lunsford E. Oliver, United States Army  
 Col. John H. Hinds, United States Army  
 Rear Adm. Thorvald A. Salberg, United States Navy  
 Rear Adm. Ralph A. Ofstie, United States Navy  
 Rear Adm. William S. Parsons, United States Navy

On January 31, 1947, Maj. Gen. Lunsford E. Oliver was reassigned and Lt. Gen. Leslie R. Groves was appointed to this vacancy.

On August 2, 1946, the day of adjournment of the Seventy-ninth Congress, second session, the Joint Committee on Atomic Energy, as provided by the act, was appointed as follows:

By the President pro tempore of the Senate, Mr. McKellar, on the part of the Senate:

Mr. Brien McMahon, of Connecticut  
 Mr. Richard B. Russell, of Georgia  
 Mr. Edwin C. Johnson, of Colorado  
 Mr. Tom Connally, of Texas  
 Mr. Harry F. Byrd, of Virginia  
 Mr. Arthur H. Vandenberg, of Michigan  
 Mr. Eugene D. Millikin, of Colorado  
 Mr. Bourke B. Hickenlooper, of Iowa  
 Mr. William F. Knowland, of California

By the Speaker of the House, Mr. Rayburn, on the part of the House of Representatives:

Mr. R. Ewing Thomason, of Texas  
 Mr. Carl T. Durham, of North Carolina  
 Mr. Aime J. Forand, of Rhode Island  
 Mr. Chet Holifield, of California  
 Mr. Melvin Price, of Illinois  
 Mr. Charles H. Elston, of Ohio  
 Mr. J. Parnell Thomas, of New Jersey  
 Mr. Carl Hinshaw, of California  
 Mrs. Clare Boothe Luce, of Connecticut

This joint committee organized on August 2, 1946, and Senator McMahon was elected chairman and Representative Thomason, vice chairman.

On January 20, 1947, after the commencing of the Eightieth Congress, the Joint Committee on Atomic Energy was appointed as follows:

Mr. Bourke B. Hickenlooper, of Iowa  
 Mr. Arthur H. Vandenberg, of Michigan  
 Mr. Eugene D. Millikin, of Colorado  
 Mr. William F. Knowland, of California  
 Mr. John W. Bricker, of Ohio  
 Mr. Brien McMahon, of Connecticut  
 Mr. Richard B. Russell, of Georgia

Mr. Edwin C. Johnson, of Colorado  
Mr. Tom Connally, of Texas

By the Speaker of the House of Representatives, Mr. Martin, on the part of the House of Representatives:

Mr. W. Sterling Cole, of New York  
Mr. Charles H. Elston, of Ohio  
Mr. Carl Hinshaw, of California  
Mr. James E. Van Zandt, of Pennsylvania  
Mr. James T. Patterson, of Connecticut  
Mr. R. Ewing Thomason, of Texas  
Mr. Carl T. Durham, of North Carolina  
Mr. Chet Holifield, of California  
Mr. Melvin Price, of Illinois

The first meeting of the joint committee was held on January 21, 1947, at which time Senator Hickenlooper was elected chairman and Representative Cole, vice chairman. Later, upon his appointment to the Federal district court, Representative Thomason resigned from the House of Representatives and Representative Lyndon B. Johnson, of Texas, was appointed by the Speaker to succeed him on the joint committee.

The Presidential nominations for the members of the Commission and the General Manager were referred to the Senate section of the joint committee on January 20, 1947. Hearings on these nominations were conducted by the Senate section of the joint committee over the period from January 27 through March 4, 1947, and consisted of 32 public sessions and 6 executive sessions. Fifty-five witnesses were heard and interrogated, including all of the nominees, and the committee afforded full opportunity to other Members of the Senate who were not members of the committee to request witnesses, to question witnesses, and to participate in the hearings.

At the conclusion of the hearings, the committee voted to and did recommend to the Senate that the Senate advise and consent to the appointment of all of the nominees and on April 9, 1947, they were confirmed by the Senate. Under the provisions of the act, the terms of the Commissioners will expire 2 years after August 1, 1946, which was the effective date of the act. The terms of each member of the Commission will eventually be 5 years, but the terms of the members appointed in 1948, when all present terms expire, are as follows: One Commissioner to be appointed for a period of 1 year; one Commissioner for a period of 2 years; one Commissioner for a period of 3 years; one Commissioner for a period of 4 years; and one Commissioner for a period of 5 years. Each of these terms expires on August 1 of the year in which the respective term ends, and as each term expires, an appointment for that position is to be made for a period of 5 years.

#### ACTIVITIES OF THE JOINT COMMITTEE

Section 15 of the Atomic Energy Act of 1946, among other provisions, defines the activities of the joint committee as follows:

"The joint committee shall make continuing studies of the activities of the Atomic Energy Commission and of problems relating to the development, use, and control of atomic energy. The Commission shall keep the joint committee fully and currently informed with respect to the Commission's activities. All bills, resolutions, and other matters in the Senate or the House of Representatives relating primarily to the Commission or to the development, use, or control of atomic energy shall be referred to the joint committee."

It also provides:

"The committee is authorized to utilize the services, information, facilities, and personnel of the departments and establishments of the Government."

Fully aware that the field of atomic energy is of vast significance to the people of the United States and of the world, and conscious of the unprecedented problems created by this revolutionary development of science, the committee members undertook, as their first activity, the task of familiarizing themselves with the general nature of this new field. It seemed axiomatic that there must be general comprehension of the nature of this complex subject before the committee could undertake to evaluate the activities of the Commission or to make future recommendations to the Congress.

Immediately subsequent to the confirmation of the Commissioners and the General Manager, the joint committee began a program of consultations and executive hearings with the Atomic Energy Commission and with other departments and agencies of the Government that have varying degrees of responsibility

in the program. These meetings have been held frequently and for the purpose of acquainting the committee with the operation of the program and policies of the Commission and to keep the committee informed with respect to the efficiency of the integration of the various activities and responsibilities of all departments and agencies of the Government in the advancement of the research and development of atomic energy in this country. These inquiries have, in general and in varying degrees of detail, covered the fields of over-all objectives, physical plant, security, production, personnel, materials, town management, labor, international objectives, health and biological programs, raw materials, weapons, industrial and agricultural prospects, military application, and other matters incident to these general fields.

Beginning with the organization of the committee, the selection of a staff was commenced. This staff now numbers 16 people and is set up under an Executive Director, a Deputy Director, and 4 sections—Information, Production, Security, and Development. Five members of the staff spend a substantial portion of their time visiting the various installations for inspection of activities coming within their particular fields, and they, together with other members of the staff, keep in constant touch with the Atomic Energy Commission through its headquarters staff. A constant liaison and flow of information from the field and the headquarters is maintained, designed to keep the joint committee "currently and fully informed." In addition, the committee maintains continuous liaison with the atomic energy representation of the United States at the United Nations headquarters, with one member of the staff in continuous assignment there.

It should be stated at this point that the joint committee does not attempt to pass judgment on specialized scientific or technical procedures involved in the program. The committee represents the legislative branch of the Government and is not equipped to be an authority in highly specialized fields of research or technology. Moreover, the committee has not assumed the responsibilities for administrative policies that are clearly vested in the Atomic Energy Commission under the act, but is attempting to gain as much information and knowledge from an over-all standpoint as will enable the committee to recommend, from time to time, any legislation that may be desirable and to keep abreast of the potentially changing needs and requirements of a tremendous program, that, without doubt, is still in its infancy.

Following numerous hearings and consultations by the committee between April and the 1st of August 1947, most of the committee members undertook inspection trips to the major physical installations of the Commission, such as those at Oak Ridge, Los Alamos, the radiation laboratory at Berkeley, the Hanford Works, the Argonne National Laboratory at Chicago, and some other installations. These inspections by committee members, based upon a background of information previously developed by studies, are invaluable in creating a more comprehensive understanding of the project and a first-hand view of the physical properties and the objectives and progress of this development.

The value of these inspection trips has proven itself in many ways. The sheer size and complexity of the plants and the diversity of the laboratory activities cannot be comprehended without personal observation. Information secured on these trips has helped provide the committee with factual background against which to evaluate progress. Many opportunities to acquire information and make independent appraisal of specific activities presented themselves. Such personal observation and inquiry provide an important means for independent judgment which the committee feels is essential to the fulfillment of its duties under the act.

Close liaison with key personnel of the Commission also has been maintained through continuous contact by the committee staff members with the Commission headquarters in Washington. Numerous conferences have been held with the chiefs of the statutory divisions, other division heads, and with personnel at varying levels within the organization, both in Washington and in the field. Periodic reports of these activities are made to the committee which keep the constantly developing picture available to its members.

The joint committee has also been aware of the importance of keeping fully informed of the progress of international purposes and plans for the control of atomic energy. For the achievement of this purpose, the committee maintains a staff representative at the United Nations who acts in the capacity of unofficial observer for the committee at the meetings of the United Nations Atomic Energy Commission. Studies have been made of the various proposals for international control, the working papers of the subcommittees and the progress of the negotiations. In this connection, the committee has also heard reports from the Under

Secretary of State and the deputy American delegate to the United Nations Atomic Energy Commission.

Besides the information which comes to the committee directly from personal inspections and conferences, from the Commission and from its own staff, committee members have examined and considered a vast quantity of information obtained from other sources. Staff members have carried on a continuous program of research, compilation, and analysis of unclassified information relating to scientific development, practical applications, international negotiations, and activities in foreign countries. This has made it possible for the committee to continue its educative program as well as to carry out the directive of the Atomic Energy Act to "make continuing studies \* \* \* of problems relating to the development, use, and control of atomic energy."

Much information of a classified nature, especially information relating to security, production, and military matters, has been presented to the committee in executive session. In addition to the Chairman and the Commissioners of the Atomic Energy Commission, witnesses appearing before the committee in executive session, have included the General Manager of the Commission, and his principal technical aids; the General Counsel; the Director of Security; Secretary of National Defense; Under Secretary of State Lovett; former Under Secretary of State Acheson; Dr. Frederick H. Osborn, deputy delegate to the United Nations; the Joint Chiefs of Staff; members of the Military Liaison Committee; the Director of the Central Intelligence Agency; Gen. Leslie R. Groves, Chief of the Armed Forces Special Weapons Project; Dr. Vannevar Bush, Director of the Research and Development Board; and Harry A. Winne, vice president in charge of engineering of the General Electric Co. Further meetings will be held periodically with these and other persons.

It is the considered conviction of the committee that, until such times as an effective, enforceable, and reliable program for the international control of atomic energy is in successful operation, the most vital business of the Atomic Energy Commission must be the meeting of the atomic requirements of national defense. Executive and administrative responsibility for adequately meeting these requirements is combined by law in the President, the Department of National Defense, and the Atomic Energy Commission.

The joint committee has been assured that those charged with these responsibilities are keenly aware thereof. This phase of the atomic energy program is of paramount and continuing interest to the joint committee and the committee considers that continuous knowledge and reassurance of the adequate discharge of these responsibilities is fundamentally necessary to its reliable evaluation of the general success of our program.

The concern which large segments of the public, the press, and Members of Congress have shown for the security of our atomic energy program, is shared most actively by the members of the joint committee.

The joint committee is informing itself as completely as possible on all phases of the vital problem of maintaining security in the whole field of atomic energy. The scope and ramifications of the security responsibility which faces the Atomic Energy Commission are tremendous. Clearance for employment of thousands of persons, physical protection of numerous plants, adequate safeguarding of production, as well as accounting for and protection of millions of restricted documents, are major problems of the security program.

Numerous visits have been made to the various facilities of the Commission for the specific purpose of observing the status of physical security at these installations. Such matters as physical protection afforded by fences and protective lighting; the qualifications, training, and efficiency of the guard force; the visitor control system; shipment security; document control; and the storage of restricted materials have been the subjects of intensive study.

The joint committee has reviewed the investigative files of the Atomic Energy Commission relative to the employees of the Commission and its contractors. In a number of these cases reviewed, certain questions were raised by the committee and the matters were discussed in detail with the Atomic Energy Commission and its security staff. (In certain of these cases, the committee has requested that the Commission outline in detail its security policy as applied to these specific instances. In the majority of these cases, the personnel involved had been employed during the time when the project was operated by the Manhattan Engineer District.) The committee feels strongly that it must continue to follow closely, as it has in the past, the type of personnel engaged in the atomic energy program. To this end the committee staff will continue to conduct these studies of the personnel investigative files of the Atomic Energy Commission. It is the

opinion of the committee that the matter of security of personnel is of extreme importance in the over-all problem of the protection of the vital aspects of this important program.

The joint committee has been assured by the Atomic Energy Commission that it is vitally concerned with the problem of personnel security and has recently established a Review Board, headed by former Associate Justice Owen J. Roberts, to assist it in establishing standards and criteria with regard to the employment of personnel in this program. In this connection, the Commission is increasing its efforts to assure itself that there will be no weak links in the chain. The Commission is mindful of the importance of guarding against losses of security through weaknesses or disloyalty of personnel. The Canadian incident involving Dr. Allen Nunn May is ample warning to all of us of the consequences of relaxed vigilance.

The intent of the Congress with regard to security is clearly indicated in the terms of the Atomic Energy Act of 1946. The joint committee is convinced that the Atomic Energy Commission is devoting continuous attention to the responsibility of carrying out this intent. It has inaugurated programs designed to strengthen security and to further protect the vital phases of the project.

While recognizing that the Atomic Energy Commission is unique among Federal agencies, the committee, nevertheless, is aware of parallels, in many of the Commission's production activities, with major American industries such as petroleum refining, heavy chemical production, construction and power equipment manufacture. It is, therefore, the policy of the committee to apply certain criteria applicable to private industry as yardsticks in studying the operations of the Commission.

To this end, the joint committee has requested from the Atomic Energy Commission a statement of its major programs in terms of present accomplishment and long-range forecasts for future activities. While the difficulties of formulating and stating such programs against a background of currently changing events are acknowledged, the committee believes it is impossible to examine current activities, expenditures, and programs intelligently without possessing a clear-cut definition of the aims of the Commission in discharging their responsibilities under the Atomic Energy Act. The first report has been received and is being studied. Subsequent reports will be received on a quarterly basis.

Inquiries are made on such matters as production; construction; contractor performance; town management; personnel policy; power development; radioisotope sales; medical, biological, agricultural, and basic research; fiscal policy; stock piling; export licensing; health and safety standards; and national research laboratories.

The relative importance of each of the above, and other subjects, to the joint committee's activities varies, but every effort is being made to integrate the total information so as to compose a relatively complete picture of atomic energy development today and in the months and years to come.

As a result of the threatened strike at Oak Ridge in November and December 1947, the joint committee has undertaken a thorough investigation of the important problem of a formula that will assure continuity of work in the atomic energy program. The committee is unanimous in its conviction that the national security demands uninterrupted operation of the critical facilities of the Atomic Energy Commission. Of the several operating production plants of the Atomic Energy Commission, Oak Ridge is the only one where labor is organized and bargains collectively for the production workers involved. The threat of a strike posed serious potential results as a consequence of interruption in the flow of materials from a possible shut-down of facilities and pointed up sharply the necessity for such an investigation. The committee expects to continue with its investigation and to recommend such action as its conclusions may justify.

#### LEGISLATION

The committee has heretofore requested, and the request is in continuous effect, from the Atomic Energy Commission and from the Secretary of Defense, that any problems which they believe to exist or are reasonably foreseeable in the future, and which may require legislation or alteration of the act, be suggested to the committee from time to time for study and recommendation. At the time of filing this report, no such suggestions or recommendations have been received. It is the opinion of the committee that sufficient time has not yet elapsed to warrant any conclusions as to whether or not additional or supplemental major legislation will be needed in the program but constant attention is given at all times to this subject.

## SUMMARY

The joint committee is a legislative committee which was created as a special servant of the Congress to follow this vast and complex program within the terms of the act. The joint committee does not at this time recommend to the Congress any major legislation affecting the policies or the philosophy of the act. As a legislative committee, it does not feel that it should at this time draw any final conclusions respecting the operation of this program or the administrative policies in effect. Sufficient time has not elapsed to warrant conclusions of this kind. This is not to be construed either as an attitude of hostility or an attitude of approval, but on the contrary expresses an attitude on the part of the committee to objectively evaluate the various phases of the program as a result of more mature opportunity.

The Nation is presently far ahead of any other nation in the over-all knowledge and development in the atomic energy field, and the joint committee believes that we must continue to maintain our preeminence in this field in the future.

Respectfully submitted.

THE JOINT COMMITTEE ON ATOMIC ENERGY,  
BOURKE B. HICKENLOOPER, *Chairman*.  
W. STERLING COLE, *Vice Chairman*.

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[S. Rept. No. 1342, 80th Cong., 2d sess.]

#### PROVIDING FOR EXTENSION OF THE TERMS OF OFFICE OF THE PRESENT MEMBERS OF THE ATOMIC ENERGY COMMISSION

The Joint Committee on Atomic Energy, through the Senate members thereof, to whom was referred S. 2589, a bill to extend the time of the expiration date of the terms of the members of the Atomic Energy Commission from August 1, 1948, to June 30, 1950, report the bill back to the Senate with the recommendation that the bill do pass.

The atomic energy program was developed during World War II as a military project for the production of atomic weapons. They were successfully produced under military direction as a result of the unprecedented coordination of the highest degrees of scientific, engineering, and industrial skills ever mobilized.

In the process, startling and revolutionary scientific discoveries were made which suggested unlimited future possibilities for research and development in the field of social and humanitarian benefits. Complete emphasis, however, was placed on the development of a weapon and these other discoveries or possibilities were laid aside, at the time, for future investigation, research, and development in a peaceful atmosphere.

With the end of the war the problem of how to handle atomic energy for the good of mankind became paramount. It was universally agreed that the bomb must be secured, if possible, against international use in war, and this principle became a major consideration in all domestic approaches or suggestions to the problem. It also became a special and intensive problem of the United Nations within which a special Atomic Energy Commission was immediately set up with specific terms of reference directed toward a solution of this problem.

Meanwhile, the Congress commenced immediate studies for the purpose of passing proper legislation for the control and for the advancement and development of the limitless possibilities of this science. A special committee of the Senate and the Military Affairs Committee of the House over a period of months devoted time and held extensive hearings which eventually resulted in the passage of the Atomic Energy Act of 1946, approved by the President on August 1, 1946.

In considering the original legislation, the Congress, and eminent citizens who testified, recognized the pioneering nature of the project; the revolutionary power of the bomb; the perils of unrestricted tampering with the dangerous products of atomic fission and the possibilities of new and unforeseen dislocations in industry and social fields. The fact that there was no historical experience for guidance, when considered with other factors, indicated that any legislation and any program undoubtedly would be subject to future change as a result of mature experience.

In section 1 (A) of the act, it is clearly stated as follows:

"The effect of the use of atomic energy for civilian purposes upon the social, economic, and political structures of today cannot be determined. It is a field in which unknown factors are involved."

The declaration continues:

"Therefore, any legislation will necessarily be subject to revision from time to time. It is reasonable to anticipate, however, that tapping this new source of energy will cause profound changes in our present way of life."

In section 1 (B) (5), the law further states:

"A program of administration which will be consistent with the foregoing policies and with international arrangements made by the United States, and which will enable the Congress to be currently informed so as to take further legislative action as may hereafter be appropriate."

The report from the Senate Special Committee on Atomic Energy, which accompanied S. 1717, states:

"It is recognized that many unforeseeable developments may arise in this field requiring changes in the legislation from time to time."

The Congress recognized that under the provisions of the Atomic Energy Act of 1946, which placed this vast enterprise in the hands of a commission to operate, there was being created the greatest administrative monopoly with the most far-reaching power ever set up in this country; but there was no other course. The authority of this Commission is greater than any other commission or bureau either heretofore or presently established in government. It ramifies throughout industry, management, labor, and natural resources. Its authority extends into the international field of atomic energy. Because of the secrecy necessary to preserve the knowledge essential to the production of atomic weapons the operation of this vast set-up is clothed with restrictions and mandates for security, and the opportunity for public examination and evaluation of its progress and of the impact of its activities upon our normal peacetime or even potential wartime economy are nonexistent. This situation is unique in administrative policy of our Nation. It places solemn responsibility upon your joint committee.

The Atomic Energy Commission is presently operating on an annual basis of over \$600,000,000 in cash and \$300,000,000 in contract authorizations. It has unlimited discretion in the types and kinds of goods and raw materials it buys; it has complete control over the extent to which private enterprise may venture in this field; it preempts patents; it has full authority over all phases of production and activity in atomic energy; it has, subject to certain responsibilities of periodic direction by the President, complete discretion and control over the production of atomic weapons; it can make foreign contracts and arrangements; it can contract with State and local governments; it operates municipalities, is the landlord, and subsidizes many local services traditionally within the province of private enterprise; it has the duty of extensive participation in the fields of public health; it is authorized to participate and is participating in agricultural and industrial research and development and may give or withhold its aid in its discretion. Its broad powers enable it to establish and maintain countless programs which are not clearly defined. It employs, either directly or through its operating contractors, over 55,000 people who, with their families, probably total 200,000; it has discretionary authority over the release or the withholding of information affecting the program.

The Atomic Energy Commission, because of the nature of its duties and the extent of its powers, can exercise decisive control over the destiny of our Nation and the lives of our people.

The Congress, under the Atomic Energy Act, and in consideration of the inherent dangers and problems involved, deemed these broad powers essential for the protection of the public and in order to prevent if possible the devastating use of atomic weapons in war. In addition, these powers have been deemed initially essential in order that we may make the greatest progress and maintain our pre-eminence in the advancement of the science of atomic energy. Your committee refers to these powers therefor to illustrate the magnitude of the social and economic area within which atomic energy operates and to emphasize that its growth and integration into the American system of individual free enterprise must be carefully measured and that hasty decisions as to a permanent administrative pattern are unwarranted and unwise.

Because of the unprecedented monopolistic control of atomic energy set up in the Government through the Commission, the Congress, in section 15 of the act, created the Joint Committee on Atomic Energy composed of nine members of each House. This committee has a responsibility to—

"\* \* \* make continuing studies of the activities of the Atomic Energy Commission and of problems relating to the development, use, and control of atomic energy."

This section further provides that—

"The Commission shall keep the joint committee fully and currently informed with respect to the Commission's activities."

It was intended that by setting up such a joint committee, necessary secrecy of the project could be preserved, but at the same time a responsible body of Congress would be constantly kept informed so that it would be able, from time to time, to make such recommendations for legislation affecting the policy and operation of the atomic energy program, and to make such reports, as might be indicated in the public interest.

Although the law went into effect on August 1, 1946, the President did not appoint the members of the Commission until October 28, 1946, and the General Manager was not appointed until December 30, 1946. The transfer of the affairs of the Manhattan District (which was the wartime agency in charge of this project) to the Commission occurred on January 1, 1947. The nominations were sent to the Senate by the President on January 20, 1947, and thereafter beginning on January 27, a substantial portion of the time of the Commissioners and the General Manager was devoted to hearings on the question of the confirmation of their nominations until their confirmation on the 9th of April 1947. The first terms of the Commissioners were fixed by law for expiration 2 years after August 1, 1946, which was the effective date of the act.

In fixing the term of office for the first Commissioners at 2 years after the effective date of the act, it was the purpose of the Congress to provide at least a 2-year period for examination and observation of the program. The legislative intent to provide an initial 2-year term was predicated upon the sound reasoning that in an undertaking of this magnitude a minimum of 2 years would be necessary before any valid evaluation of the administrative policies could be made. These terms all expire on August 1, 1948. Since the Commission was not confirmed until the 9th day of April 1947 and from a practical standpoint has had uninterrupted and unquestioned security in the performance of its duties only since that time, it is obvious that there has been but 1 year for the reliable formulation of programs and for observation and study instead of the 2-year period wisely contemplated by the law.

The transition from the military operation to eventual full control by the Atomic Energy Commission was accompanied by many dislocations and uncertainties. Following the confirmation of the Commissioners, they and the joint committee undertook the coordination of their respective duties; on the one hand, the Commission went forward with plans for the development of their administrative policies under the act and, on the other, the joint committee began to inform itself and receive information as to the entire situation and the proposals for future development.

As noted before, the necessary activities of the Commission ramify throughout the general economy and the national policy of our Nation. It is a pioneering venture of a new, vast, and startling nature; there was no history or experience of a similar peacetime operation upon which the Commission or the joint committee could rely. In this year that has passed some programs have been set up and many policies considered, some of which have been adopted; many have remained under consideration without determination; others have been rejected. There has been some reorientation of attitude in connection with the setting up and expansion of these policies and programs. Not only have problems of personnel, science, industry, and labor been confronted, but many questions involving the interpretation of the act and the powers and responsibilities of the Commission have arisen.

Many of the key members of the Commission's staff have been employed in recent months in connection with the establishment of new policies and new administrative approaches. Many of the Commission's policies are in the process of formulation. Many of the plans of the Commission are on the drafting table. These are conditions to be reasonably expected. Fairness to the Commission dictates that additional time be allowed for the Commission to develop more definitely its administrative policies in order to justify conclusion as to the final direction of this program.

The Commission has just announced the recent test of an atomic weapon which is the culmination of researches and plans begun 3 to 4 years ago. The results of such progressive developments cannot now be adequately or properly evaluated as to their long-range effect upon the national needs.

In the field of patents, while the law sets up a framework for establishing a program for patent acquisition and compensation, no such program has as yet been finally established in this field hitherto sacred to the individual.

Recent events have shown that labor-management disputes in vital installations have threatened continuity of operation. In one instance a settlement was had 2 hours after the so-called deadline for a walk-out. At the time of filing this report, this same installation is again in the throes of a labor dispute and is presently operating as a result of injunction proceedings instituted under the Taft-Hartley Act. The effective period of that injunction is rapidly running out. The joint committee is determined that labor-management policies be reliably established so that continuity of operation can be assured in these vital plants. The joint committee has held hearings on this subject, but no satisfactory formula was presented or developed. The joint committee has asked the Atomic Energy Commission to provide it with its plans for the accomplishment of this purpose. The joint committee is aware that the Atomic Energy Commission is also vitally interested in the accomplishment of this purpose, but the Commission has not as yet developed its specific proposals for the reliable solution of this problem.

The Commission recently has begun to put into effect a changing theory of sectional operation of the program which is in the nature of decentralization. This method of operation may have much to recommend it but only experience can demonstrate whether or not it is a progressive move.

While many advisory groups have been set up by law and by the Commission, to give it advice and suggestions as to the development of pertinent phases of the atomic energy program, it is to be noted that the joint committee has received few reports of these advisory groups and, therefore, is in no position to reliably gauge either the extent of these recommendations or the degree to which such recommendations have been accepted and put into effect or held in abeyance, or rejected, by the Commission.

In a number of areas the joint committee has requested, from the Commission, and other vital coordinating agencies, information, conclusions, and recommendations which will aid in evaluating the national program and its operation. Information has not as yet been furnished to the joint committee enabling it to fully comprehend or determine long-range goals of production and operation policies of the Commission. This reference is not made by way of criticism but merely to indicate that the composite circumstances involved in our public affairs and within our economy create a certain indefiniteness that needs time and the unfolding of events before long-range policies can be fully justified.

It is to be noted that the Military Liaison Committee, the vital link between the defense establishments and the Atomic Energy Commission, has undergone a reorganization within very recent weeks. What the beneficial results of this action may be cannot be presently evaluated.

Due to the nature of the Commission's operation, its budgetary and accounting problems are ramified and very extensive. The accounting situation has been more complicated because of the fact that under previous wartime operation of this project necessitating complete secrecy, utmost speed, etc., standardized accounting procedures were not in effect; therefore, historic detailed costs are not fully available. A satisfactory system has not yet been set up. This fact is recognized by the Appropriations Committees of the Congress as well as by the Commission itself in its most recent report of February 2, 1948.

It is to be noted that, in addition to strict scientific and production activities of the Commission, it is involved, under existing policies, in the operation of cities and towns within the project. The problems of such operations are under serious consideration, both by the Commission and by the joint committee. Complicated problems of jurisdiction, of administrative authority, of voting rights, including prerogatives attendant upon residence, town management, court jurisdiction, heavy subsidies, schooling, public utilities, and other problems, demand careful and more mature experience and examination before any final policies with respect thereto can be adopted by the Congress or by the Commission.

A vital section of the efficient and progressive advancement of atomic science is the reactor program. Recently a basic change in the operation of this program has been decided upon and certain preliminary steps to effectuate this change have been undertaken. The operation of this proposed program will be and must be continuously under the most careful observation for a substantial period of time. Only experience can evaluate this move.

The importance of establishing satisfactory and adequate personnel programs in the operation of this project is evident. The necessity for security cannot be disputed. Policies for assuring the personnel security of the project under conditions of fairness to individuals but at the same time protecting inviolate the rights of the public and the integrity of this national venture, have been and still are in a state of study and trial. The Commission has been searching for a final

formula and the joint committee has been concerned with the necessity that a reliable formula be established.

The unsettled international situation has a direct effect upon the pattern of our atomic energy program. Had a satisfactory system of international control been established, certain provisions of the Atomic Energy Act, in due time, would have automatically become void and many vital powers of the Commission would have been transferred to an international agency. It is now conceded, however, after nearly 2 years of exhaustive effort in the United Nations, that satisfactory universal agreement for reliable international control of atomic energy is presently impossible. Only time and maturing events will enable us to determine the permanent direction of our administrative policies in this field.

It is important to emphasize that these matters which have been referred to are conditions which suggest the formative nature of our atomic energy program and by no means indicate a lack of progress. Further, they must not be interpreted as a criticism of the Commission or as evidence that the joint committee lacks confidence in the present Commission. Since the confirmation of the Commissioners on April 9, 1947, very definite progress has been made in our atomic energy program. This fact is encouraging but would in no way justify any hasty conclusions based upon insufficient knowledge as to the advisability of any particular permanent administrative pattern in this gigantic but infant national venture.

On January 30, 1948, your joint committee filed a unanimous report to each House of the Congress and, clearly recognizing the present inadequacy of the cumulative information and the definite need for continued examination before a final conclusion of any kind could be drawn about the long-range administration of this program, stated:

"As a legislative committee, it does not feel that it should at this time draw any final conclusions respecting the operation of this program or the administrative policies in effect. Sufficient time has not elapsed to warrant conclusions of this kind. This is not to be construed either as an attitude of hostility or an attitude of approval, but on the contrary expresses an attitude on the part of the committee to objectively evaluate the various phases of the program as a result of more mature opportunity."

The passage of this bill will immediately give assurance of uninterrupted continuity in office for 2 years and 2 months following the date of this report during which the present Commission can continue without disruption or without the necessity of reappointment. Any programs and policies now under way can be observed and brought into substantial operation; it will give approximately 2 years more for the over-all evaluation of the atomic energy program and its theory of operation. It will insure continuity and confidence and it will give assurance of continuity of operation and program upon which all employees, contractors, and consultants may rely.

The joint committee strongly emphasizes to the Congress that in the performance of its duty it has conducted, and intends to conduct, its business relating to atomic energy and to the Atomic Energy Commission on a totally nonpolitical basis. The joint committee unequivocally declares its determination to support the best and most progressive atomic energy program which can be developed to maintain our preeminence in this field. The committee has been guided, at all times, by one paramount principle and that is to maintain a course of conduct which will best serve to build confidence in, acceptance of, and support for a sound and vigorous atomic energy program. This is essential for the safety of the United States and for the peace of the world. It is in furtherance of this principle that your committee considered this legislation.

Your committee therefore recommends that the bill do pass.

Mr. PRICE. Mr. Chairman.

The CHAIRMAN. Just a minute, Mr. Price.

I would like to have Mr. Lilienthal, if he cares to, right now, comment upon the difficulties that the Commission has had, if any, in securing the kind of technical personnel and qualified personnel that it is imperatively necessary to have to run a commission of this kind.

Mr. LILIENTHAL. Let me say, first of all, that so far as the analysis of this detailed list of figures is concerned, that will have to await an opportunity to study it.

As far as the problem of continuity is concerned, this can best be illustrated by turning to a few particular cases referred to by Senator Hickenlooper.

In the case of Bill Waymack and Dr. Bacher, so far as the Commission is concerned, so far as the Commission itself is concerned, I think the best indication to Mr. Waymack is to put into the record at this point his letter of resignation to the President. I would not, and I am sure no one would care to have me, expand on the problems of strain involved in the kind of responsibility these five Commissioners bear, particularly in the formative organizational period of this undertaking, nor of the very great strain which trying to carry on an undertaking in secrecy in a country in which our habits are all against secrecy involves.

(The letter referred to is as follows:)

DECEMBER 15, 1948.

The President has sent the following letter to the Honorable W. W. Waymack, accepting his resignation as a member of the United States Atomic Energy Commission:

DECEMBER 13, 1948.

MY DEAR MR. WAYMACK: Because of the urgent considerations presented in your letter of November 9, I have no recourse but to accept at the close of business on Tuesday, December 21 next, your resignation as a member of the United States Atomic Energy Commission.

You have earned in the public service the rest which you hope to enjoy in the immediate future. I appreciate the patriotic impulse which caused you in compliance with my request to stay on for full 2 years of service with the Commission.

It is most encouraging that after this period of pioneering work in control of a new and incalculable force you are able to bear witness that key members, drawn from industry, government, and academic life, have responded to the unique challenge which the problem of this new force presented. Your own contributions to the Commission and to the national interest have been exceedingly valuable. It is a pleasure to assure you of my appreciation of work performed at such sacrifice.

I trust, after the period of rest which you so greatly need, you will find a new happiness and continued success in private pursuits.

Very sincerely yours,

HARRY S. TRUMAN.

Following is the text of Mr. Waymack's letter to the President:

November 9, 1948.

DEAR MR. PRESIDENT: This is my resignation as a member of the United States Atomic Energy Commission, effective at the earliest date you find to be feasible prior to Thanksgiving Day.

I have served full 2 years. On October 28, 1946, we five Commissioners first met in Washington, with you. On November 5, 1946, I personally took the oath of office. On November 13, 1946, the first official meeting of the Commission was held at Oak Ridge.

My reasons for asking relief now are altogether compelling. I intend first of all, and for the first time in years that seem countless, to try to get some rest. It happens to be needed, for reasons not unrelated to a succession of attempts at public service, including this one.

When I accepted appointment to the Commission originally, at several kinds of sacrifice, it was because I knew that some five men had to take on the job and duty of getting our national atomic energy development going on an entirely new basis—under law, with objectives much wider and of much longer term than the wartime mission, and with vigor. I did not contemplate, nor was I until last spring asked to contemplate, serving beyond the original term, which expired August 1.

On March 19 last you requested all the Commissioners to accept reappointment for the staggered terms then prescribed by the Atomic Energy Act. I expressed a strong wish to be relieved. This you overruled, on the ground, with which I had to agree entirely, that the Nation could not afford another sag in its atomic energy development, that to prevent this it was essential to maintain stability and continuity through a period admittedly critical, and that the best way of maintaining stability and continuity was to hold the Commission "team" together for an additional period.

For this reason of the Nation's vital interest, which our knowledge of conditions made resistless, the five of us did agree to accept the reappointments. And we shared the view that, as things then stood, the best course was to send the nominations to the Senate early, for action on confirmation.

Though the Congress, choosing a different course, amended the Atomic Energy Act by statute which extended the terms of all present Commissioners 2 years, the same consideration of the national need remained, and I felt bound by my promise.

At this March 19 conference with you, however, as you will recall, I asked that acceptance of reappointment for a specific term be not considered a moral commitment to serve out that specific term, regardless of all personal needs for relief, but that freedom to withdraw after the immediate critical period had passed was properly reserved.

The time now has come when I must withdraw.

I do not, of course, imply that the word "critical" is no longer applicable to our atomic energy problems. The very nature of those problems guarantees that it will be applicable for a long time. Nor are stability and continuity no longer essential. But these needs do not require absence of all change. Indeed, as to programs, the essence of the job is the learning of new things as rapidly as possible, with full awareness that new things learned may demand quick redirection of effort. I believe that the task of getting things started soundly and of getting a broad program "rolling" has been well accomplished. I believe it will not be hurtful, most likely will be beneficial, to make one change in Commission membership now.

I cannot omit a final comment.

Association with my fellow Commissioners and our General Manager—very able and self-sacrificing men from diverse walks—has been not only one of the pleasantest but also one of the richest experiences of my life.

Association in a common task with fine people of staff, of our contractors and of the National Military Establishment has been part of the reward also.

As to staff, the way key members, drawn from industry and government and academic life, have responded to the unique challenge of this operation, driving themselves without thought of exhaustion, is something that I have marveled at and been proud of, and that merits the country's appreciation.

And the continuous interest and understanding that have come from the President of the United States during two very difficult years have been of indispensable value.

These facts, above all others, have made tolerable a set of responsibilities that otherwise would hardly have been tolerable.

Respectfully yours,

W. W. WAYMACK.

Mr. LILIENTHAL. But I think this is exceedingly pertinent. Mr. Waymack felt the strain of this undertaking, as all the rest of us have, and his own letter expresses the need for his retirement better and more accurately than I can, but it does lead to the consideration of how one can hope to keep for very long periods in the Commissioners' posts and elsewhere individuals in mature years trying to begin a whole new technology under conditions that are really foreign to our ways and are foreign to the ways of administration, management, science, and industry.

Dr. Bacher's case illustrates a somewhat different point in the problems of continuity. Dr. Bacher's letter of resignation to the President was made public and is the best indication of his reasons, but he had spent 8 years in the service of his country away from his professional background, which is that of experimental physicist. He left Cornell, where he had tenure, to go to Los Alamos; he then had a short period between that time and the time of his invitation by the President to become a member of the first Atomic Energy Commission.

While his loss is greatly felt, the soundness of his reasons in returning, in his midforties, to his real interests, namely, his profession as physicist and the imposing post of chairman of the department of

mathematics, physics, and astronomy at Cal Tech, I think, take very little elucidation.

I hope that Dr. Bacher will be called here during the course of this hearing, partly because this would serve him right for having himself such a fine vacation now when some of the rest of us would like to have one, too, to give you in a sense, from the outside, the problems that a professional man has in taking up Government service and staying at it too long.

Dr. Fisk is another illustration that serves a useful purpose in illuminating the problems. Here is a young man in his early and middle thirties. He was a man of great talents as a physicist and a fellow with a lot of savvy and good sense and organizational ability, in my opinion. He served during the war; he then went to the Bell Laboratories, and then to Harvard University; he was then offered the post of assistant director of physical research at Bell Laboratories.

I am not acquainted with his salary, but you know this means that Dr. Fisk will, in the course of time, become one of the very principal officers of the Bell Laboratories. What is there in Government that could possibly be found that would persuade him for a very long time to continue in a post of Director of Research for the Atomic Energy Commission? I wish I knew the answer to this, because I think our country would have profited greatly if Dr. Fisk could have been persuaded to stay on.

We were advised once by Dr. Pitzer, his successor, a brilliant and outstanding young man in his field, that he would undertake that job only on a temporary basis.

All I am saying is that we must be prepared under whatever management, because of the nature of these men and their appropriate ambitions, that there will be lack of continuity. There is a good deal to be said for it in certain fields, because it brings in a fresh viewpoint, but these are human beings and personal problems are very real.

Jack Franklin is another illustration. Jack Franklin went to Oak Ridge from a very important post in industry, because here was a real challenge to a man of engineering and administrative experience, with the hope that he would have more and more time for the technical things that go on at Oak Ridge. His father was a professor of physics; he, himself, graduated in science; he went to Harvard School of Business Administration; he was interested in the technical side of industry.

The top position at Oak Ridge offered that opportunity, but what did he find? This is not by way of complaint, either, on my part or his, but these are realities, and anyone will find them for some time to come. He found, as he has himself estimated, about three-fourths of his time—a little higher than that—given over to the pressures and turmoil involved in the conduct of a company town. A company town, in my opinion, is a bad idea, though, it was inevitable at Oak Ridge.

He was naturally disappointed that more and more of his time could not be put into the technical side, and that he would not have to face constantly, week after week, such problems as rents and housing and the minutiae of the operation of the town.

But he found no alternative. He said to me—and I think this is the general comment of some importance in weighing the problems of the future of the recruitment of this undertaking—that he found it rather discouraging, compared with industry, that he spent at

least as much of his time explaining what he had done as in trying to get new things done.

Those of us who have been in the Government service quite a long time regard this as an essential part of the price one pays for Government administration; this undertaking is owned by everybody. Nevertheless, this will be a problem from here on out if the Government seeks to develop a new industry in this field.

Men in industry, especially technical men, find it very discouraging to be spending so much time in explaining what they have done as distinguished from planning things for the future and doing actual administration.

The point of taking this time is that we are talking now about a problem that will beset us from here on out in this enterprise. It is not peculiar to these four men. The problem of compensation has been talked about so much that I will not venture to expand on it.

Everyone is aware of those difficulties. Our first experience was one that was somewhat difficult to bear in terms of the recruitment and maintenance of continuity of top personnel. The McMahon Act, after long hearings, recognized this very problem we are talking about today. It also recognized that in Government one cannot pay salaries comparable to those of industry but that something between those two should be possible where managerial and special technical problems were faced, and, therefore, the statute itself, the basic law, provided that the Commission might, where necessary for the conduct of the enterprise, exceed the Classification Act.

The first appropriation measure—and I am not in any sense complaining of this because it is in the tradition—in a sense revoked that authorization, that flexibility, by an appropriation restriction which limited that flexibility to technical and scientific personnel—I believe that is the language. We discussed this matter with the joint committee and indicated that the real problem is not so much in the salaries of technical and scientific people as it is with the management people; that problems of management are the paramount ones, and unless we have skilled and experienced managers, the scientists and technical people will have great difficulty making headway.

We were not able to get anything done about that, but I simply call it to your attention, and in any discussion of lack of continuity, I am sure these factors will be borne in mind and, I hope, will be included in your report.

The CHAIRMAN. Perhaps we can have an analysis of these breakdown sheets.

Senator HICKENLOOPER. Mr. Chairman, you have been very courteous, and I want to suggest one thing in connection with the continuity of management.

The two men who were brought in from industry, Mr. Franklin and Mr. Shugg, and paid the \$18,000-a-year salaries as an inducement are now no longer managers of the institutions to which they were essential. The manager of the other institution, Captain Tyler, who is retired from the Navy, is still with the institution, but he is not an \$18,000-a-year man, and he did not come from industry. He is paid a lesser salary, but he is the only one of the three who is still in these vital institutions. I think the record might show that.

The CHAIRMAN. I am trying to work out the order of questioning here. Obviously, we must have an order.

I have no further questions at this time. Senator Vandenberg?

Senator VANDENBERG. No questions.

The CHAIRMAN. Senator Connally?

Senator CONNALLY. No questions.

The CHAIRMAN. Mr. Durham?

Mr. DURHAM. No questions at this time.

The CHAIRMAN. Mr. Cole?

Mr. COLE. Yes, Mr. Chairman, I have two or three questions.

Mr. Lilienthal, who besides Mr. Waymack and Dr. Bacher, members of the Commission, had your approval before they were appointed?

Mr. LILIENTHAL. I was appointed after the other two members were appointed, Mr. Pike and Mr. Strauss.

Mr. COLE. Did you recommend or approve the appointment of the two recent Commissioners?

Mr. LILIENTHAL. I was consulted for a list of names, and the entire Commission was asked to submit a list of names, and we did.

Mr. COLE. And both the individuals had your approval?

Mr. LILIENTHAL. No; I did not know Mr. Dean. I have since come to know him. He is a very able, sagacious man. I did not know him prior to his appointment, so I could hardly have had a basis for judgment of that character.

In the case of Dr. Smyth, the Commissioners relied heavily upon the recommendation of Dr. Bacher, and I assume that the President took his recommendations into account.

You speak of approval, Mr. Cole. You realize that it is not exactly the process, because it is the President who does the appointing.

Mr. COLE. I realize that; yes. On those occasions when it was necessary for the Commission to reach a formal decision, were your own personal views ever in the minority?

Mr. LILIENTHAL. No; there have only been—I say this with some satisfaction: There have been in excess of 500 formal actions by the Commission in this period; there have been five instances in which there was disagreement. In each case, it was a 4 to 1 disagreement. These are the full facts about disagreements.

Mr. COLE. Was that one always the same individual?

Mr. LILIENTHAL. Yes, it was.

Mr. COLE. The Commission initially was appointed in August of 1946, approximately?

Mr. LILIENTHAL. October, I believe, sir.

Mr. COLE. Took over from the Manhattan District in January of 1947?

Mr. LILIENTHAL. That is right.

Mr. COLE. And the first security officer was appointed in August of 1947, Director of Security?

Mr. LILIENTHAL. First permanent officer; that is correct.

Mr. COLE. Is it not correct that not until January of this year were the duties and responsibilities and authority of the Director of Security ever promulgated by the Commission?

Mr. LILIENTHAL. I believe that is not correct, Mr. Cole.

Mr. COLE. Do you know when? Can you correct the date?

Mr. LILIENTHAL. I can get for the record or I can read now the series of authorizations, regulations, bulletins, and so on, on this subject.

Mr. COLE. Is it not correct that those instances to which you refer were piecemeal, bit-by-bit decisions with respect to security and not an over-all declaration of the responsibilities and the authority of the Director?

Mr. LILIENTHAL. Well, each one of them was a unit in itself.

Mr. COLE. Dealt with a particular phase of security?

Mr. LILIENTHAL. No; I think not. The delegations were spelled out, they were modified, the procedure has been under change, and I believe improvement, and I assume at the appropriate time a full statement of that will be made.

But if what you have in mind is that it was not a full statement as far as one could then see it of the responsibilities of the Director of Security and Intelligence at the outset of Admiral Gingrich's service, I believe that is not correct.

Mr. COLE. The reason I asked the question was the committee was advised by Admiral Gingrich that it was in January of this year that the first over-all delineation of the authority and responsibility of the Director of Security was made by the Commission. I just wanted to verify the correctness of that statement.

Mr. LILIENTHAL. I believe Admiral Gingrich, if that was his statement, is incorrect in this. In January of this year under this reorganization there was a new statement of the responsibilities, and so on, of the Director of Security, replacing an earlier one.

The earlier one was less complete, no doubt, than the present one, but I think—the record, of course, will support that, I am sure.

Mr. COLE. You will provide that for the record?

Mr. LILIENTHAL. Yes; I assume at some time there will be a rather comprehensive statement of the full security picture and we will then be happy to have a chance to do that.

Mr. COLE. I have only one other question.

Mr. Lilienthal, in response to one of the questions of Senator Hickenlooper, you expressed the opinion of the Commission that the Director of Security should have a free hand in the selection of his personnel.

Is that true with respect to the authority of the Director of Security to select personnel outside of Washington? That is, the security people in the field?

Mr. LILIENTHAL. Well, I state it as a general proposition that one gets a man and puts him in a responsible position, you should, as far as possible, see that he names the men who are around him and as a general proposition I should think that is true. I am sure there are cases where it is not true.

Mr. COLE. It was not true with respect to the Director of Security, was it?

Mr. LILIENTHAL. I am not aware that his recommendations were not given very great weight. One could not say that he should have no limitation on his judgment. The Commission itself would not act in these matters, but speaking about a general organization principle, I would assume that his recommendations would have a good deal of weight.

Mr. COLE. Did the Director of Security have any authority beyond that of making recommendations with respect to the selection or the transfer or the duties or the responsibilities or the authority of the security people out in the field?

Mr. LILIENTHAL. I would have to consult with records before I am able to answer that.

Mr. COLE. That is all.

The CHAIRMAN. Senator Millikin?

Senator MILLIKIN. No questions.

The CHAIRMAN. Mr. Holifield?

Mr. HOLIFIELD. Yes, Mr. Chairman.

Mr. Lilienthal, the management of the atomic energy projects is a matter of majority decisions by the Atomic Energy Commission members, is it not?

Mr. LILIENTHAL. Yes; that is correct.

Mr. HOLIFIELD. On the setting up of projects or the adoption of administrative policy it is a matter of discussion by your five-man Commission, and a determination by a majority vote thereof?

Mr. LILIENTHAL. Yes; and may I expand on that just a moment, because I think there is some misapprehension.

The statute does not declare the Chairman of the Commission the chief administrative officer in addition to the ordinary duties of presiding at meetings and signing documents and speaking for the Commission when to have five men speak would not work, he is not given special statutory authorization, nor has the President under his general powers given the Chairman special authorization.

The Commission, furthermore, at the very first meeting, or certainly at an early meeting, determined, upon my recommendation but with the concurrence of all the members, that the administrative responsibilities should not be divided up among the five Commissioners, that we should act as a unit, and as a unit we have acted.

Mr. HOLIFIELD. In other words, you did not divide the work of the Atomic Energy Commission into compartments, but each one of the five accepted the full responsibility for the total program?

Mr. LILIENTHAL. That is correct. That is the pattern of organization of the Commission.

Mr. HOLIFIELD. Now, if your administration of this atomic energy project is deemed to be incredible mismanagement, that burden of inefficiency or incompetency would have to be borne by the complete five members of the Commission because of the facts that you have stated?

Mr. LILIENTHAL. Yes.

Mr. HOLIFIELD. In order to clarify that point, have you ever on any occasion overridden the majority decisions of your Commission? As an individual have you overridden a majority decision?

Mr. LILIENTHAL. Never to my knowledge.

Mr. HOLIFIELD. I would like to pass from that to a comparison of the operations of Oak Ridge, Hanford, and Los Alamos from the standpoint of the magnitude of their operation. That would include, certainly, the number of personnel.

I would like to have a comparison of the number of personnel employed at Oak Ridge, contractor and AEC, in round numbers.

Mr. LILIENTHAL. To be supplied?

Mr. WILSON. Contractor and AEC personnel at Oak Ridge, I believe about 12,000 probably.

Mr. HOLIFIELD. About 12,000, and that number will be corrected for the record later, please.

(The following was later submitted for the record:)

The total contractor and Atomic Energy Commission personnel at Oak Ridge numbered 19,573 as of April 1, 1949.

Mr. WILSON. At Hanford, contractor and AEC together at the present time about 18,000. These will be corrected.

Mr. HOLIFIELD. 18,000 at Hanford.

(The following was later submitted for the record:)

The total contractor and Atomic Energy Commission personnel at Hanford numbered 16,706 as of April 1, 1949.

Mr. WILSON. At Los Alamos about 8,000.

Mr. HOLIFIELD. About what?

Mr. WILSON. About 8,000.

(The following was later submitted for the record:)

The total contractor and Atomic Energy Commission personnel at Los Alamos numbered 10,582 as of April 1, 1949.

Mr. HOLIFIELD. About 8,000. Now, the comparison was made between the salaries paid at Oak Ridge, Hanford, and Los Alamos. Captain Tyler at Los Alamos is receiving what compensation?

Mr. WILSON. \$14,000.

Mr. HOLIFIELD. \$14,000. The other two Directors received \$18,000, I believe you stated.

Mr. WILSON. That is right.

Mr. HOLIFIELD. Is it not true that Captain Tyler at Los Alamos is a retired Navy officer drawing a retired Navy officer's pay in addition to that?

Mr. WILSON. Not during his period of service with the Commission.

Mr. HOLIFIELD. He had to forego that in order to obtain his directorship of the Los Alamos project?

Mr. WILSON. He had to forego it during his tenure of service with the Commission.

Mr. HOLIFIELD. However, his operation there of approximately 8,000 personnel is less than half of Hanford and only two-thirds of Oak Ridge, is it not?

Mr. WILSON. Approximately, in terms of personnel involved.

Mr. HOLIFIELD. Now, in your presentation to this committee of the analysis of the personnel turn-over, will you please give us, in addition to the figures supplied in the chart, the number of people who have been separated for all reasons from regular positions, and the number of people who have been included in that list as temporary employees, and the number of people that have been placed in the list as consultants or technical experts? Will you supply that information?

(See exhibit 1 in the appendix to follow [the last part of these hearings.]

Mr. WILSON. Yes, sir.

Mr. HOLIFIELD. That is all, Mr. Chairman.

The CHAIRMAN. Senator Knowland?

Senator KNOWLAND. Mr. Lilienthal, could you supply for the record—I assume you do not have it here now—the security regulations that were in effect at Argonne National Laboratory in November of 1948 when the shipment of uranium was made between your locations and just what was required to be done in the way of inventory, what was required to be done in the way of the recipient signing

the receipt therefor, and such other security regulations as were in effect during the period of time from November 1948 up to the present time?

Mr. LILIENTHAL. Yes, Senator; and may I say that I am assuming, and, I hope, correctly, that the whole picture of the general over-all regulations as to accountability will be gone into at some juncture.

The CHAIRMAN. You need have no doubt of it.

Senator KNOWLAND. Also will you have available for examination by the committee the documents that went along with the shipment at the time the shipment was made in November 1948?

Mr. LILIENTHAL. Yes; we will do that.

(The documents referred to are classified. They are on file in the office of the Joint Committee on Atomic Energy.)

Senator KNOWLAND. Would you tell the committee now or could you supply for us the information as to whether or not recently at the Argonne National Laboratory green stickers have been issued to a number of employees at Argonne which permit them to pass in and out of the various establishments and prohibit the guards from making any inspection of the automobiles? Are you familiar with that regulation?

Mr. LILIENTHAL. No; I am not familiar with that regulation.

Senator KNOWLAND. Will you supply the committee with the information as to the date when that new regulation went into effect and a copy of the regulation that was issued, which I believe was subsequent to the disappearance of this quantity of uranium.

Mr. LILIENTHAL. I will ask for a report on this situation you have described.

Senator KNOWLAND. Will you also supply to the committee such information as may be available as to either written or verbal instructions which have been given to the guards at the Argonne National Laboratory relative to the fact that they should not write up any security infractions by officials at the Argonne National Laboratory, if that is in fact true?

Mr. LILIENTHAL. If that is in fact true, I will ask the Argonne Laboratory to supply that.

Senator KNOWLAND. Will you make inquiries as to whether or not there have ever been instances in which the master-key file was left open by officials at the laboratory and the guards were instructed not to write up a security violation regarding the same?

Mr. LILIENTHAL. If those are the facts, I will ask the laboratory to give us a record.

(See exhibit 2 in the appendix to follow the last part of these hearings.)

Senator KNOWLAND. That is all at the present.

The CHAIRMAN. I have just one question, Mr. Lilienthal, before I turn you over to Mr. Price. How many installations have you now?

Mr. LILIENTHAL. In the last report to Congress we stated that there were—and this is a fact—in excess of 1,200 installations of various kinds as far as security problems are involved, 1,200 or slightly in excess of that.

The CHAIRMAN. Of course, some of those are your great installations such as Oak Ridge and Hanford.

Mr. LILIENTHAL. Yes.

The CHAIRMAN. And others might be where one particular scientist was on a work problem and he has some secret documents. That

would be considered a secret installation, too, as I understand it. Let's take Dr. Oppenheimer, for instance. He works on secret matters up at Princeton, N. J. He has access to restricted data; he has access to secret documents. Do you find it necessary to guard him as an installation?

Mr. LILIENTHAL. Yes; we certainly do, and Dr. Oppenheimer himself is a piece of classified information.

Senator, to make the answer a little more accurate, on page 123 there appears the following sentence, which was carefully considered:

At the close of 1948 there are 1,270 separate plants, laboratories, offices, storage facilities, test areas, and other installations where the Commission must protect restricted information and strategically important facilities and materials.

The CHAIRMAN. There are about 64,000 people working on the project, which includes the contractors' employees?

Mr. LILIENTHAL. The total personnel is in excess of 60,000.

The CHAIRMAN. About 64, I think.

All right, Mr. Price.

Mr. PRICE. Mr. Lilienthal, do the figures which have been read into the record on the percentage of personnel turn-over include the number of people who have left AEC to take work with contractors doing work for the AEC?

Mr. LILIENTHAL. Since I did not see the figures before this meeting, and only heard the summary of them, I would not be able to answer that. I will be prepared with an analysis, Mr. Price, rather promptly.

Mr. PRICE. And also the number of employees in the central office here in Washington who may have gone into the field that might possibly be included in those figures.

Mr. LILIENTHAL. A very considerable number of transfers of that kind; yes, sir.

Mr. PRICE. Army and military officers who may have been in some way connected with the AEC who have resigned or have gone back into their actual duty in the military.

Mr. LILIENTHAL. I am confident that what you have stated is true, but we will present it in detail when we get the analysis.

Mr. PRICE. Mr. Chairman, while we are talking on the question of continuity, I would like to point out that 15 percent of the Navy officers who have been integrated into the service since 1946 have already resigned. Since Marshall we have had two Chiefs of Staff of the Army; since Arnold, we have had two commanding generals of the Air Force.

That is all I have right now, Mr. Chairman.

The CHAIRMAN. Mr. Elston?

Mr. ELSTON. Mr. Lilienthal, I was interested in your statement that your security officer was given a free hand in the selection of personnel who worked with him. Is that correct?

Mr. LILIENTHAL. What I intended to say, Mr. Elston, was that the Director of Security, as to his Washington staff, the men who worked immediately around him, the general policy was to give him great latitude. I probably did use the term "free hand." I meant great latitude, almost unlimited discretion in staffing his immediate Washington office, and I believe that is true.

Mr. ELSTON. Does he have anything to do with the personnel in the offices in the field, the security personnel?

Mr. LILIENTHAL. Yes; I believe he has.

Mr. WILSON. Yes; he has very direct relationships with them. They actually serve on the staffs of Managers of Operations, but those Managers in their instructions are asked to consult and advise with the Director of Security in the appointment, dismissal, promotion, et cetera, of their security officers, and this has been done.

Mr. ELSTON. Is it not a fact that the Manager in the field has the authority to hire and fire security personnel?

Mr. WILSON. He has the authority, subject to the consultation with the Director of Security, which in fact—

Mr. ELSTON. Only consultation?

Mr. WILSON. That is right.

Mr. ELSTON. The security officer himself has no right to go into a field installation such as the Argonne Laboratory in Chicago and fire any security employee, has he?

Mr. WILSON. The Argonne National Laboratory is a contractors' organization where we would not directly fire people anyway. We would take it up with the Director of the Laboratory and the Laboratory management.

Mr. ELSTON. You have personnel of your own?

Mr. WILSON. In Chicago, yes.

Mr. ELSTON. Does the security officer have the right now to hire or fire any of that security personnel that is under the Commission in any of the field offices, Chicago or anywhere else?

Mr. WILSON. Security officers at those installations report to and are appointed by and fired by the Manager of Operations, but any security officer in the field who is unsatisfactory to the Director of Security in Washington, any such instance would certainly be brought to my attention by the Director of Security and a satisfactory solution found. I know of no such instance.

Mr. ELSTON. How would he know they were not performing their duties properly if they do not report directly to him?

Mr. WILSON. He has an inspection group. He visits many of the installations, he has a group of inspectors on physical security and other aspects of security, which visits these offices, examines, and reports back the conditions there.

Mr. ELSTON. As to those persons who have charge of vital materials such as uranium, who hires and fires those persons?

Mr. WILSON. The Manager of Operations is responsible for them. Actually, as far as people handling these vital materials, I am sure, as you recognize, Mr. Elston, there are thousands of people throughout these plants, throughout these laboratories who handle these materials in working with them.

As far as the accountability officer for the material, he is appointed by the Manager of Operations and the staff responsibility in terms of the accountability for materials is handled by the Director of Production in Washington.

Mr. ELSTON. A few days ago Mr. Lilienthal said that the Commission had overruled the security officer on a couple of occasions. I will ask you whether or not the Commission ever delegated to anyone else the power and the authority to overrule your security officer.

Mr. LILIENTHAL. I assume, since the Director of Security was responsible to the General Manager, that inspection of the organization charter will show that the Director of Security as a subordinate officer

would be subject to the review of his superior officer, the General Manager.

Mr. ELSTON. So that the General Manager had the authority, then, to overrule the security officer on any matter pertaining to security?

Mr. LILIENTHAL. Yes; but the Director of Security had immediate access to the Commission in Commission meetings, and his views, where they differed with the General Manager's views, could be and have been brought to the Commission's attention.

Mr. ELSTON. Now, have there been any occasions when the General Manager overruled the decision of the security officer?

Mr. LILIENTHAL. I am not aware of any, although there may be. Some of these questions are purely hypothetical because, to my knowledge, there has never been a case, and I believe there has not been an instance in which the Director of Security, being dissatisfied with a security officer in the field, responsible to the Manager of Operations as an organizational matter, having brought that matter to the General Manager's attention, that such person was not dismissed. I do not believe any such case ever occurred.

Mr. ELSTON. Your General Manager is seated there beside you. Let's get his answer. I notice he indicated by nodding his head that there had been cases when he had overruled the security officer on matters of security.

Is that correct?

Mr. WILSON. I know of two instances where the matter came to the General Manager with the views of the director of a program division involved and the views of the Director of Security, and in the balance in two cases an action was taken to uphold the director of the program division, and in that case overrule the Director of Security.

In neither case did the Director of Security have serious misgivings about this, in neither case did he bring it to the Commission, and the door was always open to him. The Director of Security was invited to practically all the Commission meetings, as are the other members of the staff.

Mr. ELSTON. Have there been cases in which the Commission has retained in its employ persons who have been referred to by the security officer as poor security risks?

Mr. WILSON. The two cases I speak of are cases where the Director of Security believed that there was a security risk involved in retaining an individual, and it was on that question that there was a difference of judgment.

Mr. ELSTON. What two cases are you referring to?

Mr. WILSON. The two cases I am referring to, I would rather not mention here by name. I would be glad to furnish names and backgrounds of the cases to the joint committee.

There were two cases in which the Commission itself undertook, as the ultimate body responsible for judgment and decision, the study and decision on two personnel security cases which were mentioned at the hearing last week, Dr. Condon and Dr. Graham.

Mr. ELSTON. Are you referring to two cases other than the two cases referred to by Mr. Lilienthal last week?

Mr. WILSON. I am.

The CHAIRMAN. Same cases or different ones?

Mr. WILSON. The two names, which I would not prefer to state here as names; the full record we will be glad to give to the committee;

they are not the two cases which were mentioned last week. That is out of a total of over 100,000 cases.

Mr. ELSTON. I will not ask you to give the names until we have an opportunity to review the record, but I will ask you to produce the record. Will you do that?

Mr. LILIENTHAL. The committee has had these records all along.

Mr. ELSTON. All right.

The CHAIRMAN. Mr. Wilson, will you look upon the list that Senator Hickenlooper gave you and check whether or not the two that you have in mind are listed by him on the list; and, if not, I take it, Senator, that you would like those two names added to the list.

Is that it?

Senator HICKENLOOPER. They may be on there.

Mr. WILSON. They are on there.

Mr. ELSTON. May I ask you this much, Mr. Wilson: Had the security officer recommended against those persons because they were considered subversive?

Mr. WILSON. The details of the folders I would have to refresh my mind about, but he did say he believed there was a security risk here involved and did not recommend clearance.

Mr. ELSTON. And were they given clearance?

Mr. WILSON. They were.

Mr. ELSTON. And what types of positions did they hold?

Mr. WILSON. I think they were both in laboratories of our contractors. I would have to refresh my memory as to the details.

Mr. ELSTON. Where they had access to top secrets?

Mr. WILSON. They had access to secret information.

Mr. ELSTON. Did they have access to material such as uranium?

Mr. WILSON. In one case, yes. A great many of the people working in laboratories naturally do have access to the working substance of the laboratory, which is uranium and its various compounds.

Mr. ELSTON. As I take it now, you overruled your security officers' recommendations in those two cases?

Mr. WILSON. I did not consider there was a security risk involved.

Mr. ELSTON. Did you consider that you were better able to judge matters of security than the security officer?

Mr. WILSON. I had the ultimate responsibility for decisions in these cases before taking them to the Commission. In neither of these cases did I believe that the issues were such that I should take them to the Commission. That was a matter of my own judgment.

Mr. ELSTON. In other words, you did not even take them to the Commission?

Mr. WILSON. No, I did not.

Mr. ELSTON. Did you ever have any experience as a security officer?

Mr. WILSON. No.

Mr. ELSTON. And may I ask who the security officer was who recommended against these two persons?

Mr. WILSON. Admiral Gingrich.

Mr. ELSTON. May I ask how long ago it was?

Mr. WILSON. This spring, sometime.

Mr. ELSTON. Are those two persons still employed?

Mr. WILSON. I believe only one of them is.

Mr. ELSTON. Let me ask you whether or not at any time you overruled other recommendations of your security officer not with respect to personnel but with respect to security measures.

Mr. WILSON. I have no recollection of any other cases.

Mr. ELSTON. Just one other question. Let me ask you now to be a little more specific.

What control did the executive officer himself have over personnel in the Argonne Laboratory who had access to the material that was allegedly lost, strayed, or stolen?

Mr. WILSON. Control comes up in several ways. First of all, the Director of Security was responsible for the investigation and review of records and clearance of the people involved and employed in the Laboratory; secondly, the physical security measures employed in the Laboratory were carried out according to the regulations and instructions developed and promulgated by the Director of Security. He was not responsible directly for the accountability for material, which is a highly technical accounting and analytical function.

Mr. ELSTON. Did he have any control over the persons who had the combination to the safe in which this material was kept?

Mr. WILSON. If, on the basis of the records which were fully available to him, he felt that the persons there were unreliable as people to have access to these combinations, it was up to him to take the initiative to indicate that to the contractor, the Argonne National Laboratory.

Mr. ELSTON. Those persons were directly responsible to him?

Mr. WILSON. The people employed by the Laboratory were directly responsible to Dr. Walter Zinn, the Director. They are employees of the University of Chicago.

Mr. ELSTON. And not to the security officer?

Mr. WILSON. That is right.

Mr. ELSTON. That is all.

The CHAIRMAN. Next would seem to be Mr. Kilday.

Mr. KILDAY. No questions, Mr. Chairman.

The CHAIRMAN. Mr. Jackson?

Mr. JACKSON. Mr. Lilienthal, when did you submit the information regarding turn-over in personnel to the joint committee? When did you start submitting it to the committee?

Mr. LILIENTHAL. From the very beginning, Representative Jackson.

Mr. JACKSON. And you submitted monthly reports to the Committee on Atomic Energy?

Mr. LILIENTHAL. Quarterly reports have been submitted, almost from the outset.

Mr. JACKSON. As I understand, starting January 1, 1947.

Mr. LILIENTHAL. I am not entirely sure about the date, but it is in that general area.

(The following was later submitted for the record:)

The first personnel report, covering the months January through September 1947, was submitted November 1947.

Mr. JACKSON. I take it one of the bits of evidence that is being offered here as to incredible mismanagement is the turn-over in personnel, and what I would like to make clear for the record is as to how long this information has been available to the joint committee.

Mr. LILIENTHAL. I think the extent to which the joint committee has been kept informed should be gone into quite extensively. For example, there have been 562 letters on various subjects submitted to the joint committee since the beginning. There have been this series of quarterly reports, reports each 3 months. There has been a

great lot of reporting, both as to administration, management, and top secret and secret information of various kinds.

I think also, to turn a moment to the subject of Mr. Elston's inquiries, by a special arrangement with the Attorney General, the confidential files of the FBI in the order of hundreds and hundreds and hundreds have been available to the committee and have been used by the committee, and in some instances have been retained for quite a period of time under this arrangement.

Senator HICKENLOOPER. Mr. Chairman, may I give what I believe to be a correction of that statement?

The CHAIRMAN. Yes.

Senator HICKENLOOPER. The files of the FBI have never been opened to the joint committee. The investigatory files that have been opened to the joint committee have been the files of the Commission and not of the FBI. I believe the FBI will verify that.

Mr. LILIENTHAL. Senator Hickenlooper, let's see if we cannot clarify that. The only reports we receive from the FBI are the reports which this joint committee has had from the outset. Whether you call these FBI reports or investigative reports, they are the only reports from the FBI that we had.

The CHAIRMAN. They are reports made by the Federal Bureau of Investigation to the Commission on investigations that they have made of the personnel as recommended and, in fact, required under this act.

Mr. LILIENTHAL. That is correct.

The CHAIRMAN. And those are the files which this joint committee has had the privilege of examining under the seal of confidence and under the agreement that the contents thereof would not be divulged; is that right?

Mr. LILIENTHAL. Yes, that is correct, Senator; and, of course, the importance of what you said is underlined by the fact that there is an Executive order which is binding upon all the agencies of the Government with respect to confidential Executive files of this character, and an arrangement was worked out that, provided the files were dealt with in a confidential way, the joint committee would have, and it has, full access to these reports.

Senator HICKENLOOPER. I would like to clear this right now, because I do not want any thought that the joint committee has ever had access to FBI files, the Federal Bureau of Investigation; nor—I want to say for the record—did I ever engage in any arrangements whereby files could be accessible. I stood entirely upon the provisions of the Atomic Energy Act that the joint committee was absolutely entitled to utilize the information, facilities, personnel of the departments and agencies of Government, and I did deal and the committee dealt with the files which were the property of the Commission.

Now, where the Commission got those would be more or less beside the point, but they were the property of the Commission at the time we got them.

The CHAIRMAN. I think that is understood.

Senator HICKENLOOPER. I do not want the understanding to be that we were permitted to go in FBI files, because I do not know of anybody who has.

The CHAIRMAN. I think that is entirely clear as to just what the situation was.

Very well. Mr. Jackson?

Mr. JACKSON. Mr. Lilienthal, did you have any correspondence from the committee in 1947 or 1948 regarding the turn-over in personnel, do you recall?

Mr. LILIENTHAL. I do not recall any on that subject.

Mr. JACKSON. Was any hearing called to discuss what is now purported to be incredible mismanagement in 1947 or 1948 on the turn-over?

Mr. LILIENTHAL. I believe not, Mr. Representative.

Mr. JACKSON. You do not recall any correspondence or information requested during that time?

Mr. LILIENTHAL. No, and I have reviewed the correspondence recently, and I believe if there had been, I would have it in mind.

Mr. JACKSON. Now, I take it that, according to the figures that were submitted here, there was a turn-over of 54 percent in 1947 and 1948, a decline to 34 percent; I believe those are the figures that were submitted for the record.

I take it, then, Mr. Lilienthal, that there has been a decline in the rate of turn-over since 1947.

Mr. LILIENTHAL. I would not want to say, Mr. Jackson, because I think an analysis of these figures is badly needed, and I would not want to predicate any answer on the soundness without an analysis of these percentages.

Mr. JACKSON. Do you know how your turn-over compares with other agencies of the Government?

Mr. LILIENTHAL. I do not have that in mind. My impression is that it runs about at the average for the Government as a whole.

Mr. JACKSON. Do you know how many assistant secretaryships of State resulted in turn-overs in the last 3 years?

Mr. LILIENTHAL. Yes; I know by common observation that the turn-over of personnel in the upper ranks of Government service has been numerous and well scattered all through the Government. It is a common occurrence, far too common, but a familiar phenomenon.

Mr. JACKSON. It would occur to me, Mr. Chairman, if this is the evidence of incredible mismanagement, there must be an awful lot of incredible mismanagement in the Government.

Mr. LILIENTHAL. Mr. Jackson, I failed to mention among the reports the monthly reports of violations, which has been a routine report to the joint committee—violations or potential violations.

Mr. JACKSON. One last question, Mr. Chairman.

I wonder, Mr. Lilienthal, if you could give at this time any information as to the separation and turn-over of employees under the Manhattan project?

Mr. LILIENTHAL. Well, during the war a good many of the individuals in the Manhattan District did not have much alternative about turn-over, and if they did start to turn over and they were civilians, they were often put into uniform.

The exodus from the undertaking after August 1945 was general and, in some respects, complete, so that the turn-over there was very high indeed.

I think we can get for you and would like to bring to the committee some analysis in that respect. Perhaps Mr. Wilson may have something on the top of his mind that he can use as illustration now.

Mr. WILSON. I believe that in the construction of K-25—this, of course, embraces all employees and includes construction and contractors—the highest employment at any given time was 25,000, but actually 125,000 people were employed from the beginning to the end in order to maintain a constant supply of 25,000 people.

Mr. JACKSON. A turn-over of five times?

Mr. LILIENTHAL. That was in the construction project.

Senator HICKENLOOPER. I have not gone into the turn-over in present construction employees who were temporary. I think that would run into the thousands and thousands. I do not raise any question about temporary employees.

Mr. JACKSON. Senator, that is probably right. In order to keep the issues relevant, I suggest we have supplied for the record the turn-over of Manhattan employees during the period of its operation until the taking over of the Manhattan project by the Atomic Energy Commission. That is all I have.

(See exhibit 3 in the appendix to follow the last part of these hearings.)

The CHAIRMAN. We have gone down the list of the members. I take it, Senator Hickenlooper, we have concluded chapter 1:

Senator HICKENLOOPER. At least for this morning.

The CHAIRMAN. I meant to get this defined. We have talked about the handling of personnel, which certainly is a pertinent and relevant test of the efficiency of management and one that certainly is correctly, as I see it, brought up in any charge of mismanagement.

There has been information asked for, and the Commission will be given an opportunity to put that information in the record.

Now, what I am trying to get straight is: Is this the close of this chapter?

Senator HICKENLOOPER. Well, this is chapter 1. It may be a rather lengthy book, but I wanted to merely lay this phase this morning and give time for other members to question. Undoubtedly there will be discussion from time to time about this personnel matter and personnel turn-over, but I do not intend at this point to pursue specifically this particular phase of it.

I do this by way of what I believe to be substantial illustration, and I assure you that if I wanted to bring out many more individual cases in secondary positions of importance, it could be done, but I do not believe I want to burden the committee on that point. I believe the point has been developed, as far as that is concerned, and I will move on to some other matters.

The CHAIRMAN. Thank you, Senator.

Senator KNOWLAND. Mr. Chairman, I would like to clear up one point.

The CHAIRMAN. Proceed.

Senator KNOWLAND. Did I understand in answer to one of the questions that following the closing out of the Manhattan District, there had been a general exodus of employees who had formerly been employed by the Manhattan District?

Mr. LILIENTHAL. What I said, Senator, was that following the close of the war that was true.

Senator KNOWLAND. Does that include the scientists? Would you say there had been a general exodus of scientists from the project subsequent to the war?

Mr. LILIENTHAL. Oh, yes; the indications are clear that following, say, August or the autumn of 1945, the close of the war, there was a very great change in personnel, an exodus of scientists, technical people, management people, industrial people, and so on.

Senator KNOWLAND. So that I would gather from that that as a result, when the Commission came in, it became necessary to more or less set up an entirely new set of key personnel in the project; is that correct?

Mr. LILIENTHAL. It certainly became necessary to do a great deal of shoring up and reorganizing because the objectives set out in this act were, of course, different and broader than those set out in the Manhattan project.

Mr. COLE. Mr. Chairman, may I ask a brief question?

The CHAIRMAN. Yes.

Mr. COLE. With reference to the personnel reports that have been made available to the committee and which the Commission has received from the FBI, have there been any instances when that report has been altered or modified in any respect by the Commission?

Mr. LILIENTHAL. You mean forgery, that sort of thing?

Mr. COLE. Call it whatever you will. I would not call it forgery, but I am asking if the reports which the Commission has received from the FBI as to individuals involved have been modified or altered in any respect by the Commission before or at any time during the scrutiny of the staff members of this committee.

Mr. LILIENTHAL. Oh, no. The integrity of the reports is what you are referring to?

Mr. COLE. Yes.

Mr. LILIENTHAL. These, I am confident—there were, of course, a great many of them, but I am confident no one has ever—

Mr. COLE. Have there been any instances where that report has been sent back to the FBI for revision in any respect?

Mr. LILIENTHAL. It is common practice to send it back for further investigation.

Mr. COLE. Have any of them ever been sent back for the deletion of information that may have been originally contained?

Mr. LILIENTHAL. I am sure that has not been true. There have been many instances, of course, where questions have been raised in the investigation which leave many unresolved questions, and the record may be sent back several times for further inquiry.

Mr. COLE. That would be only because of the incompleteness of the report?

Mr. LILIENTHAL. In the opinion of the one who was working on the report.

May I comment on the state of the record so far as this phase of management is concerned?

The CHAIRMAN. Yes.

Mr. LILIENTHAL. I am hoping that it will be true that, as I indicated some days ago, when the committee has heard from the Commission on the question of management as a whole, including the question of turn-over and the problems ancillary to it, that not only will there be testimony from the Commission and its staff, but, if agreeable to the committee, from outside experts on this subject.

The CHAIRMAN. There will be members of the committee who will be interested in calling witnesses other than members of the Com-

mission, Mr. Lilienthal, in order to get further light on the subject. I think you need not fear, as far as I can speak, as the chairman of the committee, that you are not going to get a fair chance to present the situation as it exists as a whole.

Mr. LILIENTHAL. Mr. Chairman, I am sure that is true. My only question related to the use of the term "closing of the chapter," and I assume that meant only——

The CHAIRMAN. I overlooked the significance of that. What I meant was there was to be no further presentation of evidence. I understand, too, that it is impossible in an investigation of this kind for Senator Hickenlooper to put in in watertight compartments his material, and I was not indicating that I expected him to do so, but rather that this was a broad subject on which we had had his presentation.

Mr. LILIENTHAL. I understand.

Mr. HOLIFIELD. I have one question. As I understand it, any of the testimony that is taken at any meeting can be referred to and new questions on that particular subject advanced at any of our subsequent meetings.

The CHAIRMAN. I see no way in which that could be avoided even if it were desirable, and I do not regard it as being desirable.

If there are no further questions by members of the committee, we will recess until 10 a. m. tomorrow morning in this room.

(Whereupon, at 12:55 p. m., the joint committee adjourned to reconvene at 10 a. m., Thursday, June 2, 1949.)

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# INVESTIGATION INTO THE UNITED STATES ATOMIC ENERGY PROJECT

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## HEARING

BEFORE THE

## JOINT COMMITTEE ON ATOMIC ENERGY CONGRESS ON THE UNITED STATES

EIGHTY-FIRST CONGRESS

FIRST SESSION

ON

## INVESTIGATION INTO THE UNITED STATES ATOMIC ENERGY PROJECT

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PART 3

JUNE 2, 1949

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# INVESTIGATION INTO THE UNITED STATES ATOMIC ENERGY PROJECT

THURSDAY, JUNE 2, 1949

CONGRESS OF THE UNITED STATES,  
JOINT COMMITTEE ON ATOMIC ENERGY,  
*Washington, D. C.*

The joint committee met, pursuant to adjournment, at 10:05 a. m., in the caucus room, Senate Office Building, Washington, D. C., Senator Brien McMahon (chairman) presiding.

Present: Senator McMahon, Representative Durham (vice chairman), Senators Connally, Hickenlooper, Vandenberg, Millikin, Knowland; Representatives Holifield, Price, Kilday, Jackson, Cole, Elston, and Hinshaw.

Also present: David E. Lilienthal, Chairman; Summer T. Pike, Commissioner; Lewis L. Strauss, Commissioner; Gordon E. Dean, Commissioner; Carroll L. Wilson, General Manager; Carleton Shugg, Deputy General Manager; Walter J. Williams, Director, Division of Production; Brig. Gen. James McCormack, Jr., Director, Division of Military Application; Lawrence R. Hafstad, Director, Division of Reactor Development; Paul M. Green, Director of Finance; Morse Salisbury, Director, Division of Public and Technical Information Service; and Francis Hammack, Acting Director, Division of Security; Fletcher Waller, Director, Division of Organization and Personnel; Joseph Volpe, Jr., General Counsel; all of the Atomic Energy Commission.

The CHAIRMAN. The meeting will come to order.

## STATEMENT OF DAVID E. LILIENTHAL, CHAIRMAN, ATOMIC ENERGY COMMISSION, ACCOMPANIED BY CARROLL L. WILSON, GENERAL MANAGER, AND JOSEPH VOLPE, JR., GENERAL COUNSEL, ATOMIC ENERGY COMMISSION

The CHAIRMAN. We are now ready to proceed, Senator. Have you a further matter that you wish to proceed on at this time?

Senator HICKENLOOPER. Yes. I would like to proceed this morning, Mr. Chairman—

Mr. LILIENTHAL. Mr. Chairman, may I make a statement?

The CHAIRMAN. Pardon me?

Mr. LILIENTHAL. Is it appropriate for me to make a brief comment on Senator Hickenlooper's figures as to what he described as a turnover—it will take just a moment.

Yesterday, figures were submitted, and an analysis has been made, or a preliminary analysis has been made, and I would like to report the results of this.

Senator HICKENLOOPER. Mr. Chairman, I would prefer to proceed with my matter this morning, which will be rather short, and I think after that we can go into the matters of yesterday, unless you prefer to do otherwise.

The CHAIRMAN. Well, I do not see that it makes a great deal of difference, so I suggest we proceed with the Senator's matters. When we finish, I will, of course, permit you to put into the record your analysis of these figures that were presented yesterday. I recall you stated you wanted to analyze and make some comment on them. So, you will be permitted to do that just as soon as we finish the present line of inquiry.

Senator HICKENLOOPER. Mr. Chairman, this morning I would like to lay before the committee information and facts with respect to the policy of the clearance of people for access to restricted data indulged in by the Commission.

I will call your attention to the fact that the Atomic Energy Act of 1946 has some very specific and mandatory requirements pertaining to the investigation and clearance of individuals prior to their employment in the atomic energy program.

The law clearly intends, and the committee drafting the law clearly intended, that before individuals were cleared for access to restricted data, the Federal Bureau of Investigation must conduct an investigation, and make a report to the Atomic Energy Commission as to the character, loyalty, and association of that individual.

We felt that in these troubled times, and because of the vital necessity for security, such a provision of law was necessary to prevent dangerous infiltration of our atomic energy program.

The law makes but one exception, and that is in section 10 (b) (5) (B) (i), and (ii), where it uses this language:

Except as authorized by the Commission in case of emergency, no individual shall be employed by the Commission until the Federal Bureau of Investigation shall have made an investigation and report to the Commission on the character, associations, and loyalty of such individual.

That is the end of the quote. This exception recognized that there might be cases where unforeseen circumstances and genuine emergencies might arise, demanding immediate action and immediate temporary clearance, but beyond any doubt the law intended such cases to be genuine emergencies.

Webster's Dictionary says that an emergency is "An unforeseen combination of circumstances that calls for immediate action."

My opinion of the meaning of "emergency," and the opinion of Mr. Webster in regard to the same is not, however, the opinion of the Commission.

In the year 1947, the Commission issued 818 emergency clearances with access to restricted documents.

The CHAIRMAN. How many, Senator?

Senator HICKENLOOPER. Eight hundred and eighteen emergency clearances with access to restricted data. That is without prior investigation by the FBI; and 419 emergency clearances without access.

This means that in 1947, 818 individuals were either given restricted data or allowed to work in restricted areas before the required investigation had been completed and evaluated.

I have remonstrated with the Commission in rather extensive correspondence with Chairman Lilienthal, dating back into 1947 on this

subject, and have been told that the Commission was keeping emergency clearances to the minimum. Reasons given for the high number of emergency clearances were, (A) the newness of the organization and, (B) being the length of time involved in investigation. That was for 1947.

In 1948, however, the second year of the Commission's operation, 2,103 persons were granted access to restricted data, or were given access to restricted areas without prior investigation. The situation has gone from bad to worse.

When I think of the evidence which has been presented to the world as to the nature of the tactics of the Communist Party, it is inconceivable to me that any responsible Government official would authorize such procedure. Already in 1949 there have been allowed 359 emergency clearances. I reiterate, 359 persons were allowed to have access to restricted data or to restricted areas, without prior investigation.

If these emergency clearances are granted at the same rate, the year 1949 will see at least 1,300 additional people allowed to have access to restricted atomic information prior to any investigation.

In the face of all the publicity which has been issued to the American public relative to atomic security, I consider this conduct of the Atomic Energy Commission and that of Chairman Lilienthal to be, in fact, brazen effrontery against the law of the land. I consider it to be a violation of the letter and the spirit of the Atomic Energy Act of 1946, and it is high time the facts are made known.

Now, I have here, Mr. Chairman, correspondence that I have had with Mr. Lilienthal, beginning in December 1947, when these extraordinary emergency clearances in such numbers began to come to my attention, and the correspondence extends.

The correspondence is marked, "To the Committee from the Commission," as confidential. I did not mark my correspondence with the Commission in any particular way, so far as I know. It might have been, but it is marked generally confidential.

I do not consider it confidential, with the exception of names of individuals which I would prefer to withhold; but I have for instance here, Mr. Chairman, the compiled reports containing the names, and I presume that is a good 3 or 3½ inches thick, a file containing the names of the emergency clearances granted by the Commission.

For instance, I have here the statement for March 1949, just last March, on top, showing that at Chicago, where recent unpleasantness has occurred, 56 persons were cleared in March with access to restricted data, according to the reports of the Commission. Nobody was cleared without access to restricted data.

The total in March of 1949 was 158 emergency clearances, and 158 cleared with access to restricted data.

Now, Mr. Chairman, I believe that it might serve no good purpose to put the records themselves, with all of the names, into the record, but I believe that if the committee so determines, that it would be very helpful in the record if the monthly summaries of the number of people and the location of the installations would be put into the record. In other words, we would show the number cleared in Chicago, Hanford, Los Alamos, New York, Oak Ridge, Sandia, Washington, and other places, just giving the total, and those cleared with access, and those cleared without access.

The CHAIRMAN. They are not classified as to the jobs they are doing, are they?

Senator HICKENLOOPER. The summary—let me show you the summary. It is part of the committee's files. It is stamped "confidential." I see nothing that could be confidential about that. I could see that there might be reason for keeping the names of the individuals and their jobs confidential, and therefore I suggest—

The CHAIRMAN. My point is, Senator, that they are not set down by classification, so many records—

Senator HICKENLOOPER. But they are in the records.

The CHAIRMAN. Yes; but not in the summary.

Senator HICKENLOOPER. But in the document that you have, the summary that you have, they are not so broken down.

Now, the committee can go through this and see the number of chemists, and technicians, and engineers, and scientists, and others who are temporarily cleared, but I would suggest unless the committee desires to order otherwise, that only the monthly summaries be put into the public record.

The CHAIRMAN. Well, at least for the present we will do it that way. It may become material to put in the record later just exactly what kinds of jobs these people were doing and what jobs they were going to fill. At that time it can go in.

(See exhibit No. 4 in the appendix to follow the last part of these hearings.)

Mr. COLE. Mr. Chairman, it would seem to me that it would be pertinent at this point for Senator Hickenlooper to indicate the type of work, in a general way, that these individuals are engaged in, to whom restricted data is accessible; just in a general way.

Senator HICKENLOOPER. Mr. Chairman, I think I can do that without giving names.

Mr. COLE. Are they janitors?

Senator HICKENLOOPER. I will take one area, depending upon the particular type of work at the installation. This is typical of a scientific laboratory, I believe. I will give you the general descriptions. All of the persons in the report on this area have been cleared during the month of March 1949, with access to restricted data, and on an emergency basis, and without a prior investigation.

For instance, here is a research associate, a director of public relations, a laboratory foreman, a chemist, a stenographer, an assistant to the director, a junior engineer, a secretary, a pay-roll clerk, an engineer, an assistant librarian, a physicist, an engineer, a guard, a superintendent of stores, a clerk-typist, a senior engineer, a superintendent of police, a research engineer, a stenographer, a clerk-stenographer, a clerk-typist, a research associate, a research engineer, a technical and administrative supervisor, a guard, a detail draftsman, a fire chief, a superintendent of photography—and may I point out, Mr. Chairman: one is a superintendent of photography, and at this point I want to call your attention, Mr. Chairman, to the fact that we have two or three sergeants, one of whom was a photographer who took some pictures of some things that he worked with, and he is under a very severe sentence today for his actions. We have an audit clerk, a guard, a secretary, a stenographer, an illustrator, a technician, a mail clerk, a librarian, a secretary, a secretary, an attorney, a design

engineer, an engineer, a superintendent of purchasing department, an engineer, a secretary, a clerk-stenographer, a research engineer, a superintendent of industrial relations, a senior engineer, a stenographer, a research engineer, a technician, a superintendent of blueprint department, a student engineer, an engineer, a member of the local personnel review board.

The CHAIRMAN. I think that gives us an idea.

Senator HICKENLOOPER. I have just four—so that I can complete this particular list: a sales engineer, a secretary, a secretary, and a sales engineer.

I did not want, Mr. Chairman, to pick out just a few key important offices, but in this list I think it is abundantly clear that these are pretty top-flight people in the technical and scientific end of this thing, all of whom were cleared in the month of March for access—with access to restricted data, as shown by the records of the Commission, and that is in one area which I can go into. I can go through other areas, but they are typical, I assure you, in keeping with the particular job that the area has to do.

Senator KNOWLAND. Mr. Chairman, I wonder if right at this point the Senator would make some inquiry so that the committee might be fully informed as to the process of who actually makes the clearance. In other words, whether it is a security officer who is responsible for making it; whether it is the General Manager; whether it is the Commission as a whole, or what is the process of giving these emergency clearances.

Senator HICKENLOOPER. Mr. Chairman, I would say to the Senator from California, that I would like to just outline this, and then I believe we should have comment from Mr. Lilienthal, or whoever cares to comment, on the procedure and some explanation of what I think to be an astounding situation in the face of the law.

Now, as I pointed out, Mr. Chairman, in 1947, 818 people were given emergency clearance without investigation prior to their going to work, and with access to restricted data.

Four hundred and nineteen were given emergency clearance—did I say “without access”? I meant 818 persons were given emergency clearance prior to any investigation by the FBI and cleared with access to restricted data.

In the same year, 1947, 419 people were given emergency clearance without access to restricted data.

Now, the reason was given, Mr. Chairman, in my correspondence, that it was a new enterprise and there were so many things that had to be taken care of that really it constituted an emergency so far as employment was concerned. But let us move on the second year again.

The second year of operation, in 1948, instead of 818 people being cleared on an emergency basis, with access to restricted data, 2,103 people were given emergency clearance with access to restricted data, and only 141 people in 1948, instead of 419 as in 1947, were cleared without access to restricted data.

Now, in the first 3 months—and those are the only figures I have up to date, January, February, and March, 1949—359 people have been cleared for access or with access to restricted data, according to the Commission's reports, and no people have been given emergency clear-

ance without access to restricted data, so far as reports of the Commission to the joint committee show.

Now, I may say that, just by way of illustration, at Chicago, to which I referred awhile ago, in January, February, and March, at the installation at Chicago, there were 95 people cleared with access to restricted data, without any FBI investigation and cleared as emergency clearances.

In May, I do not have any figures, Mr. Chairman, because they have not been reported.

Now, I think, perhaps, that at this point it would be only fair to say that most of these people who have in the past been cleared with access to restricted data on an emergency basis have later proved to be, on examination and investigation by the FBI, good citizens and trustworthy. I think the overwhelming number of American people and the cross section of American people are good citizens and trustworthy.

It is not the mass of employees who infiltrate or use these techniques; it is the occasional person who, by carelessness, slips through the loopholes and gets into our vital installations by subterfuge. That is the dangerous person. And it is entirely possible that with such practices, a number of subversive people could be cleared on an emergency basis, and then rest assured that they would have anywhere from 60 to 90 days' time before their investigation would be complete and any of their background would be caught up with or would catch up with them.

There is the genuine and real danger of such practices.

Mr. Chairman, I have been in this matter, and the matter has been before the committee in times past. I have passed the file of the correspondence down to you and other members, so it is not a new matter. It is a matter that is, as I say, one in which I have had considerable correspondence with Mr. Lilienthal, because I felt for a long time that it was a dangerous practice, that in view of the strict provisions of the law, that it was contrary to what we thought we were providing to safeguard work in the atomic project, and especially work in the restricted and classified areas; and I suggest that, Mr. Chairman, as a matter for the very serious consideration of the members of the committee, not only as to policy, but I submit it and suggest that so far as my opinion is concerned, as a member of the special committee that sat with you on your bill and as a member of the Joint Committee on Atomic Energy, so far as my personal opinion is concerned, that is in contravention of the law, and in very substantial contravention of the intent and letter and the spirit of this law, to safeguard our affairs.

I am perfectly ready for any comment that the Commissioner, Mr. Lilienthal, or anybody else has to make about this matter.

The CHAIRMAN. All right, Mr. Lilienthal.

Mr. LILIENTHAL. Mr. Chairman and members of the committee. As Senator Hickenlooper has said, the question of the exercise of judgment in the administration of the Atomic Energy Act by the Commission staff, and the granting of emergency clearances, or clearances authorized by law in the event of emergency, has been the subject of a good deal of discussion in hearings before the committee and in correspondence.

I would say that any fair-minded person would recognize that the problem of what constitutes an emergency justifying the exercise of

emergency powers, is not something that can be spelled out in detail. It is a matter of judgment. The very fact that the statute recognized the necessity for granting of clearances in emergencies even before the committee which drafted this act and the Congress which passed it had before it the facts of emergency, indicates that there was in your minds and in the minds of the Congress and in the minds of all fair-minded people a realization that emergencies would arise, and that the question of whether this power was wisely exercised would raise doubts and differences between equally patriotic and equally reasonable people.

I am glad and relieved to have the Senator's comment, Senator Hickenlooper's comment, that most of these people who were granted emergency clearances were, in fact, loyal, patriotic, and beyond that kind of question which this act raises in the terms "loyalty, association, and character."

Since this list included emergency clearance for such people as General Eisenhower, I am sure he, too, will be relieved that there is no blanket claim against all these people. As a matter of fact, the record is clear that there are very few individuals in all these emergency clearances about whom subsequent investigation revealed anything of consequence.

Senator HICKENLOOPER. In view of the fact that Mr. Lilienthal has mentioned General Eisenhower, whom everybody respects, I may suggest a few others who do not have the standing or trust of the American people that General Eisenhower has, who have been cleared.

Mr. LILIENTHAL. I was referring to the Senator's general comment that these people who have been granted emergency clearances were not, as a group, nefarious.

I am also on the general question of how successful the Commission has been in carrying forward this undertaking under emergency conditions, to which I would like the opportunity of referring at some length this morning, so that the committee and, more particularly, the country know that we were in an emergency situation. I would like to eliminate, as I believe we may eliminate, on the Senator's, Senator Hickenlooper's own statement, any general or blanket indictment or question of suspicion about the personnel of the Atomic Energy Commission or its contractors.

On the 12th of May, which is by the calendar a very short time away but in other terms of relativity, so far as I am concerned, several years past, Senator Hickenlooper, in the course of a hearing on the confirmation of Gordon Dean and Dr. Smyth, made the following statement—and I am quoting from page 13 of the hearings before the Senate section of the Joint Committee on Atomic Energy, Eighty-first Congress, first session, printed record:

I might say—

Senator Hickenlooper said—

just to clarify this situation, that I think the record of loyalty and character in this whole project from the Manhattan District down to the present time through the present Commission has been of an unusually high order. I think the percentage of undesirable people who have occasion to have access to restricted data is remarkably low and indicates a standard that probably could not be excelled and, perhaps, not even equaled among any other group or class of people, so I do not take the attitude that everybody is bad.

I think the facts require such a statement, and I think it is important to eliminate any possibility of anyone's mistaking what I believe to be Senator Hickenlooper's point.

On the matter of emergency clearances, it is known to the members of the committee but it is important to restate it in public, that Admiral Gingrich, the Commission's Director of Security, and other staff members, I believe, appeared before one or more hearings before the joint committee on this question of emergency clearance, discussed the problems that were faced by the Commission, discussed the procedure that was applied with respect to emergency clearances, explained as best he could, and as best those could who were associated with him and who had this responsibility, the necessity for this procedure.

He also explained, it is my recollection—if he did not, I will repeat—that emergency clearances were not granted without a screening process, that is to say, no one has been granted an emergency clearance, to my knowledge and understanding and belief, who did not first of all have an FBI file check. This was a measure of prudence which has turned out to have been well taken—and eliminates, too, from this issue of emergency clearance, which I believe to be a matter of difference of judgment between Senator Hickenlooper and those of the Commission who have responsibilities for getting things done, and weighing all the factors—this eliminates, too, from the issue, any suggestion that these people were granted emergency clearances without any investigation at all.

This is not the case, and if any members of the committee care to have further elaboration of this screening process, of this file check, and of the results achieved by this preliminary inquiry, I think it might be interesting.

At first this authority to grant emergency clearances was limited to the Director of Security, and later on, as operating problems arose, and the operating managers in the field became more and more aware of the standards and criteria developed, and were themselves cognizant of the emergency conditions that they faced requiring prompt action, a portion of this authority was delegated to the field.

Senator HICKENLOOPER. Mr. Chairman, I would like, if Mr. Lilienthal would comment on this point: The fact that on several occasions I wrote, in behalf of the committee, to him, and asked if changes in the law were indicated or if there were any need for amendment of the law, and each time we eventually got a reply back that there was no change indicated in the law.

Now the point is, among other things, if this emergency clearance business was so vital, my opinion is that it is in direct contravention of the law, and if a change in the law had been needed, it should have been recommended, and that we should proceed by law and not by circumvention of the law.

I mean if eventually you will, I would like to have you comment on that point.

Mr. LILIENTHAL. I would like to comment on it immediately, if I may, Senator.

Back in December of 1947, Mr. Joseph Volpe, Jr., the present General Counsel of the Commission, then its Associate General Counsel, discussed these provisions of law, this provision of law for emergency clearance, with the Attorney General at some length, and with his associates. I participated in one of these earlier discussions, and then,

thereafter, the results of that discussion with the chief law officer of the Government were discussed by Mr. Volpe with Senator Hickenlooper.

Mr. DURHAM. What date was that?

Mr. LILIENTHAL. In December 1947, Mr. Durham.

The point of this is that the Commission's conclusion, the Commission's adoption of the recommendation of its counsel, that no change of law was required in order to make the kind of headway that was expected of us, was not a casual one, and was one that was discussed at considerable length, and one of the reasons for this was the necessity for emergency clearance of military personnel, but there were other legal questions involved.

All I am saying is that this was regarded as a matter of importance, and was discussed, not once, but more than once, with the Department of Justice, and with the Attorney General.

So, I suggest, in responding to the criticism of the exercise of the Commission's judgment in granting emergency clearances, that our problem was one of judgment; that is to say, Admiral Gingrich, as Director of Security, and later those others who had the authority delegated to them, the authority to grant emergency clearances—I may say these did not come to the Commission and should not come to the Commission, it seems to me, under good organization—had this problem, this question of judgment: to weigh the responsibility we owed the country to increase the security of the country through rapid progress, to shore up things that needed shoring up; to take new steps, adopt new programs; to weigh these against the risk, the calculated risk, of a screening, a preliminary screening, which would avoid from 60 to 90, and in some cases 120 days of delay for a full FBI investigation.

We submit that, on the record, that exercise of judgment was neither arbitrary nor whimsical. We believe it to have been sound.

I just repeat that it required, particularly in 1947 and 1948, an extended period for a full FBI investigation, as distinguished from a file check, to see whether these individuals had records that would raise a doubt about them.

The CHAIRMAN. Do you mean there was a file check made before this emergency clearance was granted?

Mr. LILIENTHAL. In no case, Senator McMahon, did Admiral Gingrich, or later the managers of operation, grant an emergency clearance until an FBI file check had been made.

The CHAIRMAN. Now, suppose you describe what a file check means, because it may be that we do not all understand it. I think it would be a good thing to have it in the record.

Mr. VOLPE. Senator, a file check means obtaining from the individual a P. S. Q.

The CHAIRMAN. That is a personal security questionnaire?

Mr. VOLPE. A personal security questionnaire, in which he lists all relevant information about himself and his background.

The CHAIRMAN. Now, is that the kind of a questionnaire all employees of the Federal Government fill out, all applicants?

Mr. VOLPE. Yes; that is right.

The CHAIRMAN. That is correct.

Mr. VOLPE. And, as a matter of fact, we have made some innovations of our own to cover certain situations. This P. S. Q. is then sent to the Federal Bureau of Investigation, along with a fingerprint card, which is obtained from the individual, and the FBI then makes a check of its records, using the information furnished on the P. S. Q., and also using the fingerprints which have been furnished by the individual.

A report is then made to our security office, and in these cases if the report indicates any derogatory information, it is my understanding that no emergency clearance was granted.

If the report, on the other hand, was clear, then the emergency clearance was granted, and as a part of that screening, the security office would examine carefully the information furnished by the individual so as to be certain that there was no information in the P. S. Q. itself which would raise some doubt.

The CHAIRMAN. Is the P. S. Q. sworn to?

Mr. VOLPE. Yes.

Senator HICKENLOOPER. Mr. Chairman, may I just ask Mr. Volpe about that?

The CHAIRMAN. Yes.

Senator HICKENLOOPER. Mr. Volpe, you know of one case, do you not, where a man made out his P. S. Q. and swore to it and it later turned up that he had been a member of the Communist Party, and a very active cell of the Communist Party, and he did not put that on his P. S. Q., and there was no record in the file check on it.

The CHAIRMAN. Did he have emergency clearance?

Mr. VOLPE. Senator, there was not any emergency clearance.

Senator HICKENLOOPER. I understand, but I am talking about the P. S. Q.

Mr. VOLPE. Yes, Senator. This was an individual who had been employed by the Manhattan District in 1943, and who, upon reinvestigation, had this information developed.

Senator HICKENLOOPER. Yes, but the P. S. Q. is not a sacred assurance at all.

Mr. VOLPE. Senator, the P. S. Q. which was used by that individual at that time is not the same P. S. Q. which is now used by the Government.

Senator HICKENLOOPER. Yes. But may I ask you this hypothetical question: Let us suppose that a subversive desired to become infiltrated into this program. If he is a subversive and has designs upon information which he would like to use to the detriment of this country, do you believe that if he thought he had no record any place, he would put down on his P. S. Q. the derogatory information of that kind? Do you think he would put down that derogatory information if he were engaged in subversive activities or intended to—

Mr. VOLPE. Yes. Senator, this has been a matter which has been of considerable concern to the Atomic Energy Commission, to the Manhattan District before it, and to all agencies of Government which are concerned with security problems.

The thing that worries us most is that in the course of an investigation nothing will turn up which indicates that the individual is in any way connected with subversive activities and, as a matter of fact, it has been our fear that if an individual wanted to get into the project, he

would probably put in someone who never belonged to the Communist Party, who never belonged to a front organization.

Senator HICKENLOOPER. That is exactly the point.

Mr. VOLPE. That is right, sir.

Senator HICKENLOOPER. Exactly.

Mr. VOLPE. But this is a problem which we face even with a full FBI investigation, Senator.

Senator HICKENLOOPER. That is right. But in my judgment that is not any excuse for not going to the greatest possible limits to be assured that the infiltration of the dangerous few—not the overwhelming number of Americans who work in this project—they have to be examined under the law the same way—but it is to guard against the occasional infiltration of the dangerous subversive, and I submit that the P. S. Q. and the simple file check, which means nothing but looking in the FBI files and seeing if they have ever heard anything about this fellow or ever had anything on him—a file check is not an investigation, and if there is nothing in the FBI files or the other investigating agencies' files on this individual, the P. S. Q., plus the file check, gives no assurance or no reliability at all with regard to the subversive.

Mr. VOLPE. Senator, may I merely make this comment on that? I think this country can be proud of the record of the Federal Bureau of Investigation. I think that the Federal Bureau of Investigation is probably—I am sure it is—doing an excellent job of keeping tabs on subversives. I have had some experience with this problem for the past 6 years.

Senator HICKENLOOPER. Suppose a fellow gives a wrong name, suppose his name is one thing and he gives another name?

Mr. VOLPE. Senator, the FBI, I am sure, is very much aware of even that problem, and I am sure they are aware of other tricks which, perhaps, we do not even think of ourselves; and it is our feeling that if we submit enough information to the FBI on an individual, the FBI will certainly be in a position to let us know whether or not this individual is one of these dangerous characters.

Senator HICKENLOOPER. How, if they have nothing in their files? On the file check they do not go out and investigate. They merely write back to you and say, "We have no information in our files on this individual," or state "For some reason or another in the past we have had occasion to have some information."

Now, on the individual, where they have no information in their files on that individual, they do not affirmatively go out and check when you request a file check.

Mr. VOLPE. Senator, the FBI is not investigating subversive activities in the United States in behalf of the Atomic Energy Commission. The FBI has separate jurisdiction for the investigation of subversive activities which has nothing to do with the Atomic Energy Commission, as such; and what I am saying is that for years the FBI has been very much aware of the problem of subversive infiltration, and I am sure that they have developed as much information on subversive activities as they possibly can, without our submitting to them a single P. S. Q. for investigation of a single individual.

Mr. LILIENTHAL. May I add this comment that if—

The CHAIRMAN. May I just make this comment?

Mr. LILIENTHAL. I am sorry.

The CHAIRMAN. Pardon me. Of course, they might submit a different name, but they cannot submit a different set of fingerprints.

Mr. VOLPE. They could not, sir.

Senator HICKENLOOPER. Suppose their fingerprints have never been taken, and suppose the whole P. S. Q. is falsified? The only way for a check on it is for the Federal Bureau of Investigation to check the references and check the associations of these individuals.

So, I submit that merely the submission of a P. S. Q., and then asking the FBI if they have anything in their files on this individual, is an utterly unreliable protection against the subversive who is determined to infiltrate.

Mr. VOLPE. Senator, I want to make this point very clear because I think it is important on this whole question. The Federal Bureau of Investigation has been investigating subversive activities and Communists for many years.

Senator HICKENLOOPER. Granted.

Mr. VOLPE. They are not investigating these matters only today because of the atomic energy program; and the only point I wish to make is that if there was any way possible for the FBI to find out where subversive individuals might be in this country, where Communists might be in this country, who are attempting to infiltrate into the Government or into secret activities, I am sure that the FBI would have this information today without a P. S. Q. from the Atomic Energy Commission.

Senator HICKENLOOPER. I agree with you that they have a fine organization, and they have done a vast amount of work. I am not talking about the fellow who gets a soap box and makes a speech where everybody knows he is advocating subversive things.

I am talking about the diabolically clever sabotage and the diabolically clever infiltration that a determined espionage system and a cleverly organized espionage system would use, and they manifestly are not going to use people who have a record at the FBI or whom the FBI have previously investigated.

They will use people, and I submit, even to the point of complete falsification, where they know it is only a file check, and if they know that it is going to take 60 to 90 days before an investigation can be completed, they may be able to do a great many things in that period; and I am referring again only to the rare instances in this very vital project where espionage may infiltrate, or subversive activity, and not the overwhelming number of people who have good records and are perfectly all right.

Mr. VOLPE. Senator, while we are speculating on what might happen, what could happen, I would like to make this comment, which is an educated guess on my part, and that is that this diabolical individual, this conniving character, is probably not going to expose himself by filing a P. S. Q. and fingerprints which he knows will go to the FBI.

Senator HICKENLOOPER. Well, he can very easily, as long as we are speculating—I think it has been done—he can very easily infiltrate himself into the organization, stay 30 or 60 days, and then maybe a Polish boat will let him get on, and he can pay his passage, and the British courts will free him, and he can go back to wherever he wants to go.

Mr. VOLPE. Senator, the point is that he does not come into the program until there has been the fingerprint card, and until the fingerprint card has been scrutinized by the FBI. Until that is done no clearance is given and no one comes into the program.

Senator HICKENLOOPER. I do not care to continue with this, but if you just take the case where there is no fingerprint record with the FBI—I do not suppose everybody in this room has a fingerprint record with the FBI; there are millions of people in this country who have no record of their fingerprints with the FBI.

Mr. LILIENTHAL. You would be surprised how few there are, or dossiers either, for that matter.

May I suggest, that this question of emergency—

Mr. DURHAM. Mr. Lilienthal, will you elaborate just a little bit further on the words “shoring up,” what that means? It is rather indefinite.

Mr. LILIENTHAL. Yes.

Mr. DURHAM. Before you leave that.

Mr. LILIENTHAL. Yes, Representative Durham.

Mr. DURHAM. You were primarily using this, as I understood you to say, you were primarily using this to “shore up.” Will you elaborate on that a little?

Mr. LILIENTHAL. What I had in mind was, after suggesting that Congress must have had it in mind, that there would be emergencies justifying this action or there would have been a flat rule that no one under any circumstances may be admitted to this undertaking without a full FBI investigation.

I think myself that the logic of the Senator, Senator Hickenlooper’s argument, leads to the point where if we are going to try to provide a completely riskless situation, then a great deal more than an FBI, a full FBI, investigation will be necessary.

Now, I would like to go back to the question of the general setting because I think here the question is one of judgment. The law does provide for emergency clearances, and it must mean something; it must give some discretion to the Administrators or it would not have been put into the law, and the set of facts to which you have referred really relate to Mr. Webster and his definition, as I recall it, of unforeseen circumstances requiring immediate action.

I do not say that this test applies to every one of these emergency clearances, even to the same degree, but I think the committee is entitled to have some understanding of the circumstances that were faced, and that have accounted for a very considerable number of these emergency clearances; the sets of facts upon which the judgment is exercised, and having those sets of facts, or part of them, one is better able to decide whether the judgment was exercised well or badly.

Senator HICKENLOOPER. Mr. Chairman, at that point may I suggest to you, because you were chairman of the committee that considered your bill, and there are several members of the special committee now on this committee, may I suggest my recollection of the discussions that the committee had with respect to this very matter of emergency clearance when the law was prepared?

It is my recollection, and my firm belief, that we discussed very thoroughly the desirability and the necessity for everyone who had access to restricted or within restricted areas should be first investi-

gated, but we also said there may be occasions when it will be highly essential to get a highly specialized individual to do work immediately necessary, and when—if and when those occasions occur, we should put in some leeway so that a specialized individual, either a highly trained technician, a highly specialized scientist, an able engineer, might temporarily be brought in for a specific piece of advice or a specific piece of work and, therefore, we discussed the connotation of that emergency exception that was put in there.

Now, there are five of us sitting here who were on that special committee. I have tried to express my understanding of what we tried to write into the bill on emergency clearance, and if there are other and different understandings of the vital necessities of this and the restrictive nature of this emergency, I would be very happy if other members who had gone through that experience would care to comment.

Senator MILLIKIN. Mr. Chairman, may I make a comment on this thing?

The CHAIRMAN. Yes, Senator.

Senator MILLIKIN. I would like to suggest that the whole Atomic Energy Act was framed in terms of security. We gave the Government a complete monopoly. Many of us had to change our philosophy entirely to fit the security needs of the situation.

It is true that these matters come down to judgment, but merely saying, "We are exercising judgment," is no defense. It is the quality of judgment that is on trial.

The CHAIRMAN. Now, will you proceed, Mr. Lilienthal?

Mr. LILIENTHAL. I would like to respond to Vice Chairman Durham's question and, at the same time, include—and by the same language include—a comment on Senator Millikin's statement.

It is precisely because the paramount responsibility is security that in most of these instances the statute provided for emergency clearance, and the emergency clearances were granted.

Security in the real sense is a question of whether the country's strength is increased by the actions of the Commission, and not limited to such questions as the clearance of individuals, and I can illustrate by five or six different types of situations.

I hope I will have an opportunity to do this, because I think this will indicate a little more clearly what security really means today, and what the security situation we faced was.

To think of security only in terms of protective devices, of protection, of fences, of padlocks, and safes, and of the examination of the backgrounds and loyalty of individuals, is, I think, a very grave mistake.

Now, just last Monday, an associate of mine and I discussed with two of the most important industrial executives in the country the question of their willingness to undertake a measure at Sandia Base where weapon engineering goes forward, that will immeasurably strengthen the security of this country in an affirmative sense.

The problem of these discussions that is raised at once is this, and this situation has been reported to the joint committee as a pending matter—and I trust that the names of the company will not be disclosed at this time lest it may interfere with the discussions—this situation of calling in these companies to increase our security at Sandia means an increase in our security in the engineering, deliver-

ability, and usefulness of the atomic weapon, something that is a very important item indeed, and will relate to quantities of production. This is a form of real security. In order to discuss this matter, should we wait with an urgently needed matter 60 or 90 days until a full FBI investigation is made?

I recall that Charles Wilson, of the General Electric Co., had a full FBI investigation which took a long time. I do not myself see how the FBI has been able to carry the load and do as prompt a job as they have. I think it is an amazing thing, but nevertheless these things take time.

This is a question of judgment. It was perfectly clear to me, and I believe it will be clear to everyone, that here is the sort of situation that is contemplated by the term "emergency clearance," and that some of these top executives and their counsel should be screened by the FBI to see whether they are in fact what they appear to be on the surface, highly reputable citizens, and then be given them an emergency clearance, subject to a more extended clearance.

Now, projects of this kind are coming up all the time. If this were a static undertaking it would be secure in the sense of observing these protective matters, but it would not add to the security of the country in the way which, before this hearing is completed, the country will learn it should.

Let me take another illustration, and this relates to the term "shoring up," Mr. Durham.

In 1947 and 1948 the Commission became fully aware, and this committee was advised, that there was an emergency in security of the country at Hanford. There was a threatened stoppage, a threatened break-down of pile operation from which plutonium is made, plutonium for weapons. These were due to technical difficulties.

The country's security was endangered by that. Speed in doing something about it was essential.

One of the things that had to be done was the reactivation of the building of new plants, new industrial plants, not at Hanford but elsewhere, to provide the materials to go into new piles for additional production needs, and for other purposes.

To lose 60 days or 90 days at that juncture was a very serious, worrisome thing, in the kind of responsibility it was for us to take.

Senator HICKENLOOPER. Mr. Chairman—

Mr. LILIENTHAL. May I finish this sentence—and this is precisely, we believe, the kind of situation which the emergency clearance provision of the law contemplated.

Senator HICKENLOOPER. Mr. Chairman, may I ask Mr. Lilienthal a question?

Mr. Lilienthal, may I ask if in fact the situation at Hanford was not well known and recognized at the time the Commission took over?

Mr. LILIENTHAL. It was well known, but it certainly was not recognized in the sense of doing something about it.

Senator HICKENLOOPER. So that it was not a sudden emergency that came up within 60 days, a 60-day period. It was a condition that had been recognized, and it was realized that some solution to the problem had to be found.

Mr. LILIENTHAL. Well, Senator, it may not now, since the problem is now solved, seem to be a very urgent or sudden thing.

Senator HICKENLOOPER. No; I do not mean to minimize it.

Mr. LILIENTHAL. But at that time it seemed very sudden and urgent.

Senator HICKENLOOPER. I do not mean to minimize the seriousness of the situation. The point I am making is that the situation was realized and was fully realized that some situation had to be worked out. It was not a sudden emergency that came up figuratively overnight.

Mr. LILIENTHAL. I must regretfully disagree with the Senator. I mean it is easy to be calm and relaxed about these things now that the facts are known. However, to do something about it, this was the important thing, and do something about it in a way that would cut every possible corner that could be cut under this law, with the exercise of good judgment, seemed to be an urgent necessity.

Let me take another illustration, and that involves a contract with the Bendix Corp., a very outstanding company in this country: The nature of this contract has been revealed to the joint committee as part of our duty to keep them fully informed. It is not one about which one should discuss in an open hearing, but all I need to say is that it was vital to the security of this country, just as vital as the fences and the personnel clearances and the safes and the vaults and the property accountability. I would say, in my own opinion, even more vital.

Now, there again was something that needed doing and needed doing urgently. Had we not moved with a sense of urgency, it would have been exceedingly appropriate for this committee—and I have no doubt it would have occurred, that if we had taken delays in discussing the terms of an arrangement with Bendix, delays that were occasioned by the 60- or 90-day period required for a full FBI investigation as distinguished from a file check such as we had used, we would have been castigated, and properly castigated, for not using the very provision of law which Congress put in to meet that situation.

Let me make another illustration.

Senator MILLIKIN. Let me ask you this before you get to the other illustration. I am very much interested in the illustration which Mr. Lilienthal has been giving us, but where there were 2,103 such emergencies in the year 1948—

Mr. LILIENTHAL. Not individual emergencies; no. I would like to bring out in terms of Representative Durham's question, to which I have been responding, that it takes all kinds of people to get these urgent things started. You cannot just talk; you cannot just clear a top executive and expect him to make headway, and these people cannot go around—they require clerical and other assistance, and to be honest about it, those people, those people, too, should be cleared, so that this is not just a matter of the individuals whose ultimate decision will be affected in these negotiations or discussions, but of other people in connection with them.

Let me take another illustration that I can give.

Mr. COLE. Mr. Chairman—

Mr. LILIENTHAL. Yes.

Mr. COLE. I think we are all aware of the fact that there have been situations which justified the exercise of the Commission's discretion with respect to the emergency situations, and those illustrations which Mr. Lilienthal has described are quite appropriate.

However, I would like to have you, Mr. Lilienthal, justify the emergency situation which would authorize your exercise of discretion for the employment of a file clerk or a secretary or a guard.

Now, it is in those areas which I can find criticism of the exercise of the Commission's discretion, because the law does not say that except, as authorized by the Commission, employment must be limited to those who are investigated by the FBI. It says, "except authorized by the Commission in emergencies."

Now, what possible emergency could arise which would require the emergency clearance of a guard, a file clerk or a stenographer, or an audit clerk?

Mr. LILIENTHAL. Mr. Cole, I appreciate very much the reasonableness of this question and of your comment about it, and the most explicit way to reply is that to make headway in these emergency situations clerks and file clerks and secretaries and guards are often necessary, and I think we can take some specific illustrations, not in this session, but in the form of a memorandum or a closed session, and illustrate this. You just cannot clear X, the head of a large concern, and his lawyer, and have them working on secret papers where you try to make headway fast and not give some clerical assistance to them or someone to guard the papers.

Mr. COLE. Is it your explanation and justification of this exercise of discretion then that each one of these instances of a guard or a stenographer has been necessary to clear that individual in order to make available to the Commission the services of some other individual?

Mr. LILIENTHAL. No, Mr. Cole, I would not do that, because I am not familiar with all these cases; I am familiar with the situation. I am sure that this explanation does cover a number of these.

There are such a variety of these pictures that it would be difficult to do otherwise than generalize, but we can analyze a great many of these.

All I am saying is that your question is a perfectly natural one, but the answer is not that a file clerk is not a chief executive of a company; a file clerk may be necessary as part and parcel—

Mr. COLE. Would you not agree that a file clerk or even a guard, if placed in the right position, might be just as dangerous or be in a position of being as dangerous in disclosing some elements of this program as a high, important person?

Mr. LILIENTHAL. Well, I would not believe so, but in any case there is a danger there.

Mr. COLE. You would not believe so? Is it not true that out in the place at Chicago that the secretary of one of the chemists has access to the combination of the safe where the important material is kept?

Mr. LILIENTHAL. Well, the reason I qualified my response is that while this would be dangerous and undesirable, highly undesirable, those people who have better understanding of the information they are getting are, I would say, the more dangerous, but it is a matter of degree.

If I may go on to a couple of these illustrations, I think we will clarify this point: The Commission, under much too short a preparatory period, Mr. Durham, set out to engage in tests of atomic weapons at Eniwetok as of April 1948.

Mr. DURHAM. That was requested by the military?

Mr. LILIENTHAL. This was initiated by the Commission, and warmly concurred in by the military.

Now, this was on a schedule, which, considering the magnitude of the operation and its complexity, the number of different kinds of people necessary, was shorter than would be wise or desirable, but it was the test which needed to be made.

As this preparation proceeded, and as 10,000 men of all kinds and descriptions from sailors and soldiers and M. P.'s to scientists in specializations, even the name of which most of us do not recognize, such as phenomenologists, and so forth, there appeared to be a number of places where additional information or additional skills would make the tests that much more valuable, and time was of the essence, because these things had to be timed down almost to the hour because of the long line of logistical problems of carrying it forward.

There again we were faced with this problem of judgment. Should we take the time for a full FBI investigation of this individual and individuals connected with this work or with extra guards or with Army personnel?

When you are in a situation of that kind it is not as relaxing as it is here in the Senate caucus room after the tests have been successfully carried out, and I am sure there would be situations where it would be difficult for one to say that a particular judgment was a hundred percent correct; but I think the record will show that in the interests of furthering the security of the country—and this Eniwetok test was a very vital element in the security of the country—the decisions on emergency clearances there were not only within, we believe, the spirit and meaning of the law, based upon our discussions with the Attorney General, but were also within the discretion of those to whom this authorization was granted.

Senator HICKENLOOPER. Mr. Chairman, may I ask a question?

Mr. LILIENTHAL. If I may just finish—I am not familiar with all of these. We delegated to men of as good judgment as I know—I do not claim that every one of these cases represents, after the fact or even at the time, perfect judgment. This is not that kind of a world, but I do say that they do not represent incredible mismanagement.

Mr. DURHAM. I think you have pointed out two very definite cases to us, Mr. Lilienthal, where the emergency probably was justified, and that is why I think the charge that this emergency clearance is not useful, can be done away with, but you have pointed out two specific cases.

Senator HICKENLOOPER. Mr. Chairman, may I comment on that point?

The CHAIRMAN. Yes, Senator.

Senator HICKENLOOPER. I think it has been amply stated here that the Eniwetok tests were among the most highly secret and carefully guarded experiments and tests that we have had since we first tested the bomb in White Sands in New Mexico.

I also state to this committee that the committee knew the approximate time of the Eniwetok test weeks and weeks before the tests occurred.

There was, in my judgment, ample time for investigation of the personnel, and yet I submit, Mr. Durham, on that point, that, in the most highly secret and most carefully guarded experiment that we

had, many, many emergency clearances were given without any investigation by the FBI, although time was, in my judgment, available for such a situation.

Mr. LILIENTHAL. May I respond to that by saying, with all due respect to the Senator's judgment about this complicated enterprise, there are people who were faced with the organization and the carrying out of this enterprise who would not agree with the Senator, and they are available all the way from the commander of the task force down through the test director.

A few illustrations will indicate that having a few months or even a year and a half in advance of such a complicated and technical scientific undertaking does not give ample time for the contingencies that arise. I hope the committee will hear testimony on that.

The CHAIRMAN. It is obvious that we have got to put some kind of order on the questioning. Yesterday we went down the list. I tried to go down in the order of seniority on the committee and give the House Members and the Senate Members alternate chances to question.

The chairman does not desire to be arbitrary or to stop any member of the committee addressing any question he thinks pertinent at the time. I ask the members of the committee if they will cooperate as much as possible so that we can take the questions in order. In that way each member may have an opportunity to ask questions.

If that is agreeable to the committee, we will proceed in that fashion, although the Chair is entirely willing to be overruled if that is the judgment of the committee.

Senator Vandenberg?

Senator VANDENBERG. No questions.

The CHAIRMAN. Senator Connally?

Senator CONNALLY. No questions.

The CHAIRMAN. Mr. Holifield?

Mr. HOLIFIELD. In the conducting of the Bikini tests and the Eniwetok tests, did your Commission exercise the clearance procedure or was that delegated to, in the one case, Admiral Blandy and, in the other case, General Hull?

Mr. LILIENTHAL. The two cases were different. The Bikini test was prior to the organization of the Commission. That is to say, it was under the Navy.

Mr. HOLIFIELD. Confine your answer, then, to the Eniwetok test.

Mr. LILIENTHAL. Of course, the Bikini test was conducted without FBI investigation.

Mr. HOLIFIELD. And there were approximately 40,000 people there?

Mr. LILIENTHAL. I think that is roughly the number. The personnel security there was, I assume, carried on not by the FBI, but by Navy intelligence, and so on.

As to Eniwetok, the responsibility for access to restricted data, which would include access to the physical things that were done, physical equipment, let us say, at Eniwetok, and a great many other things, was the responsibility of the Atomic Energy Commission, although the undertaking itself was a joint undertaking with the Military Establishment. The standards of clearance, therefore, came under the Atomic Energy Act of 1946.

Mr. HOLIFIELD. That is true, but you had to proceed because of the number of people involved in the Military Establishment on recom-

mentations from General Hull as to emergency clearances of military personnel; did you not?

Mr. LILIENTHAL. Yes; it was worked out. Because of the practical problems faced, it was worked out by agreement with General Hull and his colleagues of the Military Establishment, and detailed analysis of how that was worked out could be submitted, probably ought to be submitted in closed session, but I am not sure about that.

Mr. HOLIFIELD. I would like to explore this emergency clearance procedure which you have conducted during 1947, 1948, and 1949 to date. The joint committee has been cognizant of this procedure, I might say.

As you have already testified, information has been brought to the committee during 1947 and 1948 on this procedure. I want to ask you if the joint committee has ever requested a discontinuance of the emergency clearance procedure that is used by your Commission.

Mr. LILIENTHAL. No; it has not, and may I supplement the answer by saying that there have been monthly reports on emergency clearances during almost all of this period.

Mr. HOLIFIELD. Has there ever been any attempt on the part of the joint committee to delineate the area of judgment which you use in emergency clearances?

Mr. LILIENTHAL. I am not aware that there has been. It has been discussed in meetings.

Mr. HOLIFIELD. It has been discussed, but there has been no conclusion of this committee transmitted to you either verbally or in writing in which you have been requested or advised to limit the area of judgment in which you have been granting these emergency clearance procedures?

Mr. LILIENTHAL. That is correct.

Mr. HOLIFIELD. There have been inquiries and there have been letters back and forth; there has been conversation on it, but there has been no conclusion of the committee attempted to be enforced upon you?

Mr. LILIENTHAL. No; the committee has not transmitted any conclusion. Senator Hickenlooper has expressed concern in these letters, but the answer to your question is "No."

Senator HICKENLOOPER. May I point out at that point that the joint committee has no authority to direct or order the Commission to do anything or not to do anything. Sole administrative power and authority is lodged in the Commission itself, and the joint committee is only a legislative body for the purpose of canvassing the needs for legislation.

Mr. HOLIFIELD. I accept the Senator's explanation and agree with it. That is why I did not ask the Chairman of the Commission if he had been directed or ordered. I asked him if he had been advised that the committee's wishes were that he should limit the area, and there has been no such advice given from the standpoint of collective committee action, to my knowledge.

Mr. LILIENTHAL. No; not to my knowledge, and no substitute criteria to those in use.

Mr. HOLIFIELD. On many occasions, when we have advised the Commission our wishes on certain procedures, those wishes have been respected and adjustments have been made in your program? I ask you that question.

Mr. LILIENTHAL. The views of the committee have been requested, and, when elicited, have received very great weight. I do not recall offhand whether specific recommendations have been made from the committee as a whole with the exception of the recent report by the Durham subcommittee on the natural-gas line, which was a specific—it was a report of the joint committee, which adopted the subcommittee's recommendation.

This was a case of a specific conclusion by the committee on the wisdom or unwisdom of a particular act, but nothing of that kind appeared with respect to emergency clearance.

Mr. HOLIFIELD. That is true. Now, the committee did move in an orderly way in regard to the Tennessee gas line, and we did make an investigation and did make a recommendation to your Commission. It is up to your Commission, it is true, as to whether you accept it or reject it. You have the power to either accept it or reject it.

Now, if this emergency clearance procedure, as has been painted this morning, has been such a grave danger to this program, and if there was a majority determination on the part of the committee that it was such a danger, I say that the committee would have also made a recommendation, as we did in the Tennessee gas line. That requires no answer.

Now, if this emergency clearance procedure was completely eliminated, would it have obstructed and delayed the production of fissionable material during the last 2 years?

Mr. LILIENTHAL. It would indeed, and the security of the country today would be weakened as compared to the present state of affairs, atomically speaking.

Mr. HOLIFIELD. Do you believe that you could operate at the present time and in the future an efficient and expeditious program if the emergency clearance procedure was eliminated completely?

Mr. LILIENTHAL. No; not if the conditions in the world and the obligations of this Commission remain what they are today.

Mr. HOLIFIELD. That is all, Mr. Chairman.

The CHAIRMAN. Senator Millikin?

Senator MILLIKIN. Mr. Lilienthal, in the light of your illustration, I will ask you again: Do you consider that we were confronted with 2,103 emergencies of the type that you have described in 1948?

Mr. LILIENTHAL. No. These are people, not situations, Senator.

Senator MILLIKIN. I understand that.

Mr. LILIENTHAL. Each individual is not an emergency situation.

Senator MILLIKIN. Did you have emergencies that called for that many emergency clearances in the year 1948 of the type which, in your judgment, is contemplated by the act?

Mr. LILIENTHAL. I believe the judgment exercised by those to whom this has been delegated was sound. I have already indicated that I, after the fact, probably could not subscribe to every single one, but I do believe emergency situations during those years did exist such as the law contemplates, which justified and made necessary, in the interests of the security of the country, these emergency clearances; yes, sir.

Senator MILLIKIN. Your answer is in the affirmative?

Mr. LILIENTHAL. In one case, sir——

Senator MILLIKIN. Is your answer in the affirmative?

Mr. LILIENTHAL. It was, sir, and I supplement by saying in the Bendix case to which I referred and which would be a very appropriate illustration, perhaps in an open session, but certainly in a closed session, there were hundreds of people involved, including all kinds of people, and the results achieved there will justify, the results achieved in terms of security of the country will justify, in my opinion and, I believe, in yours, on these facts adduced, the exercise of this authority.

Senator MILLIKIN. Has anyone suggested eliminating the emergency provision of the act?

Mr. LILIENTHAL. I believe not.

Senator MILLIKIN. I raise the question because one of my colleagues raised it. I do not recall any suggestion. The question is not eliminating the emergency provision of the act. The question is whether the emergency provision of the act has been applied right; is that correct?

Mr. LILIENTHAL. I believe that is correct. I want to call attention to the fact that if a standard is adopted that we must never take a chance on anyone, then that virtually does, by that process, repeal the emergency provision.

Senator MILLIKIN. Let me make an observation and then ask your reactions to it.

When we were making this Atomic Energy Act, the security matter had two aspects to it, sometimes described as the affirmative aspects and sometimes as the negative aspects. It seems both are affirmative; the terminology is not important.

We felt we had to guard the security of atomic energy in two ways until we got this world fixed up for peace. In one aspect of it we had to progress with making a weapon. That was essential to our security. In the other aspect of it we had to keep anyone else from having the energy until we did get the world fixed up for peace. That has sometimes been called the negative aspect of it. They are both affirmative; they are both, I suggest, interdependent. I do not believe that there can be any defense to carelessness in one aspect of it on the ground that there has been great progress in the other aspect of it. Do you agree with me?

Mr. LILIENTHAL. There could never be any defense to carelessness; that is right.

Senator MILLIKIN. That is all.

The CHAIRMAN. Mr. Cole?

Mr. COLE. Yes. Mr. Lilienthal, reverting to your final response to a question—

Senator MILLIKIN. Might I just make one more observation? It was our feeling that if the enemy, an enemy, ever got atomic energy before we did get the world fixed up for peace, that we could not have peace and, therefore, the negative aspect, if you wish to call it that, is just as important as the so-called affirmative aspect.

Mr. LILIENTHAL. It is implied in what the Senator said that there are problems where one has to balance between these two, and I am sure that this is implied in the reasonable way in which he has stated the problem.

The CHAIRMAN. Mr. Cole?

Mr. COLE. As I recall, in response to a question of Mr. Holifield you stated in substance that had you been unable to grant these emer-

gency clearances, the national security would have been seriously undermined.

Now, do you honestly feel or do you honestly intend this committee and the public to get the idea that your inability to have been able to hire a librarian or a file clerk or a guard at the time you might have wanted to use that individual or those individuals would have seriously interfered, jeopardized the security of the Nation?

Mr. LILIENTHAL. I want the committee to understand—and I would hope we can make some break-downs of these types of cases—that the standard was as I have suggested: That delay at this juncture would be more likely to impair the security of the country than the risk involved after an FBI screening in the manner described.

I have made it clear, I hope, that I do not and cannot underwrite the wisdom of the exercise of judgment in every one of these cases. Mr. Cole is familiar enough with the conduct of large enterprises to know that delegation of authority is essential. I simply say that has been the standard, and I believe an over-all look at the picture will justify the conclusion that this power was exercised in the interests of furthering the security of the country.

Mr. COLE. Then, if you are prepared to defend the exercise of this discretion to the ultimate of justifying the hiring of a stenographer or a librarian, then you must be prepared to confess that the Commission's personnel is destitute of competent persons to have been able to do that job who already had been cleared, it would seem to me.

Mr. LILIENTHAL. I think you will find that most of these are contractors' employees. Let me illustrate this point.

Taking an example of the librarian, the situation I am not familiar with, I believe would not represent it. Let me give you a case.

Mr. COLE. I realize those are extreme cases, just as the illustrations you used were extreme.

Mr. LILIENTHAL. This is not the case. Respectfully I suggest that an enumeration of the emergency situations we faced will indicate that they are common occurrences.

Let me take the case of the graphite plant. Here was the necessity of quickly activating a whole inactive plant and doing it in a hurry. This plant employed all sorts of people. You could not run it with just the president and the secretary of the corporation or the plant manager. You had to activate the plant as a whole, and this included file clerks and secretaries.

Members of this committee are aware how absolutely helpless a man is without his secretarial and clerical help, and, in the case of this project, without security officers and guards and all the rest of it. So we are talking about a whole situation.

Now, the question, I submit, Mr. Cole, the question as to the wisdom of the exercise of this discretion should be whether as of today or, as I would think more fair, at the time when this problem arose, whether we were justified in seeking to save from 60 to 90 to 120 days in the reactivation of a plant rather than in respect to the individuals involved.

Mr. COLE. There has been no reactivation of a plant such as you described since January of this year, has there? And it has been since January of this year that these stenographers and librarians and guards of which I speak have been granted clearance.

Mr. LILIENTHAL. I took the example of the activation of the plant as an example, and there are other examples of the same sort. My point is we are not talking about an individual emergency, but an emergency involving a considerable group of people in some instances.

If that entire group of people is not cleared or substantially that entire group, then you cannot meet the emergency in the time that you would like to meet it.

Mr. COLE. Then it is apparent that there have been instances when the Commission has granted not an individual clearance but wholesale clearance of individuals en bloc or as a group?

Mr. LILIENTHAL. Not wholesale in the sense that they were not screened.

Mr. COLE. Everybody was screened, even the individuals?

Mr. LILIENTHAL. But our need for graphite and the reactivation of this plant was such that it seemed to those to whom this was delegated—and I endorse it now, and I believe the results justify it—that this limited investigation was better than the delays in getting going with these piles that would have been involved, had this not been done.

I do not say this is a perfect decision. At the time it seemed the thing to do, and when you are faced with this kind of emergency, that is more or less the standard you apply.

Mr. COLE. Do you know whether the figures which Senator Hickenlooper gave to the committee with respect to these clearances include the contractors' clearances as well as the Commission's clearances?

Mr. LILIENTHAL. Yes, most of the clearances are contractors' employees, most of the emergency clearances.

Mr. COLE. Has there ever been prepared a delineation of the standards by which these area managers might exercise the discretion which you have delegated to them in the granting of emergency clearances?

Mr. LILIENTHAL. Yes, and this has been submitted to the joint committee.

Mr. COLE. Would you mind making a note and at this point put it in the record so that if it is not classified—and I assume it is not—it will appear here?

Mr. LILIENTHAL. Yes, sir, we will.

(The document referred to above is marked exhibit 5 and will be found in the appendix.)

Mr. COLE. That is all.

Senator HICKENLOOPER. May I suggest to Mr. Cole that in referring to clearances for contractors' employees, it must be borne in mind that the University of Chicago, which does highly technical and scientific work, is a contractor; that Carbon & Carbide at Oak Ridge, that does highly scientific vital work, is a contractor; that the University of California which does highly scientific work is a contractor; and that at Hanford General Electric, which operates that plutonium installation out there, is a contractor, and their employees are doing the actual technical, highly classified work.

The CHAIRMAN. Now, Senator Knowland?

Senator KNOWLAND. I would just like to have Mr. Lilienthal put in the record, if he could, on the number of these emergency clearances—818 for 1947, 2,103 for 1948, and 359 for the first 3 months of 1949—how many of those, if you can give us a break-down, were contractors' employees, how many were Commission employees, and how many were outside people who may have been invited by the Commis-

sion to examine the plants; and if you can, also give us the breakdown as between Los Alamos, Hanford, and Oak Ridge, and the other installations where those, we might term them visitors, were extended this courtesy.

Mr. LILIENTHAL. May we also include an analysis of those individuals who were at the time neither contractors nor their employees nor Commission employees, but individuals with whom prospective arrangements were being discussed, because this is a fairly typical situation?

Senator KNOWLAND. Anything that would outline your position on it.

Mr. LILIENTHAL. Yes, sir.

(The data referred to above are marked exhibit 4 and will be found in the appendix.)

The CHAIRMAN. Mr. Lilienthal, before turning you over to Mr. Price, I would like to ask one question which seems to me to be somewhat significant.

The people given these emergency clearances were later completely investigated by the Federal Bureau of Investigation?

Mr. LILIENTHAL. They were.

The CHAIRMAN. Have you any record, either in your head or on a memorandum available, as to the number given emergency clearances who were later discharged after the full FBI investigation was made?

Mr. LILIENTHAL. The answer is, there were very, very few, extraordinarily few, and that the risk turned out to be less even than one might have feared, and we will get those figures into the record, but they are very, very few indeed.

The CHAIRMAN. I think it would be well if you were to give us that and also how many quit before the full investigation was completed. Can that be secured, Mr. Volpe?

Mr. VOLPE. Yes.

(The data referred to above are marked exhibit 6 and will be found in the appendix.)

The CHAIRMAN. Now, Mr. Price?

Mr. PRICE. Mr. Lilienthal, in connection with the Eniwetok test, to your knowledge, was there ever any breach of security?

Mr. LILIENTHAL. I am unaware of any breach of security in connection with the Eniwetok test.

Mr. PRICE. I wonder if you could give us some idea of the record of cooperation between the armed forces and the Commission during these tests.

Mr. LILIENTHAL. Yes. I should like to. The joint task force was a real case of unification that succeeded. It was not only unification of the three services, but also of a rather large technical group, who in the past have not always unified very readily.

There have been written statements prepared and supplied to the joint committee, and I should like and think it would be very pertinent, if we had permission to insert them in the record here, the views of a number of different kinds of people, responsible people, as to the success of this operation jointly with the Military Establishment in this very complicated operation. These would include the views of the late Secretary of Defense, Mr. Forrestal; of the commander of the

joint task force, General Hull; of the scientists of the Los Alamos laboratory; of all of the various segments involved.

The CHAIRMAN. Very well. You may supply that.

(The data referred to above are marked exhibit 7 and will be found in the appendix.)

Mr. LILIENTHAL. I would like to elaborate the record on this, although I do not have it in mind in terms of documents that pertain to this subject, because to over-all appraisal of stewardship this Commission bears to this committee and to the country, the success from a management point of view of this unified operation, I believe I may say the unqualified success, is relevant.

There is some suggestion that some of the Commissioners seek to take credit for these things. This is not the case. The credit has been distributed in these documents, they were very able men, but a number of these men the Commission selected and, therefore, had things gone very badly, it is possible that someone might have suggested that we were at fault.

Mr. PRICE. Did you have any complaint from the military on lack of cooperation?

Mr. LILIENTHAL. No; on the contrary.

Mr. PRICE. As one of the two members of the committee who witnessed those tests, I might say I was very deeply impressed by the spirit of cooperation between the Army, Navy, Air Force, and Commission during those tests, and I believe my colleague, Mr. Cole, might agree with me in that respect.

Mr. COLE. Yes, indeed.

The CHAIRMAN. Mr. Elston?

Mr. ELSTON. Mr. Lilienthal, whether the person is taken on an emergency basis or on a permanent basis, there eventually is made up a security record on that individual; is there not?

Mr. LILIENTHAL. Yes, sir.

Mr. ELSTON. And who retains that security record?

Mr. LILIENTHAL. The Atomic Energy Commission retains it, and from time to time, upon request, they are supplied to the joint committee for inspection by its members and staff. This has been the practice for a couple of years or more.

Mr. ELSTON. Is the record retained here in Washington or does it accompany the individual?

Mr. LILIENTHAL. The record goes to the field, Mr. Elston, where the individual is employed.

Mr. ELSTON. And the security officer there has complete access to the entire security record of that individual?

Mr. LILIENTHAL. Yes.

Mr. ELSTON. Now, if a person is hired for work that does not give him access to classified material and is later promoted to a position where he does have that access, is his record screened again?

Mr. LILIENTHAL. I shall have to ask Mr. Wilson to answer that.

Mr. WILSON. Yes; it is.

Mr. ELSTON. Your answer is "Yes?"

Mr. WILSON. Yes.

Mr. ELSTON. Who does the screening?

Mr. WILSON. The security officer and the manager at the installation where the individual is employed, if it is outside of Washington. If it is Washington, it is the Director of Security, and the Division Director concerned in Washington.

Mr. ELSTON. And the security officer in the field is directly responsible to the Commission?

Mr. WILSON. To the Commission; yes.

Mr. ELSTON. And he is the Commission's agent?

Mr. WILSON. That is right.

Mr. ELSTON. And the Commission is responsible for his acts?

Mr. WILSON. That is right.

Mr. ELSTON. Now, have you had any cases where persons have been employed, we will say, as a guard, to use a hypothetical case, where he does not have access to classified material, and he is later promoted to a job inside the plant where he does have access to classified material. Is his record screened rather carefully?

Mr. WILSON. Instructions to the managers of operations and to their security officers are that where such transfers occur, the records are to be reexamined. I cannot assure you that this is always done, but these are the instructions.

Mr. ELSTON. Do you know of any cases where it has not been done?

Mr. WILSON. I know of one or two; yes.

Mr. ELSTON. And in those cases were persons who are poor security risks allowed to engage in employment on a job where they had access to classified material?

Mr. WILSON. They were people who had been cleared for access to restricted data in the first place.

Mr. ELSTON. The question is whether or not their record was later screened and derogatory material in their record disclosed.

Mr. WILSON. You mean reevaluated by the people there?

Mr. ELSTON. Yes.

Mr. WILSON. There are cases—there are a few cases, as I say, which I know of where this was not done.

Mr. ELSTON. Can you give us any reason why it was not done?

Mr. WILSON. Failure to follow instructions—I do not know, I cannot explain why it was not done. It was not done. But the people involved were not regarded as security risks, if you will. We have no one whom we regard as security risks using and having access to restricted data.

I should say there are a few instances where individuals' records have been fully examined, where the individual has had long association with the project, in which the evaluation was made in the light of all of the evidence in the FBI records and other information gathered together, and a determination has been made to plant the individual a Q clearance, which is clearance for access to restricted data. This occurs in every case, but in various cases the amount of so-called derogatory information will vary greatly.

Mr. ELSTON. If you had an individual who had access to restricted data and had access to materials such as uranium, you would be very careful about that individual; would you not?

Mr. WILSON. Mr. Elston, people having access to uranium number thousands in this whole enterprise. In the production plants, in the metals plants, in the laboratories it is the essence of their work that they have access to uranium and its compounds.

Mr. ELSTON. Have any of those persons been given emergency clearances?

Mr. WILSON. I am sure there have been cases of the grant of emergency clearance for people working in laboratories who, therefore, have access to working with uranium and its compounds.

Mr. ELSTON. Of course, some persons work with uranium upon whom you would make a more careful check than others; is that not correct?

Mr. WILSON. Well, certainly a reexamination in terms of general responsibility of an individual occurs wherever he transfers from one job to another.

Mr. ELSTON. What about a person who had charge of a safe, the combination to a safe, in which uranium was stored? Would you screen his record more carefully than you would the average record?

Mr. WILSON. It should be.

Mr. ELSTON. And what would be the attitude of the Commission with respect to an individual who had that kind of a position who had a police record?

Mr. WILSON. A police record alone—without the full file, it is impossible to answer that question, Mr. Elston. There are a great many people in this country who have police records of one kind or another. It is impossible without considering the actual data in the case.

Mr. ELSTON. To use a hypothetical case, suppose a person were arrested for grand larceny and there was no prosecution; arrested again, and no prosecution; and on his questionnaire he had answered that he had never been arrested.

Mr. WILSON. The case should be considered as a matter of falsification of a document and, as such, a Federal offense.

Mr. ELSTON. Well, if a person had access to the security record, he could readily tell whether or not there had been that falsification; could he not?

Mr. WILSON. He should; yes.

Mr. ELSTON. Before giving a person a position of great responsibility such as having access to the vault in which highly classified material was stored, say uranium-235, would not you give that particular individual a particular check?

Mr. WILSON. He should be given such a check.

Mr. ELSTON. Have you had any cases like that?

Mr. WILSON. We have had a case in which he was not, and the individual has been transferred to other duty.

Mr. ELSTON. Did anything disappear from the vault while he was in charge?

Mr. WILSON. That I cannot answer.

Mr. ELSTON. You mean you would rather not answer, or you do not know?

Mr. WILSON. I believe, Mr. Elston, you are referring to the situation at the Argonne National Laboratory at Chicago on which we expect to submit a full current report to the joint committee at the executive session this afternoon.

Mr. ELSTON. In other words, you would rather defer your answer until then?

Mr. WILSON. Yes, sir.

Mr. ELSTON. I will respect your wishes in the matter.

Do I understand that you said the particular individual had been transferred or has been discharged?

Mr. WILSON. I am informed that he is no longer in the position which he formerly held in connection with the accountability of material.

Mr. ELSTON. He has been given some other position, then?

Mr. WILSON. That is my understanding.

Mr. ELSTON. Of greater responsibility, or less?

Mr. WILSON. Less.

Mr. ELSTON. More pay or less pay?

Mr. WILSON. I do not know.

Mr. ELSTON. You said a moment ago that if he answered a question incorrectly with respect to whether or not he had been arrested, it would constitute an offense.

Mr. WILSON. If the statement he made in his P. S. Q. was false, it is a case which we should refer to the Department of Justice and we will. I do not have the full facts on this at the present time.

Mr. ELSTON. When did it come to your attention?

Mr. WILSON. Several weeks ago.

Mr. ELSTON. How long does it take you to get the full facts?

Mr. WILSON. It takes a varying length of time.

Mr. ELSTON. Now, to be specific, your security record shows whether or not he has ever been arrested before; does it not?

Mr. WILSON. That is what a security record shows.

Mr. ELSTON. That security record is available to you and has been available to you during these past few weeks?

Mr. WILSON. Yes.

Mr. ELSTON. And you know whether or not the security record shows those previous arrests?

Mr. WILSON. Yes.

Mr. ELSTON. And yet you have retained him in your employ?

Mr. WILSON. He is employed by the Argonne National Laboratory, which is the University of Chicago.

Mr. ELSTON. Yes; but he is working in the Argonne National Laboratory by virtue of the fact that it is a contractor employed by the Atomic Energy Commission.

Mr. WILSON. That is right.

Mr. ELSTON. And you have, certainly, control over those employees?

Mr. WILSON. We can certainly advise the contractor to discharge an employee.

Mr. ELSTON. And have you advised the contractor to discharge this employee?

Mr. WILSON. We have not, yet.

Mr. ELSTON. Although you have his questionnaire, which indicates his answer that he has never been arrested?

Mr. WILSON. We do not have that information. The P. S. Q. asked: "Have you ever been convicted?" This was a form of P. S. Q. then in use: "Have you ever been convicted?" The answer was "No."

Mr. ELSTON. Is it "convicted" or "arrested"?

Mr. WILSON. "Convicted." The answer was "No," and there were no convictions.

We do not yet know whether a Federal offense has been committed.

Mr. ELSTON. You are certain it is "convicted" and not "arrested"?

Mr. WILSON. That is right.

Mr. COLE. If the gentleman would yield, perhaps Mr. Wilson was not present, but at least some representative of the Commission advised the committee that the expression was a denial of having been arrested, and it is based upon that information given to the committee that Mr. Elston is proceeding with his questioning. What the fact is we do not know, of course. I think we should find out.

Mr. ELSTON. Let's be fair about the matter. Let's have the P. S. Q.

Mr. WILSON. We will furnish it.

(The document referred to is classified.)

Mr. DURHAM. He was employed by the Manhattan project, was he not?

Mr. WILSON. Yes.

Mr. ELSTON. Would you consider it good management to retain a person in a position of great responsibility such as one who had custody of a vault in which uranium U-235 was kept if he had ever been arrested before and charged with grand larceny, without inquiring into the circumstances of the case?

Mr. WILSON. I think the Director of the Laboratory, who has gone into this thoroughly, who is responsible at Chicago for the management of the Argonne National Laboratory, has reviewed this, did not know of the general background of this individual or did not have it in mind when he was transferred to this position; he has transferred him to another position.

Mr. ELSTON. Mr. Chairman, that is all for the moment.

The CHAIRMAN. Mr. Jackson?

Mr. WILSON. Pardon me, Mr. Chairman. I do not have the full facts of this before me at the present time. I would like the opportunity of submitting for the record whether it is "arrested" or "convicted." He was a M. E. D. employee.

Mr. PRICE. Can you also furnish the date when his employment began?

Mr. WILSON. I will, sir.

The CHAIRMAN. Mr. Jackson?

Mr. JACKSON. Mr. Lilienthal, there has been some discussion with respect to the granting of emergency clearances to people who might appear on the surface to have a relatively minor job, such as file clerks, librarians, and so on. Is it fair to say that in the granting of emergency clearances you are dealing primarily with a project or a given enterprise rather than the granting of an individual clearance in each specific situation? I wonder if you could clarify that point.

Mr. LILIENTHAL. Representative Jackson, I think the general answer, the answer that covers a typical situation, is that of an emergency involving a project or undertaking, whether large or small, rather than the case of an individual, although, of course, there are such cases.

By and large, the emergency is the emergency covering a project or undertaking, a new piece of work, a need for a certain area of work to be done and done urgently. That is the typical and characteristic case. It is not the only case, but it is the typical and characteristic one.

Mr. JACKSON. It embraces the entire enterprise that must be completed within a stipulated period of time that is the emergency and not just the clerk or the scientist from top to bottom, so to speak, that is involved, necessarily?

Mr. LILIENTHAL. That is the typical and characteristic case and the Bendix and graphite plant cases are of that character, and there are others I did not get into this morning that are quite common, involving the procurement of certain very important materials from manufacturers where failure to secure a particular piece or series of pieces of equipment would hold up the whole success of the weapons or other undertaking.

Mr. JACKSON. One last question, Mr. Chairman.

Mr. Lilienthal, could the Commission have made as many bombs as we now have without the emergency clearance authority?

Mr. LILIENTHAL. No, the Commission could not.

Mr. JACKSON. There is no question about that?

Mr. LILIENTHAL. There is not the slightest question about that, and this may well be elaborated, if there is any remaining question in the committee's mind about the wisdom of the emergency provision, and I believe the added security of the country as a result of its exercise and without underwriting every exercise of judgment—this would be stupid—I think the real answer is in terms of our paramount obligation, using the words of the McMahon Act, our paramount obligation to common defense and security. There has not been an abuse of discretion but rather the exercise of it in the interests of weapons production and other responsibilities of the Commission.

Senator HICKENLOOPER. Mr. Chairman, unless there are some other members who have not asked a question—

The CHAIRMAN. Mr. Hinshaw has not yet.

Senator HICKENLOOPER. I would like to say, if I might, that this last statement of Mr. Lilienthal to the effect that we could not have made as many bombs as we have without the emergency clearance matter is, of course, not a matter to be discussed publicly, it contains classified information, but I completely disagree with that statement, and I cannot let the record stand as agreeing in any way with that statement, and I think it is a matter which the committee can discuss at a later date.

Mr. LILIENTHAL. Mr. Chairman, we can put the soundness of the answer on one case alone; although this is not the only case, the Bendix case will establish this to your satisfaction.

The CHAIRMAN. Now, Mr. Hinshaw?

Mr. HINSHAW. No questions, Mr. Chairman.

The CHAIRMAN. I believe every member has had an opportunity, but Senator Hickenlooper says he has two more questions.

Senator HICKENLOOPER. I would like to again read the exception in the law referring to emergency clearances. It is as follows:

Except as authorized by the Commission in case of emergency—

I am only quoting part of the law. But I would like to ask Mr. Lilienthal if the Commission has determined these various emergencies in a formal way.

Has the Commission determined from time to time that an emergency does exist, and, therefore, justified the emergency hiring?

Mr. LILIENTHAL. The Commission has determined the policy, the standards, the criteria, and has determined where that discretion shall be lodged on its behalf. It has not passed on the individual cases.

Senator HICKENLOOPER. Has the Commission by any formal action recorded its determination that there is a case of emergency, in any case?

Mr. LILIENTHAL. That misconceives the management problem.

Senator HICKENLOOPER. I am referring specifically to the terms of the law, reading—

Except as authorized by the Commission in case of emergency \* \* \*.

Now, my question is, has the Commission at any time determined that there is an emergency and, therefore, that emergency clearances must be granted?

Mr. LILIENTHAL. The Commission has not construed this provision of the act or any of the numerous provisions of the act in which it is said "The Commission shall do this" or "The Commission shall do that," the answer is it has not exercised its authority under this act in the manner suggested, nor has it done so in most of the other instances in which the term "Commission" is used.

Senator HICKENLOOPER. May I ask the question again, if you please—if you care to answer it:

Has the Commission ever authorized or declared that there is a case of emergency upon which to base emergency clearances?

Mr. LILIENTHAL. I take it, if I understand the question, this is a technical question.

Senator HICKENLOOPER. Not at all; not at all. It is in the direct language of the provision of the act.

Mr. LILIENTHAL. I mean the technical meaning of the act. Does the Commission in each instance—to see if I understand your question: In each instance of emergency clearance, does the Commission, as a body—these five hapless individuals—sit down at a Commission meeting and formally declare or find that an emergency exists justifying the clearance? And the answer is "No."

Senator HICKENLOOPER. It never has?

Mr. LILIENTHAL. It does not operate that way.

Senator HICKENLOOPER. I did not ask you as to the method of operation, and I am not arguing the philosophy or eventual interpretation of the law; I am interested in your interpretation of your authority, but I am merely asking the question as to whether or not the Commission has ever, during its operation, found that there is a case or cases of emergency and has, thereupon, authorized emergency clearance; and I take it the answer is "No."

Mr. LILIENTHAL. No; the answer is—there have been such cases, I do not recall all of them. The Hanford case was one. But, to continue the answer, that has not been the manner in which we have typically administered this provision. There have been such cases.

Senator HICKENLOOPER. I understand, but I am concerned, overall, with what the solemn provisions of the law passed by the Congress of the United States to govern your actions, and that of the Commission, may be; so that I am merely trying to find whether or not the Commission has ever found an emergency to exist and thereafter authorized the hiring of people on emergency clearance.

Mr. LILIENTHAL. The answer is: It has, and the only case that occurs to me, Senator, offhand, is the Hanford case. There may be others; but I would like to reaffirm, because I do not want any ambiguity about it, our action as a Commission has been to delegate this au-

thority, subject to standards and criteria, and we believe this is good management practice.

Senator HICKENLOOPER. Of course, again I say I am interested in your interpretation of your authority, but I am also interested in what the law of the land provides, and if you have taken such formal action by the Commission, I assume it would appear in the minutes of the Commission which, of course, I have not yet been granted access to, and if it does so appear, I shall appreciate it if you can submit to the committee the page and the date so that we may examine the proceedings and see just exactly what the action of the Commission was.

Now, Mr. Chairman, I would like to ask just one more question, and then I am through.

I would like to ask Mr. Lilienthal, if you know how many Communists or members of subversive organizations are now working for the Commission or the contractors in the scientific and technical work of the Commission. I am just asking if you know.

Mr. LILIENTHAL. Of my own knowledge, of course, I do not but I do know that we have procedures, investigations, and responsible men whose duty it is, under standards and criteria fixed by the Commission and which are a part of the last report to the Congress, to prevent that sort of thing happening, and I believe, and I agree with you, that the record, as stated in your testimony in the Smyth hearings, is an unusually good one.

Senator HICKENLOOPER. Yes. I may suggest, Mr. Chairman, that, of course, it is manifestly impossible for either the Commission or its management, apparently, to have any idea of this that would be final, because up to, and through, March of 1949 there were 359 people with access to restricted data about whom no investigation had been completed, and if that is carried out on the average for the months of April and May, it probably would be somewhere over 400 people about whom no final judgment can be passed because no investigation has been completed.

Now, Mr. Chairman, I think that is all I have. I believe this matter of emergency clearance is a serious thing. I again state that I believe it is in contravention with not only the letter but the spirit of the Atomic Energy Act, and think it is a situation that the committee can well be concerned about and that the public could well be concerned about.

The CHAIRMAN. Now, Mr. Lilienthal, in pursuance of my reassurance to you that you would be allowed to put into the record at this time your analysis of the personnel turn-over we talked about yesterday, you may now proceed.

Mr. LILIENTHAL. I shall be very brief.

Senator Hickenlooper yesterday said that there were 4,366 employees of the Commission who left the Commission's service during the 2-year period, 1947-48, for all causes, and these figures were taken, he stated, from the monthly reports provided to the joint committee for a good many months on employment matters.

He said that 4,366 is 87 percent of the highest month's employment during that period, which was 5,010. Senator Hickenlooper's arithmetic is correct, but the statement is incorrect.

The correct figures should be 50.7 percent for that period, and this I can explain very briefly. Two thousand three hundred and nineteen

people left in the 2-year period, which is roughly 50 percent, for reasons attributable to voluntary termination of services.

Senator HICKENLOOPER included in the figure 4,366, which arithmetically is 87 percent of 5,010, people who left the service for other reasons than their own volition. There were included in his figure of 4,366 those who were fired for cause. There were those who left the Commission service by reason of a reduction in force at a particular location. And then there were people who left because they died or they retired under compulsory retirement or because they had babies. Now, this is called maternity leave, I believe, and is denominated here as l. w. o. p.

In regard to those who left because they had babies, this may be an evidence of incredible mismanagement, but not on the part of the Commission. [Laughter.]

Senator HICKENLOOPER. It would be interesting to note how many did have babies.

Mr. ELSTON. I would like to ask another question.

The CHAIRMAN. Just a minute, Mr. Elston, if you please.

Mr. LILIENTHAL, will you please give us a break-down of those that were discharged. Can you read that?

Mr. LILIENTHAL. Yes, sir.

The CHAIRMAN. Discharged for cause.

Mr. LILIENTHAL. I have here a summary of Atomic Energy Commission Federal personnel separations. This is wonderful jargon—"separations." Someone has been "selected for separation." It sounds like an honor.

These separations are under the following categories:

"Voluntary separation," "reduction in force," "removal for cause," "extended l.w.o.p." Those are the babies for a large part. To continue: "Other reasons," which includes death, retirement, and so on.

The figures also include the full-time strength at the end of the month in question, and these are set up in terms of months from January 1947 through December 1948. The total for that period, as appears here, is 4,920. I do not know whether you want me to read month by month.

The CHAIRMAN. Just give the total.

Mr. LILIENTHAL. The total in 1947, total separations, that is 2,581, which includes the footnote, "Indicates 893 persons transferred to contractors for Atomic Energy Commission," so they are still part of the enterprise.

Voluntary separations total for 1947 was 1,332.

Reduction in force for the period, the total was 761 for 1947.

Removal for cause—where I came from this means being fired—43.

Senator HICKENLOOPER. There is quite a connotation about reduction in force meaning fired. Is not that a convenient way used often in place—I do not say you used it—but reduction in force is used very often to get rid of people when not wanted.

Mr. LILIENTHAL. Ordinarily that term is used in personnel management to indicate that the work for which they are employed, the load of that work has diminished.

Senator HICKENLOOPER. I was speaking in view of the fact that more people were hired than were reduced, so that the force was not in fact reduced.

Mr. LILIENTHAL. Sometimes reduction in force is accounted for by an act of God such as reduction in appropriation for that purpose.

Then there is extended leave without pay, the total being 82.

Other reasons, which include death, retirement, and so on, total 363.

Then for 1948 the total of separations is 1,812, which the footnote indicates includes 154 persons transferred to Atomic Energy Commission contractors. This is an important footnote, of course.

Voluntary separations, 987; reduction in force, 319; removal for cause, 8; extended l.w.o.p., 43; other reasons, 455.

There are some other figures of some interest here as to separation rate as compared to the Federal Government separation rate and manufacturing industry separation rate. This can be put into the record or it can be read.

The CHAIRMAN. What is it compared to the Federal Government?

Mr. LILIENTHAL. For the year 1947 the separation rate in the Government as a whole is 61 percent. No; I am sorry. The Atomic Energy Commission rate is 61 percent, and in 1948 the separation rate is 36.9 to be compared with the Federal Government separation rate in 1947 of 49.7 and for the year 1948 of 33.3 percent.

Senator MILLIKIN. Could we have them year by year again? I think we are mixed up. Take them across year by year.

Mr. LILIENTHAL. On the separation rates, for 1947 the separation rate for the Atomic Energy Commission for all reasons is 61 percent. The Federal Government separation rate for all reasons, 49.7. Manufacturing industry separation rate for all reasons, 58.1 percent.

Senator HICKENLOOPER. That includes companies that go out of business and, of course, the employees are out of work, I believe.

Mr. LILIENTHAL. For all reasons. And for 1948 the figures, Senator Millikin, are: Separation rate for the Atomic Energy Commission for all reasons, 36.9 percent; Federal Government separation rate, 33.3 percent; and for manufacturing industries separation rate, all reasons, 54.8 percent.

I would like to put the full summary into the record.

The CHAIRMAN. Submit it for the record, will you?

(The document referred to is marked exhibit 1 and will be found in the appendix.)

The CHAIRMAN. Mr. Elston, I believe you had a question.

Mr. ELSTON. Yes, Mr. Chairman.

Mr. Wilson, I have obtained a personal security questionnaire, not of the individual to whom you referred, but I assume the form is the same with respect to all of them, and I would like to have you look at this questionnaire and see if that is the form.

Mr. WILSON. This is certainly a form that has been used. I cannot tell you without the date whether it is the latest form or whether it is the form that was used in the case you describe.

Mr. ELSTON. Will you read what appears on the printed part of the questionnaire that appears after Question No. 19?

Mr. WILSON. Yes. It says:

Arrests. Include all arrests and fines other than minor traffic violations.

Mr. ELSTON. Read further on.

Mr. WILSON. (reading) :

I certify that the information contained above is correct and complete to the best of my knowledge and belief. I understand that the Government of the United States will investigate the information contained herein and that any false statement is sufficient cause for rejection of the application or dismissal after appointment.

Mr. ELSTON. I do not believe you read all of Question 19.

Mr. WILSON. Question 19 :

Arrests. Include all arrests and fines other than minor traffic violations, charge, date, place where arrested, disposition.

Mr. ELSTON. Yes. You do not recall any questionnaire ever being changed from "arrests" to "convictions," do you?

Mr. WILSON. I do not.

Mr. ELSTON. Just another question to clarify the record.

The P. S. Q., Personal Security Questionnaire, is a part of an individual security record?

Mr. WILSON. That is correct.

Mr. ELSTON. And the report of the FBI or any other report affecting his character and record is also a part of that record?

Mr. WILSON. Well, certainly, the security file is a very complete record. It may not have all employment data, which are contained in the personnel records of the employee.

Mr. ELSTON. But it would have a record of his arrests?

Mr. WILSON. It would.

Mr. ELSTON. And it would have his questionnaire signed by himself indicating whether he had or had not been arrested?

Mr. WILSON. Right.

Mr. ELSTON. So that all you would have to do is look at the security file to tell whether or not he had told the truth about it?

Mr. WILSON. That is correct.

Mr. ELSTON. And, notwithstanding the fact that is all you have to do and all you had to do in this particular case, the individual to whom you refer was transferred from his job where he had charge of the vault in which U-235 was contained to another job?

Mr. WILSON. I am informed that he is still employed by the Argonne National Laboratory.

Mr. ELSTON. Has the Commission done anything about removing him?

Mr. WILSON. The Laboratory Director, at our suggestion, removed him from one position to another. The actual disposition of the case, whether action will be brought by the Department of Justice, we are not informed about yet. Certainly, the FBI in Chicago have been told about this case.

Mr. ELSTON. Do you consider it the part of good management to keep in any position a person who lied in his questionnaire about his having been arrested before?

Mr. WILSON. I do not think anyone who lies in his questionnaire should be continued in employment.

Mr. ELSTON. Was this individual continued?

Mr. WILSON. He has been up to the present time.

Mr. ELSTON. Do you know what his record shows about his having been arrested before?

Mr. WILSON. I have looked at the record in the past, several weeks ago.

Mr. ELSTON. What does it show?

Mr. WILSON. It shows that he was arrested on several occasions.

Mr. ELSTON. And one of the charges was grand larceny?

Mr. WILSON. Yes; none were pressed, all cases were dismissed, but the fact is that he was arrested.

Mr. ELSTON. And the fact also is that in his questionnaire he denied that he had ever been arrested?

Mr. WILSON. That is right; he did not so state.

Mr. ELSTON. When did you first find out that he had not correctly stated the situation in his questionnaire?

Mr. WILSON. Several weeks ago.

Mr. ELSTON. And notwithstanding the fact that you noticed that discrepancy, you have retained him in the employment at the Argonne Laboratory?

Mr. WILSON. I think it is correct to state, Mr. Elston, that at the time this first came to my attention the incident at the Argonne National Laboratory was under investigation by the FBI. I would have to check and see, but it is my impression that during the period of that investigation it is our general practice, and generally their suggestion, that moves which will inhibit their completing an investigation are not made.

Mr. ELSTON. Has the investigation been completed?

Mr. WILSON. I do not believe it has, because a further report was received at our office only this morning on this whole matter.

Mr. ELSTON. Well, the investigation is not——

Mr. WILSON. It is considered pending.

Mr. ELSTON. The investigation is not with respect to whether or not he was arrested before.

Mr. WILSON. That is correct.

Mr. ELSTON. The investigation is with respect to the loss of uranium.

Mr. WILSON. That is right, but the investigation of the loss of uranium involves any of the individuals who may have had access to this vault.

Mr. ELSTON. But the fact that in his questionnaire he denied he had ever been arrested and the record beyond question of a doubt shows he has been arrested has nothing to do with the FBI investigation, has it?

Mr. WILSON. It has in this sense, Mr. Elston: When the FBI undertakes to investigate a reported loss, they have to investigate all of the factors that were involved, to interview the people, and in general they prefer that the situation be kept so that the people involved are readily available for interviewing, and that they can gather all of the information possible before administrative action is taken to discharge people and have them no longer available for interview.

Mr. ELSTON. You do not know whether the investigation is complete or not, do you?

Mr. WILSON. I believe it is still pending.

Mr. ELSTON. That is all.

Senator HICKENLOOPER. Mr. Chairman, I would like to call attention to the fact that in regard to the request for certain things which I made yesterday, records and other things, the committee met yesterday afternoon and made certain authorizations. The Commission has not yet delivered those matters, formally authorized by the committee,

to me. This will be a tremendous handicap if I do not get them immediately. I hope that the chairman can admonish the Commission to please expedite the delivery of those matters authorized.

The CHAIRMAN. Let's ask Mr. Volpe. I talked with you and gave you the list of things that the committee had authorized, and you assured me they would be produced as expeditiously as possible. Could you report on that now?

Mr. VOLPE. We started yesterday gathering all the material Senator Hickenlooper listed during yesterday's hearing. Thereafter, we were advised by you that the committee had met and the committee was sending us a letter of instructions as to what was to be transmitted and where. We have received that and people are at work gathering the material the committee has requested. I would assume some of it has probably already been delivered to the joint committee's office. If that is not the case, I will check it just as soon as I get back.

The CHAIRMAN. I hope that you will comply with the request just as quickly as you possibly can, as I told you last night, and as I indicated in my letter.

Mr. COLE. Mr. Chairman.

The CHAIRMAN. Mr. Cole?

Mr. COLE. Yesterday morning and this morning I observed a number of members of the Commission and employees of the Commission and associates of the Commission attending the hearings. I have no quarrel with that, but for myself I should like to know who they are and how many there are and I would respectfully ask, if it is not out of order, that those individuals present who come within that classification of employment or association with the Commission should stand so that we can see who they are. May we have them stand long enough to see how many there are? Twenty-nine, as I count them.

Mr. LILIENTHAL. Mr. Cole, may I make this suggestion in the spirit of assisting the Commission's business? If we could be advised, say of an afternoon, of the subject matter that is to be presented the following morning, then only those individuals who are concerned with that subject need be here, but as long as we do not know until the hearings open even what the area is, it puts us at a great disadvantage not to have the people here to provide the information.

Mr. COLE. I wanted to indicate I have no criticism of the practice. I wanted to know to what extent these hearings were interfering with the Commission's work. It may be necessary to have them here; I do not say it is not. I would like to have the identity of these individuals who are here and what their capacity in the Commission is.

The CHAIRMAN. Do you wish them to stand and announce it, or do you wish a memorandum to be given us for the record?

Mr. COLE. That is all right.

The CHAIRMAN. You have heard Mr. Cole's request and I think it is a fair one and, therefore, will you see that it is complied with, Mr. Lilienthal?

(United States Atomic Energy Commission personnel attending hearing of Joint Committee on Atomic Energy, June 2, 1949 (a. m.) :)

David E. Lilienthal, Chairman; Gordon Dean, Commissioner; Sumner T. Pike, Commissioner; Lewis L. Strauss, Commissioner; Carroll L. Wilson, General Manager; Carleton Shugg, Deputy General Manager; Joseph Volpe, Jr., General Counsel; Everett Hollis, Office of General Counsel; Walter J. Williams, Director of Production; Brig. Gen. James McCormack, Jr., Direc-

tor of Military Application; Lawrence R. Hafstad, Director of Reactor Development; Jesse C. Johnson, Acting Director of Raw Materials; Paul M. Green, Controller; Fletcher C. Waller, Director of Organization and Personnel; Morse Salisbury, Director of Public and Technical Information Service; Francis Hammack, Acting Director of Security; Roy B. Snapp, Secretary to the Commission; William C. Trueheart, Office of the Secretary; Frances A. Henderson, Special Assistant to the Chairman; Capt. James S. Russell, Division of Military Application; Col. William K. Skaer, Division of Military Application; Bruce Uthus, Division of Security; Robert A. Haynie, Division of Security; Rodney Southwick, Public and Technical Information Service; Edward J. Brosnan, Jr., courier; Ernest L. Ferullo, courier; John H. Kane, courier; Michaelangelo DeMatteis, courier; and Adrian Fisher, former General Counsel.

Mr. LILIENTHAL. Yes, I will; and it was a very constructive point. It was not Mr. Cole's intention to criticize their presence, but I am raising the question about whether there might be some way by which the top staff could be used to better advantage in some manner connected with the hearings. This is completely beyond our prerogative, of course, but it would assist the Commission in the next month if some such arrangement could be made.

The CHAIRMAN. I notice the Director of the Division of Reactor Development was here. What you have in mind is if you could be advised today that security matters will be gone into tomorrow, that it would not be necessary for him to be present; is that right?

Mr. LILIENTHAL. That states the proposition; yes.

The CHAIRMAN. Of course, I see no way to avoid the presence of the Commissioners here during all of the hearings because it is the Commission as well as yourself that is the subject of this investigation. I might say, Mr. Volpe, I have been informed that to date there has been no delivery to the committee's office, so please check after the meeting and advise us. We will appreciate it.

The committee has a matter which we must take up in executive session, which we will do at 2:30 in 48-G. An announcement at the end of that meeting as to whether or not there will be an open session of the committee tomorrow will be made.

Mr. COLE. Mr. Chairman, in connection with the suggestion made by Mr. Lilienthal, it does seem to me an extravagance to have this substantial number of people sitting around here day after day when maybe they will not be used at all, and it seems to me it is not unreasonable for the committee to expect Senator Hickenlooper to indicate to the Commission perhaps an hour in advance of the hearings the general substance which he intends to cover. I doubt if it is fair to ask him to indicate that the night before because he probably does not know until the next morning just what it is going to be, because he has to, I suspect, work in the evening to develop his case.

If it is not unreasonable, I should suggest that Senator Hickenlooper indicate to the Commission the general area of the subject of his investigation at least an hour before the committee starts its hearings so that a good many of these folks can stay on down below there and carry on the work.

Senator HICKENLOOPER. I am perfectly willing to cooperate, but I again point out, as I did yesterday, the difficulty of trying to prepare a presentation and getting the supporting data only a short time before the meeting. It will take some time, a day or two's work, before I shall be ready to present a matter, but I shall cooperate as best I can, and I think we can talk that over.

Mr. COLE. For instance, this morning it would have been a simple matter if the Commission could have been informed that the subject today was to be emergency clearance.

Mr. LILIENTHAL. That is right.

Mr. COLE. That would have relieved a good many of these folks, I should think.

The CHAIRMAN. We may be able to work this out in some detail this afternoon and in the meantime this meeting is recessed.

(Whereupon, at 12:30 p. m., the joint committee adjourned, subject to the call of the Chair.)

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# **INVESTIGATION INTO THE UNITED STATES ATOMIC ENERGY PROJECT**

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## **HEARING**

**BEFORE THE**

## **JOINT COMMITTEE ON ATOMIC ENERGY CONGRESS OF THE UNITED STATES**

**EIGHTY-FIRST CONGRESS**

**FIRST SESSION**

**ON**

## **INVESTIGATION INTO THE UNITED STATES ATOMIC ENERGY PROJECT**

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### **PART 4**

**JUNE 6, 1949**

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# INVESTIGATION INTO THE UNITED STATES ATOMIC ENERGY PROJECT

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MONDAY, JUNE 6, 1949

CONGRESS OF THE UNITED STATES,  
JOINT COMMITTEE ON ATOMIC ENERGY,  
*Washington, D. C.*

The joint committee met, pursuant to notice, at 10 a. m., in the Caucus Room, Senate Office Building, Washington, D. C., Senator Brien McMahon (chairman) presiding.

Present: Senators McMahon, Connally, Vandenberg, Millikin, Knowland, Hickenlooper; Representatives Holifield, Price, Jackson, Cole, Elston, and Van Zandt.

Also present: Senator Edward J. Thye.

David E. Lilienthal, Chairman; Sumner T. Pike, Commissioner; Lewis L. Strauss, Commissioner; Gordon Dean, Commissioner; Henry D. Smyth, Commissioner; Carroll L. Wilson, General Manager; Carleton Shugg, Deputy General Manager; Joseph Volpe, Jr., General Counsel; Capt. James S. Russell, Col. W. L. Bell, Lt. Col. K. E. Fields, L. H. Bayer, of the Division of Military Application; Everett Hollis, Bennett Boskey, of the Office of General Counsel; Fletcher C. Waller, Director, Division of Organization and Personnel; R. A. Waney, of Information Security; Emmon Brown, of Physical Security; C. A. Rolander, of Violations; Morse Salisbury, Director, Division of Public and Technical Information; and Francis Ham-mack, Acting Director of Security; all of the Atomic Energy Commission.

The CHAIRMAN. The meeting will come to order. Are the Members of the Commission present?

Would the other Commissioners care to take more advantageous seats? Would you care to sit up here, Commissioners?

The committee is ready to proceed. Senator Hickenlooper, I believe, has another matter which he wishes to explore this morning.

Will you proceed, Senator Hickenlooper?

**STATEMENT OF DAVID E. LILIENTHAL, CHAIRMAN, ATOMIC ENERGY COMMISSION; ACCOMPANIED BY CARROLL L. WILSON, GENERAL MANAGER, AND JOSEPH VOLPE, JR., GENERAL COUNSEL, ATOMIC ENERGY COMMISSION**

Senator HICKENLOOPER. First, may I call your attention and the attention of the committee to the fact that item No. 10, which I requested last Wednesday morning, which is as follows:

All reports, including correspondence with the FBI relative to lost or misplaced fissionable or source material, whether recovered or still

missing, has never been received by me, and 5 days have gone by and it is, I believe, important that I receive it, and it is important that I should have received it long before this in order to expedite this matter.

The CHAIRMAN. What is the explanation, Mr. Lilienthal, for the fact that this has not been received?

Mr. LILIENTHAL. The material will be ready, it is expected, sometime during the day. Part of this material had to come from the field.

The CHAIRMAN. You do think you will be able to get it into our hands this morning or during the day?

Mr. LILIENTHAL. During the day, I am advised; yes.

The CHAIRMAN. All right.

Senator HICKENLOOPER. Mr. Chairman, in order to examine this case I am going to raise some issues of philosophy this morning; I would like to ask Mr. Lilienthal some questions, five or six, in order to explore this matter at the outset.

I would like to ask Mr. Lilienthal: Do you believe that there is a Communist conspiracy to overthrow the Government of the United States by force and violence?

Mr. LILIENTHAL. Yes, I do.

Senator HICKENLOOPER. Do you consider communism a cynical and ruthless power which by guile, misrepresentation, infiltration and violation of all the standards that the American people hold dear seeks to overthrow our Government?

Mr. LILIENTHAL. I do; indeed. The words sound familiar.

Senator HICKENLOOPER. They are your own words, Mr. Lilienthal. I merely wanted the answer for this record.

Mr. LILIENTHAL. Yes, sir.

Senator HICKENLOOPER. This question is a rather peculiar question, but I shall give you the reason for it in just a moment.

Do you consider yourself a liberal groping to discover if United States Communists really take direct and unquestioned orders from Moscow?

Mr. LILIENTHAL. I would like to break this up into two parts. I do consider myself a liberal, an old-fashioned liberal. I certainly am groping, as I think most people with any humility are, but I am not groping on this particular subject.

Senator HICKENLOOPER. It is only fair that I give you the reason why I asked that particular question. Senator Graham of North Carolina, whom you know and we all know, is reported in the Daily Independent of Kannapolis, N. C., Sunday morning, May 29, 1949, as having made a speech at Chapel Hill on May 28. This is an International News story.

I do not want to involve Dr. Graham as an individual in this matter, but I am merely using the statements made here in exploring this question. I read the first part of the International News story:

CHAPEL HILL, May 28, INS.—Senator Frank P. Graham (D., N. C.)—

Democrat, North Carolina, I presume—

declared today that it has not been proven that American Communists are disloyal to the United States. The former North Carolina University President explained that so-called liberal thinkers in this Nation are not convinced that a Communist is necessarily un-American.

I shall skip some personal references he made there; I shall show you the entire article in a moment. I continue quoting from the news story:

He said the Nation's "liberal" element is "groping" to discover if United States Communists really take direct and unquestioned orders from Moscow.

I continue reading the next paragraph:

As one of the gropers Graham named Atomic Energy Commission Chairman David Lilienthal.

I am assuming nothing from that except that is the basis for my question, and you are perfectly at liberty to see the entire article. It is short, if you would like to see it. That is the basis for that question.

Mr. LILIENTHAL. I think I should add that the question of characteristics of the Communist Party of the United States in this respect is the subject of a judicial proceeding in the Federal District for New York, and I do not, by my answer, intend to prejudge the result of that trial, that not being my custom as a lawyer, but I was asked my personal opinion, and my personal opinion is as indicated.

Senator HICKENLOOPER. Another question: Do you consider yourself an expert in the sense that the FBI is expert on the devious ways and tactics by which the Communists seeks to achieve their purpose here?

Mr. LILIENTHAL. Expert on this subject?

Senator HICKENLOOPER. Yes.

Mr. LILIENTHAL. No, I am not.

Senator HICKENLOOPER. Mr. Lilienthal, do you believe that the Atomic Energy Commission and its activities is a primary target for Communist espionage?

Mr. LILIENTHAL. I certainly do.

Senator HICKENLOOPER. Mr. Lilienthal, in case of doubt as to an individual being considered for clearance for access to restricted data in atomic energy work, do you believe that such doubt should be resolved in favor of the Government and against the individual?

Mr. LILIENTHAL. I think the doubt should be resolved in favor of the security of the country. In some instances this would fall one way and in some another, and in the hearings with the joint committee on individual cases we have gone into the fact that there are cases where, by keeping an individual on about whom there is some doubt, we may actually be furthering the security of the country.

Senator HICKENLOOPER. Then I take it that if there has been a case or cases where doubt exists as to the security risk of the individual and yet he has been kept on, is that in cases where the individual is considered to be uniquely necessary to the program?

Mr. LILIENTHAL. That would be one instance in which I believe, with the general approval of the joint committee, certainly with the Roberts Board, cases were decided.

But there would be a variety of such cases. I think, to answer this question in any rather narrow compass, Senator Hickenlooper, would not be fully responsive.

Senator HICKENLOOPER. Do I take it that you approve the policy in certain cases of clearing people for access to restricted data where there actually exists a doubt as to the security risk involved?

Mr. LILIENTHAL. There are a number of instances, as the Senator is aware and has been aware for a matter of almost two years, and as the members of the joint committee, are aware in which individuals who have had a long record of experience in this project, having been cleared by the Manhattan Engineering District to the very top secrets of this enterprise prior to the Commission's organization, had in their record, allegations or questions, on which, had these individuals been applicants for admission to the project in the first place, we would probably not have taken the same action as the Manhattan Engineering District did, which was to take a calculated risk and admit them.

One of the reasons for that is that they are people who have demonstrated great scientific capacity, have demonstrated by their work that they are presumably trustworthy, and, in any case, are now the possessors of crucial information. And in such cases—and there are such cases—the wise thing to do seems to be, with surrounding precautions of which the committee is aware, to continue their clearance, and this has been done.

Therefore, I am unable to answer the categorical question.

Senator HICKENLOOPER. Then may I ask you this: In case where doubt exists and the individual is not essential to the project and he applies for clearance or is considered for clearance to restricted data, do you believe the doubt should be resolved in favor of the Government?

Mr. LILIENTHAL. In many cases clearance has been denied in such instances. It would help me, Senator, if you could elaborate a little on what you mean by "doubt."

Senator HICKENLOOPER. What I mean is where doubt has been raised as to the reliability of the individual as a risk to preserve the secret information with which he may come in contact.

Now, that includes, of course, character, loyalty, and associations.

It encompasses three categories, not confined to loyalty alone, and may not even include loyalty, but where doubt is raised as to his being a good security risk and where he is considered not to be an essential individual.

Mr. LILIENTHAL. The difficulty here in answering categorically is that things do not come quite as simply as that, because it matters a lot what kind of doubt is raised, who raises it, the character of the doubt.

For example, what the Commission has tried to do is to develop something like a standard or criterion because what we are going through now in our efforts to preserve security in this country, and still have freedom and liberty, presents new issues to the American people.

Senator HICKENLOOPER. May I use the word "substantial doubt," then, in order to get away from a strained, imagined doubt, what we all understand as a really substantial doubt about the security risk involved.

Mr. LILIENTHAL. There again is the difficulty; as in all cases of this kind, people have a different standard of what is a substantial doubt. In the case of a person charged, where it is fairly clear that he is a member of the Communist Party, this is on one end of the spectrum. At the other end are vague kinds of standards such as the one the Senator suggested in the hearings, I believe, on the fellowship pro-

gram or on the confirmation of our two new colleagues, in which he used as a standard those people who have potentially subversive or otherwise undesirable views. Now, in between these two there is a wide range of what constitutes doubt.

What the Commission has tried to do, instead of answering categorically, as would be easier, is to try to set up a series of criteria. These criteria took quite a long time. This is a pretty important matter. We are talking about individual liberty, and this happens still to be a very important subject in this country. These criteria developed two categories, and I might say these are two categories of doubt, to use your expression.

Senator HICKENLOOPER. I will put the criteria in the record in a few minutes.

To put it another way: Do you believe on the question of clearance of an individual for access to restricted data that he should be above all reasonable suspicion as a security risk? That is a general philosophy of approach.

Mr. LILIENTHAL. Yes. I want to say that the Commission and its advisers spent a great deal of time, took a great deal of time, conservatively, in trying to develop criteria. Those criteria we have written down. I would like to stick to those criteria and not invent new ones in the process of extemporaneous answers here, because this is too important and serious a matter.

Senator HICKENLOOPER. As I said, I will put the criteria in the record in a few minutes.

I would like to ask Mr. Wilson, the General Manager, if you care to state: Do you find yourself in general agreement with the position taken by Mr. Lilienthal?

Mr. WILSON. I do, Senator.

Senator HICKENLOOPER. At this point in the record I would like to put in a few short excerpts from the testimony before the Subcommittee of the Committee on Appropriations of the independent offices, on the appropriation bill, in the Senate May 19, 1949. Some of the language I have already taken out of these and posed in some of my questions.

The CHAIRMAN. So that we will not have any doubt about it, do you need this material or can I give it to the stenographer now?

Senator HICKENLOOPER. I would like to read from it.

The CHAIRMAN. I thought you meant you would put it in the record.

Senator HICKENLOOPER. I want to read from it. This is a discussion of questions and answers between Senator Ferguson and Chairman Lilienthal. Senator Ferguson says:

Now, when did you personally first become of the opinion that the Communists have an international conspiracy to overthrow our Government by force and violence? When did you come to have that opinion?

Commissioner LILIENTHAL. Well, this is sort of a thing where one can't perhaps draw an exact line, but I would think that—

Senator FERGUSON. You are clearly of that opinion this morning, and when did you become of that opinion?

Commissioner LILIENTHAL. If I had any doubts I am sure that they were removed at the time of Czechoslovakia.

Senator FERGUSON. At the time of Czechoslovakia.

Commissioner LILIENTHAL. But certainly I had grave doubts before that time.

Senator FERGUSON. You had grave doubts but that was the cinching thing that convinced you of the real nature of communism?

Commissioner LILIENTHAL. Oh, no. The real nature of communism has been clear to me since my student days, but I am speaking about the nature of communism as—

Senator FERGUSON. As a revolutionary power?

Commissioner LILIENTHAL. It is even worse than that. As a cynical and ruthless power by guile, misrepresentation, infiltration, and violation of all of the standards that the American people hold dear in their way of life. Now, that is quite a different thing.

Senator FERGUSON. Yes, but when did you become of this opinion that it was a revolutionary party, that it was bent on the overthrow of the capitalistic governments by way of force and violence? That is what you and I finally agreed on here this morning, that you do finally believe in that. And now when did you become of that opinion?

Commissioner LILIENTHAL. So far as the Soviet Government is concerned, the Russian Communists, this would go back quite a long way, I should suppose to 1918. But I thought the question was about their designs on the United States.

Senator FERGUSON. You said this present trial tells you certain facts, that you and I arrived at the conclusion that you believe it is a revolutionary party, and that it is bent on overthrowing our Government by force and violence. And now when did you become of that opinion?

Commissioner LILIENTHAL. I cannot recall that precisely, but it certainly has been plain for 20 years that this is the case.

Senator FERGUSON. So all of the time that this contract was going on you knew what Communists were bent on, and therefore there was not anything in your thought that would not bring up the question of communism and the Board, the National Scientific Board, that we had a certain policy in Congress, that the American Government had a certain policy, and that therefore that policy should be in effect written into the contract under the security clause in the contract. That is correct; is it not?

I want to put that in the record and, of course, Mr. Lilienthal may put anything else he wants in the record.

The CHAIRMAN. It is so ordered.

Senator HICKENLOOPER. Now, Mr. Chairman, a very interesting development may occur this week. Since May 22 I have been severely criticized in some quarters, and before all of the evidence has been heard, for speaking out against Mr. Lilienthal. After today, I expect some of these critics to reverse their field with criticism because I did not speak out sooner. This latter criticism may be on firmer ground than the former.

The field I will continue exploring is personnel security and the way clearances for access to restricted data have been handled. I shall begin the examination of certain individual cases. I have no desire to inject the names of these individuals into this record. The specific information contained in the files is confidential. I shall use case symbols such as case A, B, et cetera.

To any suggestion that I may have "sat" on these cases, I want to point out that as early as July 1947 and shortly after the joint committee and its staff began to look into these matters, the joint committee held a meeting with the Commission and certain of its representatives at which time the matter of the seriousness of a vigorous administration of personnel security was discussed at length. Certain cases were mentioned and the joint committee was informed that these cases and any other similar cases would be vigorously pursued and that speedy determinations would be made in the public interest.

This field, among others, became one of continued interest to the joint committee and was the subject of continuing review. On the day after Thanksgiving in 1947, during that traditional holiday period when most people are inclined to be restful, this matter was considered

of such importance that an executive meeting of the joint committee was held lasting all day. The meeting was attended by 10 members of the joint committee; all of the Commissioners, with the exception of Chairman Lilienthal, who had an engagement out of town of some long standing; the General Manager of the Commission and his assistant; the Associate General Counsel and the Director of Security and three of his assistants. At that meeting it was again pointed out by the joint committee that a substantial number of cases involving serious doubt and substantial derogatory information, some of which had been referred to in the July meeting, were still pending and undetermined.

Thereafter and during 1948, through inquiries directed to the Commission in joint committee meetings, through correspondence, and through personal activities of staff members, this subject was constantly pursued.

It was my hope—and I feel certain it was the hope of the joint committee—that this matter of safe and reliable security clearance could be resolved without publicity.

The matter has not been satisfactorily resolved. In fact, in the latter part of 1948 responsibility for security clearances which had theretofore been lodged in the Washington office was, under the device of "delegation of authority," largely decentralized into the field offices. A so-called interim criteria for guidance in personnel clearance was issued and thereafter, on January 5, 1949, the Commission promulgated, in the Federal Register, Criteria for Determination of Eligibility by Security Clearance. I ask that a copy of that criteria as contained in appendix 8, page 188, of the Fifth Semiannual Report of the Atomic Energy Commission, issued in January 1949, be placed in the record at this point.

The CHAIRMAN. It is so ordered.

(The document referred to is as follows:)

#### CRITERIA FOR DETERMINING ELIGIBILITY FOR PERSONNEL SECURITY CLEARANCE

The United States Atomic Energy Commission has adopted basic criteria for the guidance of the responsible officers of the Commission in determining eligibility for personnel security clearance. These criteria are subject to continuing review and may be revised from time to time in order to insure the most effective application of policies designed to maintain the security of the project in a manner consistent with traditional American concepts of justice and rights of citizenship.

The Commission is revising its hearing procedure entitled "Interim Procedure" for the review of cases of denial of security clearance and for the conduct of hearings for employees desiring such review. The interim procedure announced April 15, 1948, places considerable responsibility on the Managers of Operations and it is to provide uniform standards for their use that the Commission has adopted the criteria described herein.

Under the Atomic Energy Act of 1946, it is the responsibility of the Atomic Energy Commission to determine whether the common defense and security will be endangered by granting security clearance to individuals either employed by the Commission or permitted access to restricted data. As an administrative precaution, the Commission also requires that at certain locations there be a local investigation or check on individuals employed by contractors on work not involving access to restricted data. (Commission authorization to be so employed is termed "security approval.")

Under the act the Federal Bureau of Investigation has the responsibility for making an investigation and report to the Commission on the character, associations, and loyalty of such individuals. In determining any individual's eligibility for security clearance other information available to the Commission

should also be considered, such as whether the individual will have direct access to restricted data, or work in proximity to exclusion areas, his past association with the atomic energy program, and the nature of the job he is expected to perform. The facts of each case must be carefully weighed and determination made in the light of all the information presented whether favorable or unfavorable. The judgment of responsible persons as to the integrity of the individuals should be considered. The decision as to security clearance is an overall, common-sense judgment, made after consideration of all the relevant information, as to whether or not there is risk that the granting of security clearance would endanger the national defense or security. If it is determined that the common defense and national security will not be endangered, security clearance will be granted; otherwise, security clearance will be denied.

Cases must be carefully weighed in the light of all the information and a determination must be reached which gives due recognition to the favorable as well as unfavorable information concerning the individual and which balances the cost to the program of not having his services against any possible risks involved. In making such practical determination, the mature viewpoint and responsible judgment of Commission staff members and of the contractor concerned are available for consideration by the Manager of Operations.

To assist in making these determinations, on the basis of all the information in a particular case, there are set forth below a number of specific types of derogatory information. The list is not exhaustive, but it contains the principal types of derogatory information which indicate a security risk. It will be observed that the criteria are divided into two groups, category (A) and category (B).

Category (A) includes those classes of derogatory information which establish a presumption of security risk. In cases falling under this category, the Manager of Operations has the alternative of denying clearance or referring the case to the Director of Security in Washington.

Category (B) includes those classes of derogatory information where the extent of activities, the attitudes or convictions of the individual must be weighed in determining whether a presumption of risk exists. In these cases the Manager of Operations may grant or deny clearances; or he may refer such cases to the Director of Security in Washington.

#### CATEGORY (A)

Category (A) includes those cases in which there are grounds sufficient to establish a reasonable belief that the individual or his spouse has:

1. Committed or attempted to commit, or aided or abetted another who committed or attempted to commit any act of sabotage, espionage, treason, or sedition;
2. Established an association with espionage agents of a foreign nation; with individuals reliably reported as suspected of espionage; with representatives of foreign nations whose interests may be inimical to the interests of the United States. (Ordinarily this would not include chance or casual meetings; nor contacts limited to normal business or official relations.)
3. Held membership in or joined any organization which has been declared to be subversive by the Attorney General, provided the individual did not withdraw from such membership when the organization was so identified, or otherwise establish his rejection of its subversive aims; or, prior to the declaration by the Attorney General, participated in the activities of such an organization in a capacity where he should reasonably have had knowledge as to the subversive aims of the organization;
4. Publicly or privately advocated revolution by force or violence to alter the constitutional form of government of the United States.

Category (A) also includes those cases in which there are grounds sufficient to establish a reasonable belief that the individual has:

5. Deliberately omitted significant information from or falsified a personnel security questionnaire or personal history statement. In many cases, it may be fair to conclude that such omission or falsification was deliberate if the information omitted or misrepresented is unfavorable to the individual;
6. Violated or disregarded security regulations to a degree which would endanger the common defense or national security;
7. Been adjudged insane, been legally committed to an insane asylum, or treated for serious mental or neurological disorder, without evidence of cure;
8. Been convicted of felonies indicating habitual criminal tendencies;
9. Been or who is addicted to the use of alcohol or drugs habitually and to excess, without adequate evidence of rehabilitation.

CATEGORY (B)

Category (B) includes those cases in which there are grounds sufficient to establish a reasonable belief that with respect to the individual or his spouse there is:

1. Sympathetic interest in totalitarian, Fascist, Communist, or other subversive political ideologies;

2. A sympathetic association established with members of the Communist Party; or with leading members of any organization which has been declared to be subversive by the Attorney General. (Ordinarily this would not include chance or casual meetings, nor contacts limited to normal business or official relations.)

3. Identification with an organization established as a front for otherwise subversive groups or interests when the personal views of the individual are sympathetic to or coincide with subversive "lines";

4. Identification with an organization known to be infiltrated with members of subversive groups when there is also information as to other activities of the individual which establishes the probability that he may be a part of or sympathetic to the infiltrating element, or when he has personal views which are sympathetic to or coincide with subversive "lines";

5. Residence of the individual's spouse, parent(s), brother(s), sister(s), or offspring in a nation whose interests may be inimical to the interests of the United States, or in satellites or occupied areas thereof, when the personal views or activities of the individual subject of investigation are sympathetic to or coincide with subversive "lines" (to be evaluated in the light of the risk that pressure applied through such close relatives could force the individual to reveal sensitive information or perform an act of sabotage);

6. Close continuing association with individuals (friends, relatives, or other associates) who have subversive interests and associations as defined in any of the foregoing types of derogatory information. A close continuing association may be deemed to exist if—

(1) Subject lives at the same premises with such individual;

(2) Subject visits such individual frequently;

(3) Subject communicates frequently with such individual by any means.

7. Association where the individuals have enjoyed a very close, continuing association such as is described above for some period of time, and then have been separated by distance; provided the circumstances indicate that a renewal of contact is probable;

Category (B) also includes those cases in which there are grounds sufficient to establish a reasonable belief that with respect to the individual there is:

8. Conscientious objection to service in the armed forces during time of war, when such objections cannot be clearly shown to be due to religious convictions;

9. Manifest tendencies demonstrating unreliability or inability to keep important matters confidential; willful or gross carelessness in revealing or disclosing to any unauthorized person restricted data or other classified matter pertaining either to projects of the Atomic Energy Commission or of any other governmental agency; abuse of trust, dishonesty; or homosexuality.

While security clearance would ordinarily be denied in each of the foregoing categories (A), and (B), security approval as distinguished from security clearance, might be warranted in those types of derogatory information mentioned under category (B) above.

The categories outlined hereinabove contain the criteria which will be applied in determining whether information disclosed in investigation reports shall be regarded as substantially derogatory. Determination that there is such information in the case of an individual establishes doubt as to his eligibility for security clearance.

The criteria outlined hereinabove are intended to serve as aids to the Manager of Operations in resolving his responsibility in the determination of an individual's eligibility for security clearance. While there must necessarily be an adherence to such criteria, the Manager of Operations is not limited thereto, nor precluded in exercising his judgment that information or facts in a case under his cognizance are derogatory although at variance with, or outside the scope of the stated categories. The Manager of Operations upon whom the responsibility rests for the granting or denial of security clearance, and for recommendation in cases referred to the Director of Security, should bear in mind at all times, that his action must be consistent with the common defense and national security.

Senator HICKENLOOPER. It is because the matter of security clearances has not, in my view, been satisfactorily resolved and in fact, in my view, has become increasingly more unreliable, that I felt it imperative to speak now; I feel it imperative in the interest of a secure and reliable atomic energy program.

In this field of personnel security the provisions of the law are ample. The law provides adequate standards, but in the administration of the law those standards have been circumvented.

I have repeatedly stated that the entire purpose of our personnel security program is to detect the rare instances where subversives or other objectionable persons attempt to infiltrate into the program. This makes mandatory the investigation of all who have access to restricted data. There may be 50,000 contractor employees at the various installations; there may be 5,000 Commission employees, but, under proper circumstances and in certain locations, one subversive person or one conspirator, infiltrated and with access to certain information could destroy the security precautions of the entire enterprise.

Once an individual has been given a clearance with access to restricted data, whether an emergency clearance or a clearance after investigation, he becomes a part of the fraternity of those who have access to restricted data and is accepted as such by that fraternity.

It is, therefore, of the utmost importance that before such clearance is granted, every proper precaution must be taken, because information acquired as a result of access through clearance, cannot be expunged from a man's mind.

And now, Mr. Chairman, I shall take up what I shall designate as Case A.

Mr. LILIENTHAL. Mr. Chairman, at earlier sessions of this committee in public hearing individuals were referred to variously as hypothetical and then not hypothetical, were described in general terms, and those terms were then made less and less general until it is perfectly clear that individuals were identified.

Now, this is what may well occur here the rest of this morning and the rest of this week, and I think that the committee should have our views as to the dangers inherent in this, in terms of the standards of decency and fair play, of which we are so proud in this country.

I would suggest at the outset that if individuals are going to be identified—and they will be identified inevitably by the descriptions that are made of them—that it is just as basic to the security of our country as it can be that such individuals be called here and be permitted a hearing and be permitted to call their friends and those who believe in them, people who were consulted in the course of the clearance of these individuals.

If it is said that this will take a great deal of time, I think the answer is that the preservation of those fundamental decencies in the protection of an individual's good name against unwarranted besmirchment is something that takes time, and it has always been felt it is worth that time.

The CHAIRMAN. Mr. Lilienthal, Senator Hickenlooper assures me, and assured me in a conversation we had on this subject before this meeting commenced, that he does not intend to use any names, number one; number two, as I understand it, he does not intend to give suffi-

cient information of the kind and character which would identify the individual regardless of the name.

I suggest, Mr. Lilienthal, that we at least go forward on Senator Hickenlooper's first case for the purpose of finding out just how he intends to develop that now. If, as a result of that presentation, it seems to me that you should be heard further in respect to the question of divulging not only the names but sufficient information whereby the individual could be identified, I will be very glad to take up the matter, and it may be that we would have to discuss the whole subject in an executive session.

In view of the Senator's assurance, I think we should go forward for such examination as he cares to make within those boundaries.

SENATOR HICKENLOOPER. I have already said that I think the intimate details of this file and information in it are properly matters to be taken before the joint committee in executive session. I do not intend to go into those. I do not intend to open these files. There is no name on the file, there is no identification on them; I expect to give Mr. Lilienthal the name of the individual who is in the file so he will know who I am talking about.

I also want to call your attention to the fact that on two specific instances the Commission itself has made public by public press releases their action on security investigating matters. I can mention them. One was the Dr. Condon case, in which they made a news release at length, on that and their procedures; and the other was the Graham case, both of which were announced by the Commission; and I am not going even that far and name the individual who is the subject of the security investigation.

I shall try to guard this to keep identification details from creeping in to the point where this can be identified.

MR. COLE. Mr. Chairman?

THE CHAIRMAN. Mr. Cole?

MR. COLE. It appears to me as being rather unfortunate that Mr. Lilienthal has thrown out this apparent effort to protect the rights of citizens of this country in the fashion that he has because it creates the inference that he has doubts in his mind with respect to the attitude of this committee in that respect.

Now, I would like to inquire if you do have any basis for that doubt, if it is not a fact that during the entire association between the Commission and the committee that this committee has purposely and constantly tried to avoid attacks on individuals or to invade their personal rights or their liberties in any respect, and has there ever been an instance when it was necessary for some reason or another, and an individual connected with the program did come into the public light that, this committee has refused to give him a hearing?

MR. LILIENTHAL. Representative Cole, in the past the committee has, as you have described, dealt with these matters in executive session and has respected the gravity of the issue of individual rights that are involved, an issue which is even more important than atomic energy.

I might call your attention, if I may, respectfully, sir, to the fact that this morning we are meeting in open session. We have had an instance earlier in which individuals were identified by bracketing around them and therefore, without implying at all any lack of confidence in the committee's desire to pursue a sound constitutional

process here in the future, we are faced with quite a different problem because we are not in executive session.

This issue is of such importance because it is not possible, in our opinion, to deal with these individuals except in the total picture, so that excerpts chosen by the Senator from a file—

Senator HICKENLOOPER. I am not choosing excerpts from a file.

Mr. LILIENTHAL. If excerpts are chosen, it will make it necessary that the entire file be made available. I beg of you that I be permitted to read into the record at this point a letter from the Commission to you on this question so that the record may be clear as to the substantive issue we feel is involved here, and then proceed to the inquiry on the particular case, unless this is contrary to your wishes.

The CHAIRMAN. Well, I have no objection, certainly, Mr. Lilienthal, to your reading the letter, which was delivered to me this morning, as presenting your viewpoint and the background for a discussion of this matter.

I do want to call your attention to the fact that Senator Hickenlooper has assured me there would be neither the naming of individuals, nor, to use your phrase, bracketing of them by the statement of facts that would be sufficient to identify the individuals regardless of names.

But since this presents a basic issue which bears upon many facets of the investigation, unless there is objection, I think it will be permissible for you to state the viewpoint of the Commission upon this subject.

Senator HICKENLOOPER. Mr. Chairman, may I say this and make it clear I have no desire or intention to attack any individual. The purpose of my presentation is to show procedure and to show it in the interest of protecting the overriding rights of the whole public in this situation, and I am not going to name any individual, and I have no intention of attacking any individual as an individual, and I shall do everything I can to safeguard that.

I think the committee should go into executive session and examine this file at a later period. I think that is perfectly proper procedure.

The CHAIRMAN. So that we all may understand the difficulties that are presented in examining this matter, it will perhaps be wise for this letter to be read so we can thereby judge the background of the problem.

Mr. LILIENTHAL. Thank you, Senator. The letter is dated June 4, 1949, and reads:

DEAR SENATOR MCMAHON: The Atomic Energy Commission this week transmitted to the Joint Committee on Atomic Energy the FBI investigative reports made to this Commission on most of the individuals listed by Senator Hickenlooper. The remainder will be transmitted under separate cover.

Most of these investigational records have previously been examined by the joint committee or its staff and have been constantly available to it and to its staff; many have previously been discussed in executive sessions of the committee. In fact, 10 of the cases on the list were fully discussed in an executive session of the joint committee as long ago as November 28, 1947. Access at this time to these files could have been had without the public request made for them at the hearing by simply sending for them in accordance with the usual practice of the joint committee in obtaining such files.

It is, of course, true that the Commission can give full information in public hearings on the Commission's personnel security system, including general security standards and criteria and procedures for administrative review of individual cases. This we are prepared to do. We note, however, from press accounts that Senator Hickenlooper proposes in future open hearings to bring

up and discuss the security status of certain individuals in the atomic energy program.

We believe that the greatest care is required in connection with any public discussion of individual cases in order to assure complete fairness to individuals and in order to avoid serious adverse consequences to the morale of all the people engaged in the atomic energy program. The difficulties of attracting and retaining competent people to which Senator Hickenlooper referred in his statements on last Wednesday are, of course, greatly increased if people in the atomic energy program run a risk of undeserved injury to their good names which cannot be immediately redressed.

The use of the contents of these files, in open hearings, directly or by indirection, raises questions of procedure and of just plain human fairness. These are questions that go very deep. Your committee has made it abundantly clear that in pursuing its constitutional and statutory functions it does not intend to depart in any way from those fundamental decencies in the protection of the integrity of the individual which are so large a part of the American tradition of fair play and constitutional government.

The dangers of discussing so-called derogatory information cases in open hearings is not overcome by avoiding the name of the person. During the course of the open hearings before the Joint Committee on Atomic Energy this week, reference was made on several occasions to the personnel security status of several individuals who are or have been in the atomic energy program. As a matter of fact, a description of the place where a person is employed, the kind of work he is doing, and other such information, even though the person is not named, may identify a person as fully as if he were named. Furthermore, such a practice may have even more serious consequences because vague clues as to the identity of an individual may give rise to widespread speculation with a consequent spread of uneasiness and fear throughout the project and thereby injury to the interests of this country.

Any fair and adequate appraisal of whether a person should or should not be employed in the atomic energy program must include a careful analysis of many factors such as an evaluation of the reliability of the "derogatory" or unfavorable information regarding the person, the exact job the person is doing or has done, and how long the person has been engaged in the program. These cases are usually complex and must be viewed in the light of the total relevant information—including the elementary justice of hearing the individual's own side of the story. The investigative reports of the FBI are the foundation upon which the AEC personnel security system is based. As the FBI itself has pointed out, there are grave dangers in relying only on selected excerpts from FBI reports quoting anonymous persons. This danger, of course, is magnified when these excerpts are used in a public hearing.

As you know, the Commission has always made available to the joint committee upon request the personnel security files of all persons employed in the program for study and scrutiny by the members and by designated members of the staff of the joint committee. Indeed, as requested by the committee every step taken in some of the cases listed by Senator Hickenlooper was reported in detail to the joint committee last year. This close relationship has not been, in any way, disturbed by the President's directive of March 13, 1948, prohibiting the delivery of personnel security files to congressional committees by executive agencies without prior approval of the President. In fact, as you know, the Atomic Energy Commission at the time this directive was issued worked out special procedures with the Attorney General whereby the joint committee, provided strict confidence is maintained, continued to receive, upon request, the personnel security files, including the investigative reports, of any person in the atomic energy program.

The security of this country, that is to say, its basic strength, depends upon maintaining inviolate those fundamental decencies in protection of an individual's good name that have taken so many weary years to secure and safeguard. Security of the Nation is not only a matter of investigations and guards, but of a tradition and practice, a regard for and protection of the rights of individuals, even against the Government itself or its most powerful officials and legislators.

We know that your committee is fully aware of the serious dangers we have mentioned and are confident that you will insist upon complete adherence to procedures that assure fair play.

Mr. COLE. May we have for the record, Mr. Chairman, when that letter was received? I notice it was dated Saturday.

The CHAIRMAN. It was received this morning.

Senator HICKENLOOPER. Mr. Chairman, may I say again I am not attacking an individual here, I am attacking a procedure.

The CHAIRMAN. Might I say, Senator, in answer to Mr. Cole's question, that it was received this morning, and, as a result of receiving it, I telephoned Senator Hickenlooper and suggested to him the difficulties that are inherent in the development of information of this kind. The Senator did assure me that he intended to so conduct his examination as not to trespass upon our previous practice. Senator Hickenlooper has again reiterated that viewpoint this morning.

Senator HICKENLOOPER. Again, as I say, this is not an attack on an individual, I am not going to open this file, so far as I know at the moment. There is nothing in my mind or case that would indicate the opening of either of these files in this hearing or the presentation of any matters publicly except procedural matters at this time in an attempt to indicate in this and other illustrations what the procedural system is doing to the overriding security of the atomic energy program.

I may say also that so far as the particular case I am referring to, Mr. Chairman, it is quite well known to a substantial number of individuals who are not with the Atomic Energy Commission, who are not admitted to clearance, and has been known for some time to a substantial number of individuals completely outside of the project.

It is not, in fact, a completely secret matter, but I have no intention of divulging the name or attacking the individual, because that is not the purpose, and an attack on the individual is not involved in this hearing at all this morning. It is an attack on the system.

Now, case A, Mr. Chairman, shows that this person was given an emergency approval clearance under what they call an S. I. investigation—that is, files, checks for fingerprints.

I have here, Mr. Chairman, the name of the individual in the file. If you would care to look at it and then give it to Mr. Lienthal so he will know the name of the individual, I would appreciate it. I hope that the name is not—I hope great care is exercised that nobody sees that over anybody's shoulder. I do not object to the committee members seeing it, because they will see it in the file later anyway.

As I said, this man was given an emergency approval by the General Manager with what is called an S. I. investigation—that is, a file check, fingerprint check, and check of his references that he gave—on August 8, 1947. The investigation requested a change to a Q, or a full clearance in September 1947.

The first part of March 1948, serious derogatory information was developed by the FBI. In April, early in April, a month later, the employee was given a statement of charges and was suspended pending a hearing.

A month later, in the early part of May, a hearing was held for several days before a board composed of three Commission employees, one of whom, I believe, had just left the employment of the Commission a week or so prior to his sitting on this board, but had been a Commission employee, one was a lawyer, and two were scientists.

A month later, in June, the board unanimously recommended clearance.

Then about a week later, 8 days later, in fact, on June 18, the Assistant General Manager recommended clearance. On June 18, the

same day, the General Manager notified the Director of Security that the employee's clearance would be continued. On the same day, June 18, the Director of Security interposed no objection. On the same day, June 18, the General Manager notified the employee that his clearance would be continued and instructed him to report for duty as soon as possible. There is no record of any Commission action as such.

I am discussing what I consider to be the significant points in this case. I would like to mention first that this man entered on duty by way of the emergency clearance device. The serious derogatory information which was developed by the FBI in its investigation of the character, loyalty, and associations of this individual are contained in 50 single-spaced typed pages. I am not a security expert. It must be significant to anyone, however, that after a month of analyzing the case, the General Manager considered the information sufficiently serious to suspend the employee. After another month had passed a hearing was held before a board composed of three employees of the Commission appointed by the Assistant General Manager. As I said, one was a lawyer, the other two were scientists. None of them had any background of training which would enable him to be called expert in security infiltration.

There were in attendance, as observers, also two security officers from the Washington branch office. Mr. Lilienthal has properly described communism as a conspiracy which uses guile and infiltration.

I question the adequacy of this board to fully evaluate the ramifications of the information involved.

In any event, the chairman of this board announced at the outset that this was an investigation in accordance with the terms of the Atomic Energy Act, despite the fact that the FBI had already accomplished an investigation, the report of which covers some 50 pages.

Eighteen witnesses appeared before this board, 15 of them were summoned directly at the request of the individual whose clearance was involved. There were 24 informants mentioned in the FBI report who gave information directly about the person involved in case A.

Several dozen others gave information concerning his associations. Only two of the entire number whose information raised the substantial doubts about case A appeared before the Board, and a third was interviewed by telephone during the hearing.

The Director of Security and one of his assistants was summoned in one instance for purposes of cross-examination by the counsel of case A. The board, as has been pointed out, unanimously recommended clearance, and on June 18 there was a remarkable display of administrative efficiency.

On June 18 the Assistant General Manager recommended clearance in a letter to the General Manager. On the same day the General Manager in a written memorandum notified the Director of Security that the employee's security clearance would be continued. On June 18 by a written memorandum the Director of Security interposed no objection. And on June 18 the General Manager notified the employee that his clearance would be continued and instructed him to report for duty as soon as possible.

Now, that is the history of that case: An emergency clearance, serious doubt, suspension, a hearing before a board, which I believe with all due respect to the members of the board as individuals in their own particular line of work, but whom I believe to be completely inadequate to evaluate a security matter, the history of the witnesses as I have given, clearance by the board, and recommendation for clearance by the board and clearance for the individual.

I want to go back to February 2, 1949. By this time you have the name of this individual, Mr. Lilienthal?

Mr. LILIENTHAL. Yes; I do.

Senator HICKENLOOPER. You know him and know of the case, I take it.

Mr. LILIENTHAL. I know him and I know the case.

Senator HICKENLOOPER. You know generally of the history of the case; that it did occur?

Mr. LILIENTHAL. Yes.

Senator HICKENLOOPER. I am going back to February 2, 1949, at the first open meeting of the Joint Committee on Atomic Energy of this year. At that meeting early, at the beginning of the meeting, an armed courier accompanied Chairman Lilienthal of the Commission into the meeting; and, at Mr. Lilienthal's instruction, the armed courier delivered to Chairman McMahon a document for which the chairman had to receipt; and I want to read:

The CHAIRMAN.—

that would be Senator McMahon—

Is this a classified document, Mr. Chairman?

Mr. LILIENTHAL. This document is classified top secret because of its contents and particularly because of the contents gathered together in one document. I would say this is perhaps one of the hottest documents that has yet been assembled.

Mr. Chairman, a man against whom serious doubt was raised, warranting suspension, warranting a hearing before a board that I believe was not adequate to judge, a man upon whom there was a substantial file, creating serious doubt, is in charge of that report that was such a top secret and such a hot document that it had to be delivered by an armed courier and contained a compilation the serious import of which Mr. Lilienthal stated at that time.

That is case No. 1, Mr. Chairman, and the details, I think, should be gone into by the joint committee in executive session.

Mr. LILIENTHAL. Mr. Chairman, this simply carries out my apprehension and the predictions I have made. Senator Hickenlooper has firmly identified, by his most recent statement, this individual, and I think, in fairness, under the American system of fair play, this individual and those people involved in his report should at once, in my opinion, as promptly as the committee may desire, appear before you and go into the full record of this case.

He has identified the individual in the Atomic Energy Commission program who is responsible for the preparation of the quarterly reports of the Commission.

Senator HICKENLOOPER. I can find no objection to the concern about this matter, Mr. Chairman. I am concerned about it myself, and I am perfectly willing to have the man or any other men brought before this committee.

I believe the committee should examine details. I am not attacking an individual, and I did not raise the issue of the individual. It is the system which permits such individuals to be put into such embarrassing situations of this kind that I think must be corrected in the safety and security of our atomic energy program.

I did not request this individual to be brought for questioning; I did not cause him to be put before a board, and I did not cause him to get into the situation in which he finds himself now. I am not attacking this individual.

Mr. COLE. Mr. Chairman, did the Senator from Iowa identify the document which was submitted to the joint committee on that day in February? I did not realize that he identified the document. It was submitted.

The CHAIRMAN. It was submitted.

Senator HICKENLOOPER. The document is identified.

The CHAIRMAN. The document has been identified as the quarterly report.

Mr. COLE. I notice it has been identified, but I did not know it since—

The CHAIRMAN. It has been identified.

Senator HICKENLOOPER. Yes.

Mr. HOLIFIELD. I want the record to show at this point that I object to this type of investigation which is being thrown into the newspaper headlines and into the public print without any prior notice to the committee in executive session.

I want the record also to show that these charges of "incredible mismanagement" and incompetence on the part of the individuals in the atomic energy program, including this recent board that was referred to, have never been taken up in executive session from the standpoint of taking action on the part of the committee.

There have been discussions of the things, yes, but there has never been any recommendation from the chairman of the committee during 1947 or 1948 for the committee to take formal action on this matter, and there has been no such recommendation made since January 1, 1949.

I, therefore, think it is a dangerous procedure to throw into the public print matters such as these, which inevitably must be completely exposed without prior screening by the committee in executive session.

The CHAIRMAN. The difficulty that strikes me is that it would seem to be impossible to make any evaluation or worth-while estimate of a situation on the basis of Senator Hickenlooper's presentation.

Obviously, all of the file will have to be examined if any sensible conclusion on this individual in question is to be reached; and, equally obvious, it would be impossible in this forum to conduct such an examination. Certainly, it is not, in my opinion, a wise or judicious thing for this committee to be trying any number, or quite a number, of persons. Let me point out that it is impossible to do this job; and, therefore, it would seem to me to be almost impossible to proceed in the way the Senator has indicated that he is going to proceed. However, that is a matter that must be determined by the full committee.

It is also a matter that obviously has to be argued out in executive session.

Senator Hickenlooper, if you find it inconvenient or impossible to go forward on other matters at this time, the only thing that I think we should do is to recess the hearing temporarily until the

committee can convene in executive session for a further discussion of the matter.

Senator KNOWLAND. Mr. Chairman.

The CHAIRMAN. Senator Knowland.

Senator KNOWLAND. First of all, I want to say that I do not believe that Mr. Holifield is correct in his statement that matters of this kind have not been brought before this committee heretofore. I have personal knowledge—

Mr. HOLIFIELD. Mr. Chairman, I did not make that statement.

Senator KNOWLAND. Just let me finish that statement. I have a personal recollection of a number of instances where the committee was very much concerned over some of the procedures being followed in the way of personnel selection, and I myself, in discussion with Mr. Lilienthal and other representatives of the Commission, pointed out that I did not believe that anyone had a basic right to claim employment in the Atomic Energy Commission; that I felt that, because of the nature of the job and the security to the very Republic itself, the people selected, like Caesar's wife, should be above suspicion; and we had several rather hot and heavy sessions, I think, in which the junior Senator from California, as well as a number of others, expressed themselves very vehemently on that score.

I do not refer to this particular case which the Senator has raised, but I do refer to a number of other cases which greatly concerned me, and I think Mr. Lilienthal will recall the situation at that time.

Mr. LILIENTHAL. Yes. May I say this first?

Mr. HOLIFIELD. Mr. Chairman, I would like to have permission to answer that.

The CHAIRMAN. Mr. Holifield.

Mr. HOLIFIELD. The junior Senator from California, I believe, created the wrong inference. I know of many occasions when these matters have been brought before the joint committee for discussion, but I made it plain in my speech, as the transcript will show, that at no time during the 2 years 1947 and 1948, and 1949 up to date, was formal action requested by the then chairman of the committee that the committee should take action condemning such procedure, and recommending a change of such procedure as a committee action. Individuals expressed their opinion, but evidently it was not thought of sufficient importance to take full committee action on it.

Senator KNOWLAND. Mr. Chairman, just on that point, because I think it is important that it be cleared up, this joint committee, as such, has no administrative jurisdiction over the Commission. We are here as a "watchdog" committee.

Now, you certainly do not have to have a whole house fall on you if you are a member of the Commission to know what the committee was greatly concerned about. I think there is no member of the Commission who attended those meetings, but who will admit that the committee quite clearly showed it was concerned, and which got into this question of security clearance.

The CHAIRMAN. I remember very well a session that we had on the Friday after Thanksgiving in 1947. At that time we went into many cases, most of which had been in the project for some time, had been cleared into the Manhattan District and, I believe, on that occasion

we also discussed the reports on these individuals of the Roberts Board.

I would like to ask this question, Mr. Lilienthal: Has the Commission at any time overruled a recommendation of the Roberts Board?

Mr. LILIENTHAL. In two instances the recommendation of the Roberts Board was not followed, and since in both of these instances there had been public discussion, and the individuals concerned have themselves made public the results of the Commission's deliberations, I think, without casting suspicion, other vague suspicion, upon a lot of people, I should state what these two cases are.

One is the case of Dr. Edward Condon. The recommendation of the Roberts Board was that this matter not be determined by the Commission pending an early decision by the House Un-American Activities Committee.

This was quite a long time ago; that committee has not taken action. The Commission felt it could not dodge responsibility in that way, and respectfully disagreed.

In the other case, the case which was the case of Dr., now Senator, Graham, in which the Roberts Board had a different view, quite a different view than that taken unanimously by the Commission itself—

The CHAIRMAN. Who were the members of the Roberts Board?

Mr. LILIENTHAL. Mr. Justice, former Justice, Roberts of Philadelphia; former Ambassador Grew; Mr. Humphrey, of the Hanna Co., of Cleveland; Mr. Prentiss of the Armstrong Cork Co.; and Dr. Karl Compton, at that time of MIT. I should add, in responding fully to your question, Senator McMahon, there was, in addition to these two, definite inability on the part of the Commission to agree with the recommendation of the Advisory Board on the part in certain other cases—I am not familiar with them—the recommendations and the action taken varied in some particular. I would have to check on that.

Senator HICKENLOOPER. Mr. Chairman, if I may point out, in this case of Dr. Condon and the clearance information, it was well known that the matter was under consideration in connection with Dr. Condon's case.

The Roberts Board has been mentioned as having considered it. The information saying that there had been sufficient question to cause the Roberts Board to consider the matter, and the information saying that clearance had been granted, and the information saying who the individual was, was originated by Commission news release, and all I have said in this case is that I have said I am not attacking an individual; I am not discussing Dr. Condon as an individual; I am not attacking an individual in this case. I am saying that the individual did have a hearing; he had his clearance; the clearance was eventually given him. I am at the point of the fact that there was a substantial point being raised, but I have not released his name.

The CHAIRMAN. Of course, in the Condon case he had been designated as the "weakest link in the Nation's security," by the House Un-American Activities Committee. He was on public inquisition at the time; so, of course, any action by the Commission in his case would seem to be, as a matter of public policy, necessarily to be divulged.

However, all of this does not remove the basic difficulty which we have in regard to further proceedings on these cases.

I know, Senator, above all, that you do not wish to do anything that would discredit the person without a fair opportunity for him to reply, and it is equally obvious that we cannot conduct a series of those kinds of hearings in this forum.

Unless there is objection, I suggest that we recess at this time so that the committee may definitely canvass the situation and come to some conclusion on the matter.

Senator KNOWLAND. Before we recess, I do have one matter which I would briefly like to go into.

The CHAIRMAN. Of course.

Mr. LILIENTHAL. Before we go into that, if it is another subject, would the Senator permit me to just make——

Senator KNOWLAND. Yes.

Mr. LILIENTHAL (continuing). Two brief statements? One is that we are clear that the procedures and the standards developed through the years are very applicable to such a case as this, may be testified to in public, and we believe they should be, and I am sure the committee, at a proper time, will want to hear a statement, as the country I am sure will, of the care with which procedures have been developed. The procedures I am talking about are those referred to in case A.

Second, and this troubles me very deeply: It is a new thing, strange, and to me a very troublesome thing, in American life, and I believe it will be to the members of this committee, even to approximate the idea that the making of charges, the raising of doubts, and the raising of suspicion are in themselves a basis for condemnation of an individual. We just do not do things that way; and yet there is implied in this phrase Senator Knowland used about "above suspicion," which all of us use, the phrase that Senator Hickenlooper used, his own "serious doubts, charges," and so on. Charges and justice are two quite different things.

Now, the procedures we have set up, with the advice of many individuals, just as the procedures in the case of the President's loyalty program, are efforts to bridge the gap between charges, suspicions, doubts, ex parte derogatory information, so-called, and something resembling justice under the very difficult conditions of these cases.

The way we deal with this matter of protection of the individual ordinarily is to find a procedure, and a good deal of testimony about procedure, I believe, would be helpful.

This is a difficult field, and we are in a way pioneering with the desire, on the one hand, to preserve the protection of individual rights against the tarnishing of his name unjustly and, on the other, the protection of the security of the country.

The CHAIRMAN. I may say my difficulty comes from the fact that an eighth of a hearing is certainly not satisfactory, and I do not see how the full hearing can be held without violating the arrangements we have had in the past for the working out of these security matters. I am referring to the relationship between the Commission and the committee. That gives me great concern, because we do have access to these personnel security files, and as far as I know we are the only exception to the general rule that has been laid down that they are not to be opened up to any committee on the Hill.

Now, we do have them, and I certainly want to continue to have them. However, Senator Knowland, perhaps you can go into your matter.

Senator HICKENLOOPER. I just wanted to say, Mr. Chairman, that I did not originate the doubt in this case. The doubt was originated and charges were originated in the Commission.

The CHAIRMAN. Well, that may be true, but it does not remove the very great procedural difficulties which we now confront, and which I do think we must seriously discuss and consider.

Senator MILLIKIN. Mr. Chairman, may I ask a question?

The CHAIRMAN. Yes, Senator Millikin.

Senator MILLIKIN. Is it your claim that this particular person involved in this case has been identified?

Mr. LILIENTHAL. Yes, he has been identified.

Senator MILLIKIN. And identified by the questions of Senator Hickenlooper?

Mr. LILIENTHAL. Identified by the last part of Senator Hickenlooper's statement relating to the quarterly report of the Commission.

Senator MILLIKIN. Did this particular party have custody of what he described as a "hot top secret document"?

Mr. LILIENTHAL. Senator Hickenlooper's statement about his responsibility within the Commission for the preparation of the quarterly report is correct.

Senator MILLIKIN. That is correct?

Mr. LILIENTHAL. And his description of the report is correct.

Senator MILLIKIN. And is the same gentleman the gentleman who was a subject of the hearing described by Senator Hickenlooper?

Mr. LILIENTHAL. Yes; and I think since it is so clear that he is identified I should say flatly and unequivocally that on the basis of the record of inquiry there is no one I know of, and certainly this is true of me, who has the slightest doubt about the complete loyalty to this country of individual A.

Senator HICKENLOOPER. Again, inasmuch as that statement has been made, Mr. Chairman, may I point out that the record shows that only two people out of the literally dozens of people who provided information upon which the FBI report was based, were called before the board which reviewed this matter, that is, the people who gave information upon which doubt was raised were called before the board.

The CHAIRMAN. You see, Senator, that again emphasizes the difficulty, because you and I have seen cases in which there have been 35 witnesses on one side and two on the other side, and it is entirely conceivable that the jury should believe the two instead of the 35.

I do not say that is the case here, but it depends on who these individuals are. That, I think, just points up the difficulty we face.

It is a very unfortunate difficulty, one that I certainly wish did not exist. I certainly have the greatest hopes that in this investigation we can hold in open session every possible hearing to develop every conceivable fact that will bear upon the charges that have been made against this Commission.

I want to reiterate that. It is because I think we should make the decision in the light of that fact that I suggest that we go into executive session for the purpose of seeing how much we can develop, whether we can treat with it, gentlemen, at all in open session.

Now, Senator Knowland?

Senator KNOWLAND. Mr. Lilienthal, you recall that on June 1, I raised certain questions regarding security at the Argonne Laboratory. Do you have the information I requested at that time?

Mr. LILIENTHAL. The information has been received and it has been directed to Mr. Wilson, and it is, perhaps, well for him to answer that.

Senator KNOWLAND. It has not been furnished to the committee, though.

Mr. WILSON. It has just been received and will be furnished to the committee.

Senator KNOWLAND. Now, I would like to ask this—

Mr. LILIENTHAL. May we submit it now for the record, Senator?

Senator KNOWLAND. Yes, but I would like to raise a couple of questions, first, and then you may put it into the record.

Now, Mr. Wilson, you consider the Argonne National Laboratory one of the most important installations of the Atomic Energy Commission, do you not?

Mr. WILSON. Yes, sir.

Senator KNOWLAND. Do you regard the Argonne National Laboratory as one of the important installations of the Commission?

Mr. WILSON. I do, sir.

Senator KNOWLAND. It deals with highly classified information, among other things?

Mr. WILSON. Yes, Senator.

Senator KNOWLAND. All right.

I want to direct your attention, Mr. Wilson, to two sets of instructions issued, one on the date of April 22, 1949, a memorandum to all guards, signed by Mr. J. A. Pines, Chief, Plant Protection; and the second one dated May 10, 1949, signed by Mr. Pines, Chief, Plant Protection, to all guards. It is headed:

THE AUSTIN Co.,  
ARGONNE NATIONAL LABORATORY, SITE D.

Memo to: All guards.

Subject: Persons allowed unlimited access to property—amended list.

The following persons and their guests will be allowed unlimited access to all areas of the property at all times, upon identification of themselves:

Then, it lists 87 employees, presumably of the Argonne National Laboratory; 25 of the Atomic Energy Commission; 10 of the University of Chicago; 21 of the Austin Co.; 7 of Voorhees, Walker, Foley & Smith; 2 of Hanley & Co.; and 2 under what appear to be some initials, "L. K. B., F-W.," or a total of 154 people.

Again referring your attention to the instructions—

The following persons and their guests will be admitted.

Now, is that a customary security practice at the Argonne National Laboratory?

Mr. WILSON. Senator, does that state to what areas?

There is a large construction project at the Argonne Laboratory where there is no classified work going on.

Senator KNOWLAND. That area, I understand, is a restricted area, and I call your attention to the wording of the instructions to the guards "will be allowed unlimited access to all areas."

Mr. WILSON. All—

This is an instruction to the Austin Co. guards?

Senator KNOWLAND. That is right.

Mr. WILSON. The Austin Co., being engaged in the architectural and engineering work and construction, is in an unclassified area.

Senator KNOWLAND. I have been informed that this is a classified area, restricted area, but you may supply that information for the record.

Mr. WILSON. I should like to have an opportunity to do that, Senator, because——

Mr. PRICE. Could you tell us now?

Senator KNOWLAND. Would you have a guard security system to an unrestricted area?

Mr. WILSON. Yes. Yes; for theft of Government property, for various other controls.

Senator KNOWLAND. Is it not true that prior to the time the instructions were first issued, that it was required that people sign in and out of this particular area?

Mr. WILSON. I would have to check that, Senator, but I think——

Senator KNOWLAND. Would you check it with the security people at that area?

(See exhibit No. 8 in the appendix to follow the last part of these hearings.)

Mr. WILSON. I will, but I believe that what I can say on the point that you raised the other day will clarify the difference between the construction area, which is unclassified, where there is no restricted data, and any buildings or areas in which restricted data are located.

Senator KNOWLAND. Could you supply the information that you have?

Mr. WILSON. I believe you asked regarding windshield stickers issued at the Argonne Laboratory the other day.

No windshield stickers were issued to anyone at the Argonne National Laboratory permitting them to pass in or out of areas in which classified data or material were located without inspection of automobiles.

Green windshield stickers were issued, beginning November 24, 1948, for automobiles requiring access to the laboratory parking area, which is located within a general construction area, to which access is controlled for administrative reasons, but outside of the guarded security area in which classified data and material are located.

A detailed statement by the Director of the Argonne National Laboratory, together with copies of guard orders and other pertinent data are here, and I would like to submit them.

You asked about another point in regard to instructions to guards not to report security infractions.

No instructions have been issued to guards at Argonne National Laboratory not to report security infractions. All instructions to the guards at all posts at Argonne are made in writing.

A complete copy of all guard post orders is kept by the security officer of the laboratory, by the chief of guards, by the guard lieutenants and the director of personnel of the laboratory.

A guard at any one post has in his possession a post order book which contains all the general orders applying to his post and, in particular, special instructions applying to his post.

Further, at each guard post there is kept a log book in which is recorded all temporary special orders to that guard post, including the source of the instruction.

Further, a log book is kept at each guard post for the purpose of recording unusual incidents in which the guard at his own discretion is required to enter any incidents which, in his opinion, are unusual, which normally means any incident which is not completely routine.

Guard orders show absolutely no preference in security instruction for any officer of the Laboratory or the Atomic Energy Commission. The business manager of the Laboratory, the security officer and site administrators have all attested to the fact that at no time have instructions for special privileges with regard to security infractions been given verbally or otherwise.

You also asked a question with regard to the master key file.

By way of necessary background, it should be pointed out that there is no master key file, as such, containing master keys to all repositories or restricted data or materials at the Argonne Laboratory.

Practically all papers classified confidential or higher are located in three-way combination lock safe-cabinets or vaults, which cannot be opened by a key, and are in any event in steel locked file cabinets which are located in buildings or areas in which there is maintained a 24-hour security guard. Guard orders require the checking of such repositories on their regular watch-clock recorded rounds to be certain that they are locked.

A number of key file cabinets are located throughout the Laboratory in which keys to interior doors are stored. It is believed that the source of the query may have been connected with either one of the two principal key files. The operation of these key files is as follows:

The main security office of the Laboratory has within it the quarters of the Laboratory locksmith. Here there is a steel key cabinet which contains duplicate keys to many of the cabinets, doors, and desks throughout the Laboratory, with the exception of the recently constructed buildings at the DuPage site.

Master keys do not exist for any extensive series of doors or cabinets or desks and, therefore, this cabinet cannot be considered a master key file.

This key cabinet is placed in the security office headquarters so that it will be under 24-hour security guard. While not in actual use it is locked.

It is checked by the guards with respect to being locked, the same way in which all file safes and other officially locked repositories in the Laboratory are checked.

The Laboratory records shows that security infractions were entered against the Laboratory locksmith for leaving the key file unlocked at 7 p. m. on May 12, 1947; and again at 8:05 p. m., January 19, 1948.

These are the only security infractions recorded in connection with this cabinet. There is no evidence whatsoever indicating that other infractions occurred which were not reported.

The other key file cabinet which may have been the source of the query is located in one of the offices of a recently constructed building at the DuPage site.

This key cabinet is located around 8 feet from a 24-hour a day guard station, and the guard lieutenant for that area has access to the keys in the key cabinet.

Since the purpose to which this cabinet was put was altered approximately May 1, 1949, a description of the situation before and after that date is appropriate.

Acceptance of a newly constructed building by Argonne National Laboratory is accomplished by inspection of the building and the transferring of all keys to all doors of the building, switchboxes, and so forth, to the site administrator who will be responsible for that building. Also upon acceptance of a building by Argonne, all exterior doors are locked with the exception of those which are fully guarded night and day.

Up until approximately May 1, 1949, the keys of such buildings were divided into two categories. The first category included the exterior building door keys and master keys for the interior doors; these were stored in a locked file cabinet with a three-way combination safe lock.

The second category included keys to interior doors, such as the machine shop and stock room.

These were placed in the key cabinet referred to above. It should be understood that the keys in this key cabinet did not give access to restricted data or materials.

For instance, the key to the library would open the door leading to the unclassified book stacks, but the classified documents are kept, are stored in an interior room in three-way combination file cabinets.

Senator KOWLAND. Right at that point, if I might interrupt, Mr. Wilson, is it or is it not a fact that in some of the offices the cards which contain the combinations to these three-way safes are themselves locked in a desk?

Mr. WILSON. Instructions are that these be kept in safes with three-way combination locks.

Senator KNOWLAND. You mean the only combinations to the safe are locked in the safe for the three-way combination lock and there are none kept on the outside?

Mr. WILSON. None that I know of, sir. In one safe there will be the combination to other safes. Combinations are to be kept in safes.

Senator KNOWLAND. I would also like to ask this question, and I wish you would double-check the answer to that question as to whether all these combinations are, in fact, locked in a safe. Would you please check with your people at the Argonne National Laboratory on this site D, to find out whether or not it is a fact that there are one or more quonset huts in which classified security work is being conducted at site D, and report back to the committee?

Mr. WILSON. I will. May I continue, Senator?

Under these circumstances, up until April 15, 1949, no determined effort was made to keep this wall key cabinet locked at all times. In fact, there are reported two occasions prior to April 15, 1949, upon which the guards, finding the key cabinet unlocked, brought it to the attention of the site administrator. This was not reported as a security violation because, in fact it was not.

Subsequent to May 1, 1949, the purpose to which this wall cabinet is put has been changed. There are now filed within this cabinet the keys for all buildings which this site administrator has under his jurisdiction.

No master keys, however, of any kind are kept in the key cabinet. Such master keys remain in a three-way combination file safe.

Subsequent to May 1, 1949, the key cabinet has been kept locked at all times, and as pointed out, is under 24-hour observation from a nearby guard post.

It is also to be emphasized that the keys in this key cabinet do not give access to restricted documents or restricted materials. It does not contain master keys for the interior doors of these buildings. It has not been left unlocked since the time it contained complete building keys.

Without further information as to the origin of the query, the Commission must emphasize that as far as the ANL records show, and those of AEC, and as far as can be determined by inquiry, no instructions have ever been given to any guard to withhold security reports, reports of any security violations.

I would like to submit, if I may, for the record the statement by the Director of the Laboratory concerning this matter.

Mr. JACKSON. I think it ought to go into the record, Mr. Chairman.

The CHAIRMAN. Mr. Jackson has requested that it be read into the record, Mr. Wilson. Is it very lengthy?

Mr. WILSON. No. The master letter is not. There is an exhibit of the green sticker and so on.

This is a letter from Dr. Walter H. Zinn, director of the Argonne National Laboratory, addressed to Mr. Tammamro, Manager of the Chicago Directed Operations of the Commission, dated June 2, 1949:

DEAR MR. TAMMARO: The charge has been made that officials of Argonne National Laboratory were issued green stickers for their automobiles which permitted the passengers and the automobile entrance into restricted areas of the laboratory without a security check. This is a completely erroneous statement. The facts are as follows:

At the DuPage site, the east area buildings have been completed and occupied in series. The first building was occupied on August 16, 1948; the last has not yet been turned over by the constructors to the Laboratory. The security procedure adopted in this situation where buildings are operating units of the Laboratory while neighboring buildings are still in the hands of the constructor was to maintain the security firmly and in a fully authorized manner for the building itself. Therefore, the building itself becomes a controlled security area. The grounds around the building and the buildings under construction are a controlled construction area only.

That means that there is no classified or restricted data there, and they are not under security guard.

The letter continues:

A controlled construction area is controlled from the point of view of Government property safeguarding rather than from the point of view of safeguarding restricted data or materials within the meaning of the Atomic Energy Act. Each operating building of Argonne was guarded and controlled from a security point of view just as if it were located on a street in a city as are some of the other operating laboratories located in the city of Chicago, and as indeed is the atomic energy headquarters at 1901 Constitution Avenue. Laboratory employees who arrived at work in automobiles experienced very considerable difficulty in finding appropriate places for parking these vehicles. This is understandable as the hour of beginning work was subsequent to that of the many hundreds of construction workers. Therefore, an area for Laboratory parking was designated. This area, in no way was a controlled security area. It was not and is not a restricted area. Green automobile windshield stickers were issued to all Laboratory employees who desired them for the purpose of giving them, and only them, access to the Laboratory parking area. The guard on the road leading to this area had instructions to wave in without stopping cars carrying the green

stickers, but to reject construction workers or others and direct them to the construction workers' parking lot.

These green windshield stickers were issued by the Laboratory Security Office beginning November 24, 1948, to Argonne National Laboratory and Atomic Energy Commission employees who were required to acknowledge receipt of the sticker on the card attached as exhibit A. To date 525 stickers have been issued. It is emphasized that all employees were eligible for these stickers, no distinction being made on the basis of job category. That these were issued to officials only is disproved by the fact that 104 stickers were issued to project automobiles, 53 to maintenance personnel, 55 to guards, 105 to shop personnel, 50 to laboratory technicians and draftsmen, 31 to firemen, 1 to an employee of the Atomic Energy Commission, 1 to an employee of the University of Chicago Construction Account, 20 to administrative personnel of the Laboratory, and 105 to scientists and engineers.

It must be reiterated that the Laboratory security rules do not permit automobiles to enter controlled security areas. Parking lots are always established outside these areas making it unnecessary to search such vehicles. Wherever possible deliveries within controlled security areas are made by Government trucks with fully cleared drivers. In those cases where the nature of the delivery makes this impossible a guard escort is provided at the entrance gate, which escort remains with the vehicle at all times while it is within the security area. As an example of the care which is taken to eliminate nonproject vehicles from security areas, it should be pointed out that cafeterias are placed outside the controlled security areas so that deliveries of perishable food, et cetera, are not required to enter the security area.

Senator KNOWLAND. Now, Mr. Chairman; I want to have printed as part of the record these instructions to the guards. I want the General Manager to supply, or the Commission to supply to this Committee, a map of Area D, the specific information as to whether or not there are quonset huts which are conducting security work within Area D; and I want again, after he gets that information, I want the General Manager to tell us whether or not these instructions, which read: "The following persons and their guests will be allowed unlimited access to all areas of the property at all times upon identification of themselves," and then which lists 154 names and the instructions which go on to state, "The only registration required will be at the point of contact of the persons listed above (not their guests), and this registration"—that is, the registration of even these people—"will be necessary only after normal working hours, Saturdays, Sundays, and holidays," so, as I read the instructions, providing they mean what they apparently say, if they come in during the normal working hours they will not even list the 154 people given here, to say nothing of their guests.

Then it goes on to further say, "This listing is to be carried on each guard's person at all times when on duty at this site."

Mr. WILSON. This must refer, Senator, to the construction area which is controlled purely for administrative purposes in connection with Government property.

Senator KNOWLAND. I think you will agree that it does not limit itself to the construction area. It says, "all areas," so will you please supply a map showing this Area D, showing the quonset huts where any security work is being done, so that this Committee may reach a final decision on this matter.

Mr. WILSON. I will, Mr. Senator.

The CHAIRMAN. It would seem, Mr. Wilson, that you could get this information by telephone.

Mr. WILSON. I can.

The CHAIRMAN. I think, in view of the nature of the situation, you should put in a call to Chicago and find out what areas are meant by "all areas." I personally would like that information this afternoon.

Mr. WILSON. I will get it, Senator.

Mr. Chairman, may I submit the additional papers that I have from the Argonne National Laboratory which I would like to have placed in the record?

The CHAIRMAN. Yes; they may be placed in the record.

(See exhibit No. 8 in the appendix to follow the last part of these hearings.)

The CHAIRMAN. Gentlemen, I know you all have questions, and I want to give all of you an opportunity, but I know of no better way to do it than to proceed in this order, in an orderly way.

Senator Vandenberg?

Senator VANDENBERG. Mr. Chairman, I am simply curious about this document that Senator Knowland has submitted. Apparently, whether this is a restricted area or not, the Commission apparently considers it important, at least, to list whom they consider eligible to enter under this authority.

That is true, is it not?

Mr. WILSON. Yes.

Senator VANDENBERG. Well, if it is important that you should restrict the entry to those who were listed, what is the necessity for a complete unlimited right of entry for their guests, and why, at the finish, when you finally require registration, even of those whom you have listed, do you eliminate the guests from registration? What is this business about these guests? Why should they have a freedom which you deny to even those you list?

Mr. WILSON. Well, Senator, it is my firm belief that this means admission to the construction area, where there is no security involved, no restricted data involved.

I am not familiar with the particular instruction which you are reading, but I shall certainly check up on it promptly.

Senator VANDENBERG. If it applies to that limited area, why go to the trouble of identifying anybody?

Mr. WILSON. Well, the purpose of administrative control of that area is for the purpose of avoiding the possibility of theft of Government property. Therefore, whoever comes in outside of normal working hours, those who are there during normal working hours are registered in on their employment status, must register that they have come in—this is out of hours. Now, they are responsible for anybody who was with them.

Senator VANDENBERG. Yet you very carefully notify the guards not to take any notice of who is with them and not even to register who is with them.

Mr. WILSON. Well, the person who brings them in is responsible for them. That is the reason, I assume, Senator.

Senator VANDENBERG. It is a very curious arrangement.

Senator KNOWLAND. Will you be sure when you phone Argonne this afternoon that you find out what security there is in the way of fences, guard posts, or other means of security between the area that you think this admits them to, and other areas where there may be

restricted work going on, and whether it is in fact necessary to pass a second guard post or go through a second gate once they have had access to this whole area, which apparently by this gives them unrestricted access to all areas within site D?

Mr. WILSON. I am certain that that is the case, Senator, but I will get the details for you this afternoon.

The CHAIRMAN. Mr. Holifield?

Mr. HOLIFIELD. No questions.

The CHAIRMAN. Mr. Cole?

Mr. COLE. Yes, Mr. Chairman.

Reverting to the procedure under the Roberts Board, and particularly the Condon and Graham cases which have been mentioned this morning, I am not certain of my understanding of the Roberts Board, and its part in the clearance program and the Condon and Graham cases; I am not certain that it is correct, and I want to make it certain that I do understand it correctly.

First, the Roberts Board was created by the Commission as an auxiliary to lend assistance in the security clearance problem, was it not?

Mr. LILIENTHAL. Yes, an advisory board on criteria and because of the backlog of cases.

Mr. COLE. I assume the Commission made the effort, at least, of engaging as competent and prominent and capable and impartial individuals in the country as it possibly could, because of the nature of the responsibility?

Mr. LILIENTHAL. That is correct, sir.

Mr. COLE. And I feel that the Commission must feel a measure of success in that regard when it is known who the members of the Roberts Board were?

Mr. LILIENTHAL. Yes, indeed.

Mr. COLE. Now, is it correct that the Roberts Board did report adversely on the two cases with respect to clearance?

Mr. LILIENTHAL. The Roberts Board did not, as I recall, report on the merits of this Dr. Condon case. Their report, which is in the records, the records which have been supplied—

Mr. COLE. No, but bear in mind that I am not asking you to disclose anything of a personal or confidential nature that you do not feel should be disclosed.

Mr. LILIENTHAL. I understand the question relates to procedure, sir, and my recollection of the minutes of the Roberts Board action, which are in your files, and I shall not go beyond those minutes, is a recommendation that in the case of Dr. Condon, inasmuch as the House Committee on Un-American Activities was investigating or had investigated Dr. Condon, or in any case had issued statements concerning him, and that it might well be that they would give Dr. Condon a hearing, which up to that time they had not given and which up to this time they have not given, that it would be better if the Commission would await completion of action by the House committee before taking action of its own.

The question, therefore, was limited, Representative Cole, as we understood it, purely to the question of procedure. The Commission took

a different view and felt that in the first place, when the Committee on Un-American Activities would hold a hearing and would dispose of the case appeared to be quite unpredictable and, as it turned out, was unpredictable, that this would appear to evade the Commission's responsibility to meet the issue and decide the case, and this we did.

Mr. COLE. Now, with the other case you do not need to discuss it if you do not care to, except to indicate whether the Commission followed the Roberts Board recommendations or not.

Mr. LILIENTHAL. The Commission did not follow the recommendations.

Mr. COLE. The next point is whether those facts which you have just indicated were disclosed by the Commission in some public statement when the subject was of public interest.

Mr. LILIENTHAL. The facts in respect to the case of Senator Graham were not disclosed so far as the recommendations of the Roberts Board were concerned.

Mr. COLE. Well, they have been disclosed at some time or another.

Mr. LILIENTHAL. Mr. Cole, the situation is this: that the Commission's memorandum of decision in respect to the clearance of Senator Graham was made public, and with his consent, but we did not indicate in this memorandum what position the Roberts Board had taken in the matter, and for what seemed to us a good reason.

Mr. COLE. When did it become public knowledge what the action of the Roberts Board was?

Mr. LILIENTHAL. Mr. Cole, I believe it was announced to the world by a radio commentator, who apparently had access to this information. It was not announced by the Commission, and the reason for this was again a question—its fairness will, I believe, appeal to you; Senator Graham at no time was apprised of the contents of the investigative report, nor did he have a hearing.

To have indicated in the Commission's memorandum of decision that there were circumstances that might reflect on him would require, it would seem, that he should at the same time have a hearing. The Commission did not feel then, and does not feel now, that anything in Dr. Graham's record warrants or occasions a hearing, and it was for that reason, the absence of a hearing, that this circumstance was not related in the Commission's memorandum of decision.

Mr. COLE. When was this disclosed by the radio commentator, about the action of the Roberts Board on the Graham case, approximately how long ago, 6 months?

Mr. LILIENTHAL. Well, I do not keep up with this particular commentator [laughter] but I think it was about 6 months ago.

The CHAIRMAN. You should. [Laughter.]

Mr. COLE. Well, I had no idea to whom you were referring when you said that it was a radio commentator, but I think I have a good idea now. [Laughter.]

The fact of a hearing by the Roberts Board is the very thing that is the object of my inquiry, whether the Commission after it was disclosed to the public that the Roberts Board had acted adversely or in a questioning way with respect to individuals, whose identity was known, if the Commission opened the door of opportunity to those individuals for a public hearing by the Roberts Board.

Mr. LILIENTHAL. I wonder if we are clear on this. The Roberts Board did not have a hearing in this matter; no hearing was ever had.

Mr. COLE. On the Graham case?

Mr. LILIENTHAL. That is Dr. Graham, Senator Graham, did not have a hearing.

Mr. COLE. Yes.

The CHAIRMAN. Incidentally, he will have his chance to appear before this Committee before this investigation is concluded.

Mr. COLE. That is fine, but the thing that arouses my curiosity is whether Dr. Graham has ever been given an opportunity to present his side of the case, whatever it may be, to the Roberts Board. If he has ever been given an invitation, if an invitation to do that has ever been extended by the Commission or by the Board itself is what I am curious about.

Mr. LILIENTHAL. The Roberts Board's conclusions or recommendations in respect to this matter were based on the paper file. The Commission's conclusions in choosing not to follow recommendations of its advisers was also based on the file. The Commission did not feel then, and does not feel now, that there is anything—I mean, with respect, and great respect, due to the distinguished advisers of the Commission—the Commission did not feel that a hearing was warranted, that there was any occasion for a hearing. There was not sufficient doubt raised by the file to justify a hearing.

Now, a hearing apparently will be had now before the Joint Committee, but we did not feel that there was anything to warrant taking that step.

Mr. COLE. And yet, in the face of that, you have a determination, a recommendation by a creature of the Commission itself, composed of the most competent people in the country that the Commission could engage, of finding along a certain line with respect to the loyalty and security of an individual.

Mr. LILIENTHAL. Well, that is not quite——

Mr. COLE. And it became public knowledge through some fashion or other that this was the fact, and yet apparently the Commission was not sufficiently disturbed about invading the rights and personal prerogatives and liberties of that particular individual to make an issue of it and to open the doors of the Board or of the Commission to responses by the individual involved.

Mr. LILIENTHAL. The Commission felt then that here was a case where honest men could differ. We differed with the members of the Roberts Board in this particular case. The idea of suggesting that Senator Graham's loyalty to this country was such a matter of doubt requiring that he be given an opportunity to be heard upon it, frankly, seemed fairly farfetched. One is unhappy to disagree with such distinguished men, but there are cases where one must disagree with one's advisers if one has the ultimate responsibility.

Now, about the time the word about the action of the Board, which was confidential, and was intended to be confidential because of its relationship to the Commission, became bruited about, the curious circumstance transpired that this alleged security risk became a Member of the Senate of the United States, and was sworn in as such a Member, and is now associated with you gentlemen on the Senate side.

At this point it would have seemed very inappropriate indeed for a committee then to pass upon the security status of Senator Graham.

Mr. COLE. Of what committee?

Senator MILLIKIN. We did not give him or any other Senator security clearance, Mr. Lilienthal.

Mr. LILIENTHAL. No; I suppose that is right.

Senator MILLIKIN. There is a difference.

Mr. COLE. You are saying that it would be inappropriate for the committee to pass upon it?

Mr. LILIENTHAL. No; for the Commission to have then had a hearing calling into question the character, loyalty, and association of a man who then became a Member of the Senate of the United States. This seemed a little bit difficult to imagine.

Mr. COLE. I have not indicated, I hope, that it is my belief that the Commission itself should have conducted an investigation or a hearing at any time, whether it be before or after the individual became a Member of the Senate.

Mr. LILIENTHAL. I realize that.

Mr. COLE. But I do think that irrespective of the position that the individual may hold, even if it be that of a Member of the United States Senate, that the Commission might extend an invitation to the individual to have a hearing if he so desired.

Mr. LILIENTHAL. I think there is an additional set of facts here that should be added, and that is that there was consultation, it is my understanding, between the members of the joint committee and Dr. Graham in respect to hearings, as well.

Mr. COLE. I am not advised of that, and if the chairman of the committee is advised, I think it might be well to confirm or explain what the committee did with respect to any consideration of hearings of Dr. Graham.

The CHAIRMAN. Senator Graham advised me that at what we considered to be an appropriate time, he would like to be heard on the matter.

Mr. COLE. The last recollection I have was that some members of the committee were insistent on immediate hearings.

The CHAIRMAN. Well, if it is the desire of the Representative to move for an immediate hearing on Dr. Graham, I will be glad to entertain the motion.

Mr. COLE. No, the chairman misunderstands me. All I was trying to disclose was the fact of the decision of the committee. I do not realize or remember that the committee reached a decision that whatever hearings might be held would await the decision of the individual involved. If I am wrong in that, very well and good. I am not trying to be critical of what was done. I am simply trying to establish what was actually done.

The CHAIRMAN. Well, Senator Graham became a Member of the United States Senate, and talked with me about this matter. He suggested that at the proper time he would be very happy indeed to talk to the joint committee in either open or executive session regarding the matter.

Senator MILLIKIN. Mr. Chairman, might I interrupt for just a moment? I have had some interest in the Graham case, and I think I said to the chairman that if the matter developed to where the fact of

Dr. Graham's name got into the public mention, that as far as I was concerned, I would like to see him get a hearing. The chairman and I had that kind of a conversation so far as Dr. Graham is concerned.

The CHAIRMAN. That is right, Senator.

Senator MILLIKIN. I should like to add also that all of these matters were cleared prior to the time that Dr. Graham became a United States Senator, so the question of becoming a United States Senator, unless that has peculiar significance, has nothing to do with the case.

The CHAIRMAN. My recollection is, Senator, that you had a conversation with me prior to your going to Colorado, in which you suggested that it be held in abeyance until you had made the necessary trip, and that when you returned we would have a further conversation; I was awaiting word from you on it. That is my recollection.

Senator MILLIKIN. That is correct, and I think it was thoroughly understood that Dr. Graham was to have a hearing if his name was publicly mentioned in the matter, and I still feel that way about it.

The CHAIRMAN. At any rate, we can settle this matter before this investigation is over by having Senator Graham here because he has requested an opportunity to come here.

Are you through, Mr. Cole?

Mr. COLE. Yes.

The CHAIRMAN. Mr. Price?

Mr. PRICE. No questions.

The CHAIRMAN. Mr. Elston?

Mr. ELSTON. Mr. Lillienthal, I take it in your letter that you offered in evidence this morning one of the cases you were referring to was the party at the Argonne Laboratory who was referred to at our last meeting?

Mr. LILLIENTHAL. Yes; I did, Mr. Elston.

Mr. ELSTON. I call your attention to the fact, in case you do not remember, that the only identification of that individual came from your General Manager. My questions were purely hypothetical and it was he who said something about the person's being employed at the Argonne Laboratory. Do you recall that?

Mr. LILLIENTHAL. I would beg to differ with you, Mr. Elston, most respectfully. I think your hypothetical statement was a very clear identification of an individual; whether are not you intended it to be so or not, of course, is another matter, but it did have that effect, and there was, therefore, nothing really left to do but confirm it.

Mr. ELSTON. I may state that there was not a newspaperman or anyone else in this room who had the remotest idea to whom I was referring, and they were just as much surprised as I was when Mr. Wilson identified him as an employee of the Argonne Laboratory.

Mr. LILLIENTHAL. I am sure that while that might well be true with respect to newspapermen or others in this room, it would not be true in the area where this man works. It would be clear identification of him, so it would just be a lag of a few hours until the identification was complete.

Mr. ELSTON. You do not mean to say that he is the only person who has been arrested and who has denied in his P. S. Q. that he has been arrested?

Mr. LILLIENTHAL. Well, the identification of his function and the arrest—I do not have the record before me—I think justified simply

the word of caution that the Commission sought to bring to bear here—that merely not mentioning names does not in itself protect the identity of individuals. That is all I had in mind, Mr. Elston.

Mr. ELSTON. Do you know of the name having been mentioned by any newspaper, in any newspaper, or by any commentator?

Mr. LILIENTHAL. No; not yet.

Mr. ELSTON. Now, so far as the case referred to by Senator Hickenlooper is concerned, the person who brought this document to your committee, was he the only person who came to the committee that morning?

Mr. LILIENTHAL. My recollection is that the statement by Senator Hickenlooper did not relate to those who brought the document, but to the individual in charge of its preparation, and this is completely bracketed.

Senator HICKENLOOPER. That is completely correct. The courier or the guard to whom I referred was only a guard of the particular document and had nothing to do with the file that I referred to.

Mr. ELSTON. Yes. Well, I just wanted to say that if I had not seen the name this morning I, as a member of this committee, would not even know who the individual was.

Mr. Chairman, I think you indicated that you would meet in executive session if there was no objection. I just wanted to state to the chairman that I see nothing in the case referred to by Senator Hickenlooper which requires consideration in executive session of that case or any other, at least until there is something more before the committee.

If the committee is to go into executive session and all these cases are to be considered there, the public, who has as much right to know what is going on in the Atomic Energy Commission as anyone else, is going to be deprived of information to which I think they are entitled.

I quite agree with Senator Hickenlooper that names should not be mentioned. There is not any necessity for the mentioning of names in order to describe a policy that the Atomic Energy Commission has been following, and if there are some persons who might be identified because of their position or because of other circumstances, if the names are not mentioned here, the names will not be published, I am quite certain; but I submit that the public is entitled to know what is going on in the Atomic Energy Commission.

I do not think they should be limited to the rosy speeches that have been made by Mr. Lilienthal or others around the country indicating how beautiful everything is within the Commission. They are entitled to all the facts and, particularly in view of the charges that have been made by Senator Hickenlooper, and he should be given every opportunity to establish the case, and establish it in an open meeting. Those are my views.

The CHAIRMAN. I may say, Mr. Elston, the occasion of the executive meeting is not this particular case. It is the consideration of the whole subject and, of course, you and all the other members of the committee will be accorded the opportunity—of course it could not not be denied you and should not be denied you—to make your views known in that meeting, and we can discuss it very thoroughly.

I am entirely in sympathy with you in your desire to have all the information brought out that can possibly be brought out here in the open.

At the same time, I do see, if you do not see, the difficulties with which we are faced in the trial of persons upon insufficient evidence, and upon evidence that cannot be produced for open inspection.

I again state to you that one-eighth of a trial in the open, and seven-eighths in secret is not my idea of a proper assessment of worth or the lack of worth of the individual concerned, the particular individual.

I merely cite that to show you one of the difficulties that is troubling me.

Senator HICKENLOOPER. Mr. Chairman, at this point may I again emphasize, may I again just emphasize, that this morning I was not attacking or charging any individual in case A with anything. I was using case A as an illustration of procedure, and whatever is contained in that file, I think, is proper information for the joint committee in executive session. But I merely wanted to reemphasize that again.

The CHAIRMAN. I am glad to have that statement, Senator, because it does give a basis for believing that you have an appreciation of the difficulties with which we, as a committee, are faced.

Senator KNOWLAND. Mr. Chairman, I would like to ask Mr. Lilienthal one question.

The CHAIRMAN. Senator, would you mind if I gave an opportunity now to Mr. Jackson to address a question?

Mr. JACKSON. Mr. Chairman, I think it is quite obvious that if we are going to discuss hypothetical cases that we should give all of the facts in the case, including the names. What has transpired up to now should make it obvious to every member of the committee that when we try to discuss a hypothetical case we end up with the name.

Senator HICKENLOOPER. This is not a hypothetical case but an actual case. This case A that I am talking about is an actual case.

Mr. JACKSON. An actual case. Well, we started out with some hypothetical cases. The facts, however, seem to fit into actual cases, as least that is what experience last week has shown.

I am quite convinced that while it was indicated at the outset that people were not going to be identified, however, the first case we bring before the committee we do everything but name the individual; we point him out, that he is in charge of a certain document and, certainly, if the newspapermen in this room cannot figure out his name, the newspaper profession is slipping, and I think that in all fairness to people who are going to be brought up by case numbers or whatever it is, I think the individual ought to be advised in advance and appear here before this committee, and that the members of the committee be given an opportunity to know the facts in the case; and I do not want to, as the chairman indicated, listen to one-eighth of the evidence and try to pass judgment on some individual; and I might say that in all of these cases, time is of the essence, and it is not fair to start to make an attack on a person by referring to an FBI file, and then 3 or 4 days later bring the individual up here.

I think this individual ought to be up here this afternoon. I hope we can come to that conclusion as a result of our executive session.

Now one other thing: I would like to suggest that in view of all the discussion that has taken place in connection with the security problem at the Argonne National Laboratory, that we have the security officer of the Argonne National Laboratory before this committee.

From what little I have been able to gather from the testimony, I take it that there are two situations at the Laboratory. One is a construction project where there is no clearance involved, and the other is the security area, where classified documents and secret data are contained; and I think that in order for the committee to understand what all of these transcripts are about, and memoranda, and so on, that we have the security officer from the Argonne National Laboratory before the committee.

I would like to make that as a motion or a recommendation or whatever form is applicable.

The CHAIRMAN. Without objection the Director of Security of the Argonne Laboratory will be produced.

Mr. WILSON. Yes, sir.

The CHAIRMAN. Now, gentlemen, we have gone through the list of those entitled to question the witness.

Senator Knowland?

Senator KNOWLAND. Just two things along the line of Congressman Jackson's statement: When we have the Security Director at Argonne before us, I think if you will examine the transcript of June 1, I also asked to have brought before the committee for our inspection the inventory or whatever it was, covering the shipments of these bottles of uranium, including the bottle which was missing, and later showed up, was dug out, showing who forwarded it, who receipted for it, so that we can get a prima facie case on the matter of security in regard to the shipment of restricted materials such as uranium.

The second thing I would like to ask Mr. Lilienthal is just this as a matter of information, if he does draw some distinction between a person to whom the Commission may have fallen heir, we will say, from the Manhattan District, where they had a going concern who, if information later shows up, as a Government employee, would be entitled to a hearing and a hearing process; and a person who is starting from scratch, who files an application and says, "I want to work in atomic energy; give me a job."

Do you or do you not draw a distinction between the two types of cases?

Mr. LILIENTHAL. Is the Senator asking whether applicants are entitled to hearings prior to their employment? Is that it?

Senator KNOWLAND. That is right.

Mr. LILIENTHAL. The Commission has not reached a conclusion on that up to the present time. Hearings are not held.

Senator KNOWLAND. Do you not think there is a considerable difference between a person who comes for the first time to the Commission—

Mr. LILIENTHAL. Oh, yes.

Senator KNOWLAND (continuing). And says, "Because I want to work in the Commission I want you to give me a job," and their record is fairly filled, we will say, with these doubtful pieces of information on an FBI report, that the Commission has adequate reasons to refuse

employment, and it is a different situation from removing a person from his job who is already in his position?

Mr. LILIENTHAL. It is quite different.

Senator HICKENLOOPER. Mr. Chairman, at that point let me point out one of the objections to the emergency clearance device. Three thousand and more people have been brought in under emergency clearance, and then they become job holders, they are no longer applicants. They are already on the job, and the procedures that are set up for job holders then apply to them. The investigation is not applied to these people when they are applicants in many cases, and that is one of the inconsistencies.

Senator KNOWLAND. I appreciate that, and I think it is a little different category, different from a person who had been employed for some period with the Manhattan District, and then something turned up in the record.

Senator HICKENLOOPER. Oh, yes.

Senator KNOWLAND. I think this may be a wide-open loophole in the existing security, this matter of clearance, which we will have to go into further.

Mr. LILIENTHAL. Senator, I think one ought to say at this point that when the Manhattan District was transferred to the Commission and the reinvestigation process began, as required by law, the Commission did inherit a rather considerable number of cases in which questions were raised, and that these formed the bulk of the Commission's concern in personnel security matters, and also the Roberts Board work, as the committee recalls.

The Army found that these individuals, whatever may have been the state of the record, were to be regarded as suitable risks or they would not continue them.

The point that the Senator makes, with which I firmly agree, is that that case is different from the case of an applicant, but it does not solve the problem of the applicant. There are several considerations there, and at the proper time I would like to have an opportunity to explore them here with you.

The CHAIRMAN. Now, if there are no further questions, Mr. Elston raised the point that he is not in favor of an executive session to discuss this policy matter. I take it from the lack of acquiescence of any other member that others join with him. I shall so consider that the other members of the committee are quite willing to have an executive meeting to discuss these subjects.

Mr. ELSTON. Mr. Chairman, let me make myself clear. I have no objection to meeting and discussing. I merely indicated that I was not in favor of disposing of all these questions in executive session. Anything that has to do with the subject under investigation, and anything that is relevant, the public is entitled to hear, and we are entitled to have it in open session.

I am not objecting to the committee meeting in executive session for the purpose of discussing anything.

The CHAIRMAN. I am glad to have that clarification. I misunderstood your point of view.

If there are no further questions, the committee will meet in executive session at 4 o'clock in G-48, which is our regular meeting room.

(Whereupon, at 12:50 p. m., the committee adjourned, subject to the call of the Chair.)

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# INVESTIGATION INTO THE UNITED STATES ATOMIC ENERGY PROJECT

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## HEARING

BEFORE THE

## JOINT COMMITTEE ON ATOMIC ENERGY CONGRESS OF THE UNITED STATES

EIGHTY-FIRST CONGRESS

FIRST SESSION

ON

## INVESTIGATION INTO THE UNITED STATES ATOMIC ENERGY PROJECT

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### PART 5

JUNE 8, 1949

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# INVESTIGATION INTO THE UNITED STATES ATOMIC ENERGY PROJECT

WEDNESDAY, JUNE 8, 1949

CONGRESS OF THE UNITED STATES,  
JOINT COMMITTEE ON ATOMIC ENERGY,  
*Washington, D. C.*

The joint committee met, pursuant to notice, at 10:30 a. m., in the Caucus Room, Senate Office Building, Washington, D. C., Senator Brien McMahon (chairman) presiding.

Present: Senator McMahon, Representative Durham (vice chairman); Senators Connally, Vandenberg, Millikin, Knowland, and Hickenlooper; Representatives Price, Jackson, Cole, Elston, and Hinshaw.

Also present: David E. Lilienthal, Chairman; Sumner T. Pike, Commissioner; Gordon E. Dean, Commissioner; and Henry D. Smith, Commissioner; all of the United States Atomic Energy Commission.

Carroll L. Wilson, General Manager, Joseph Volpe, Jr., General Counsel; Everett Hollis, Bennett Boskey, of the Office of the General Counsel; Fletcher C. Waller, Director, Division of Organization and Personnel; R. A. Haney, Division of Security (Information); Bruce Uthus, Chief, Physical Security; C. A. Rolander, Chief, Violations Branch, Division of Security; Morse Salisbury, Director, Division of Public and Technical Information Service; Francis Hammack, Acting Director, Division of Security; James Yore, Director, Security, Chicago Operations Office; Robert Hessler, Security Officer, Argonne National Laboratory; Drs. Ralph Johnson, Paul McDaniel, and Spofford English, Division of Research, all of the United States Atomic Energy Commission; Charles Kenneth Weidner, chief engineer, special construction account, University of Chicago.

The CHAIRMAN. The meeting will come to order. Will the Commission come up here please.

Gentlemen, as you undoubtedly are aware, we are deferring the personnel security phases of this matter for further deliberation in committee, which we expect to accomplish before the end of the week.

In the meantime, Senator Hickenlooper has some other matters which he wishes to take up with you this morning.

Senator Hickenlooper?

Senator HICKENLOOPER. Mr. Chairman, this morning I would like to bring the record up to date on the emergency clearances situation to which I referred on last Thursday, because I now have the report for April 1949, on emergency clearances.

Now, to preface that and to make the record completely clear, I would like to read into the record verbatim at this point the two provisions with respect to clearances. I will read now from section 10 (b) (B) (i), which is as follows:

No arrangement shall be made under section 3, no contract shall be made or continued in effect under section 4, and no license shall be issued under section

4 (e) or 7 unless the person with whom such arrangement is made, the contractor, or prospective contractor, or the prospective licensee, agrees in writing not to permit any individual to have access to restricted data until the Federal Bureau of Investigation shall have made an investigation and report to the Commission on the character, associations, and loyalty of such individual, and the Commission shall have determined that permitting such person to have access to restricted data will not endanger the common defense or security.

That is the end of that particular section; that applies to contractor employees.

Now, the next succeeding section, which applies to employees of the Commission strictly—these encompass the some 5,000 employees that the Commission hires directly—that next succeeding section is as follows:

Except as authorized by the Commission in case of emergency—

I call attention to the fact that the word “case” is singular and not plural—

Except as authorized by the Commission in case of emergency, no individual shall be employed by the Commission until the Federal Bureau of Investigation shall have made an investigation and report to the Commission on the character, associations, and loyalty of such individual.

That is the end of that section.

Now, Mr. Chairman, I have here the report of emergency clearances for April 1949, which was just reported to the joint committee a day or two ago, within the last 2 or 3 days. It shows that the total number of emergency clearances granted in April was 140. The number of emergency clearances granted in April, with access to restricted data, is 140.

In running through this, at the moment I will say, if you will give me just a moment that 21 of those 140 are Atomic Energy Commission employees, that is, employed directly by the Commission. The balance of the 140 are contractor employees.

Mr. Chairman, according to the arrangements the other day, I shall not ask to have the names of the employees nor the locations put into the public record, but there is a summary sheet on the top of this report which merely summarizes the number and the location—the number at each location—and I will ask to have that go into the record at this point.

The CHAIRMAN. So ordered.

(The report above referred to is as follows:)

*U. S. Atomic Energy Commission—Summary report of emergency clearances granted, April 1949*

	Emergency clearances	Access to restricted data	
		With	Without
1. Chicago.....	29	29	0
2. Hanford.....	4	4	0
3. New York.....	9	9	0
4. Oak Ridge.....	85	85	0
5. Project Royal.....	1	1	0
6. Sandia.....	1	1	0
7. Santa Fe.....	3	3	0
8. Washington.....	8	8	0
Total.....	140	140	0

All emergency clearances listed were granted by the Managers of Operations under authority of GM-Bulletin 101. For the purposes of this report an emergency clearance is defined as follows: (a) clearance of any direct employee of AEC with or without access to "restricted data"; and (b) clearance of any contractor's employee, prospective contractor, consultant, or employee of any other Government agency, with access to "restricted data" prior to full FBI investigation. Emergency clearances are granted only after the duties for the job for which emergency clearance is requested have been specified and the clearance specifically states that access is granted only to information required in the performance of these duties. Clearances under the interim security measures for the armed forces, issued May 23, 1947, are not included.

Senator HICKENLOOPER. Now, Mr. Chairman, as you know, and it was announced, the procedure that I intended to follow has been held in abeyance pending the committee decision on the procedure or method of procedure in connection with security files which I intend to go into.

Of course, I am biding my time when the committee will make its decision on that matter, and I believe we are agreed that it will be made very shortly.

The CHAIRMAN. Yes.

**STATEMENT OF DAVID E. LILIENTHAL, CHAIRMAN, ATOMIC ENERGY COMMISSION; ACCOMPANIED BY CARROLL L. WILSON, GENERAL MANAGER, AND JOSEPH VOLPE, JR., GENERAL COUNSEL, ATOMIC ENERGY COMMISSION; AND CHARLES KENNETH WEIDNER, CHIEF ENGINEER, SPECIAL CONSTRUCTION ACCOUNT, UNIVERSITY OF CHICAGO**

Mr. LILIENTHAL. Mr. Chairman, may I ask a question of the chairman at this point?

The CHAIRMAN. Yes, sir.

Mr. LILIENTHAL. Does this pending decision include the Commission's formal request for a hearing, a public hearing in the case of the individual identified the other day, or was that a separate decision?

The CHAIRMAN. That is one of the things to be deliberated upon.

Senator HICKENLOOPER. In that connection, Mr. Chairman, may I ask Mr. Lilienthal a question?

Mr. Lilienthal, I believe you wrote Chairman McMahon a letter, did you not, about that?

Mr. LILIENTHAL. Yes, sir.

Senator HICKENLOOPER. Which he received, I believe, the day before yesterday evening, Monday evening?

Mr. LILIENTHAL. The Commission did write a letter; yes.

Senator HICKENLOOPER. Yes. That letter, do you intend that that letter should be made public?

Mr. LILIENTHAL. We certainly want the committee to dispose of it in any way it chooses. Our preference would be that it should be made public.

Senator HICKENLOOPER. Well, it makes no difference to me one way or the other. I happen to disagree with several things stated in the letter, and I did not want to publicly disagree with it. If you care to have the letter remain private, I would do it in executive session, but if it is made public, then I would govern my disagreement accordingly.

Mr. LILIENTHAL. Our strong preference about that whole matter is that it should be public in every respect, and this would include the letter. Of course, the committee is the recipient of the letter, and will have to decide that.

The CHAIRMAN. Of course, Mr. Lilienthal, you have made it impossible almost for me to keep it now as an executive matter in committee, because here in the presence of all the press you have stated that you would desire to have it published. I can assure you that they would make life miserable for me until it is published.

But I agree that there is no reason why it should not be made public.

Mr. LILIENTHAL. It is an unclassified letter, perhaps I should say that. That still does not decide the question of its publication.

Senator HICKENLOOPER. Well, Mr. Chairman, the letter of Chairman Lilienthal is addressed to you, and I would not undertake the responsibility of publicly commenting on it until such time as whoever has it or has control over the letter—

The CHAIRMAN. Do not misunderstand me. I have no criticism of the fact that the letter should be made public. I see no reason why it should not be.

Is it your desire that it be read into the record at this time?

Mr. LILIENTHAL. From our point of view that would be desirable, but—

The CHAIRMAN. I will tell you, suppose we delay this matter for just a moment until we get into some other matters with Senator Hickenlooper, and unless we take the letter up publicly today, I shall make it public at the end of the session.

Senator HICKENLOOPER. Now, Mr. Chairman, I want to revert to the famous case A of last Monday, just to make the record complete. For those members of the committee who feel that I might stray a little from our understanding, I say that the chairman knows exactly what I am referring to, and I believe he sees no harm in my proceeding along this line.

The CHAIRMAN. No objection at all.

Senator HICKENLOOPER. Last Monday I called attention in case A to the fact that a security review board had been established, and had heard case A under the terms of the statute touching character, associations and loyalty of a subject.

I stated that a board of three people had been appointed, I believe, by the Deputy General Manager from Commission employees, one of whom, I think, had just left the Commission a week or so before that, but they were three Commission employees. One was a lawyer, two were scientists.

I also made the statement that in my opinion this board was not adequate to pass upon the questions, all of the questions involved in the categories because of a complete lack of experience or background, not because they are not intelligent gentlemen in their own fields; they were out of their fields.

Now, I would like to put into the record a colloquy that went on a few days ago in the hearings before the subcommittee of the Committee on Appropriations of the Senate in connection with the Independent Offices appropriation bill.

Senator O'Mahoney, who is chairman of that subcommittee, asked this question:

Senator O'MAHONEY. I understood from your testimony yesterday that the Atomic Energy Commission sought to dissociate itself from the selection of fellows, in order to avoid bureaucratic interference in the selection of the fellows, and turned that over to the National Research Council.

Senator BRIDGES. Dr. Warren, did you have any knowledge of this?

Dr. WARREN. There are certain individuals here with whom I am acquainted and with whose work I am acquainted. I have reviewed all of these appointments and have attempted to evaluate the value of the work proposed for the atomic energy program in the broader sense.

Senator BRIDGES. Have you passed on their Communist backgrounds or affiliations?

Dr. WARREN. I have not, sir. I am not competent in that field.

Dr. Warren was one of the members of the board who sat to pass upon the questions involved in the clearance of case A. That ends my reference to case A at the moment, Mr. Chairman.

Mr. LILIENTHAL. Mr. Chairman, I assume that later this morning there will be an opportunity to respond to this comment.

The CHAIRMAN. This particular comment?

Mr. LILIENTHAL. Yes.

The CHAIRMAN. You can respond now.

Mr. LILIENTHAL. I would like to say that the apprehensions and fears that we expressed about the dangers of smearing people by innuendo that would arise out of the discussions of these confidential files in these hearings, without having a full hearing on the business, are being confirmed almost daily by what is transpiring.

Whatever the motives—and only God knows a man's motives—the inferences that have been drawn as a result of the statements in respect to Mr. A, drawn widely, are that this individual is an actual security risk. A reading of this file, which was in the hands of the joint committee and its staff for a period of 8 months, discloses that had the whole file, and not one-eighth of the file, been before the committee in executive session—or as I hope later will be disclosed in full public hearing—you would find that an individual, who made highly unfavorable statements in respect to this man, after an anonymous letter had been written, stated flatly, before a board and under oath, in response to repeated questions, that he had no basis in fact whatsoever for the charges that he had made.

This discloses, in our opinion, the great importance of an early public hearing on this man, not only as a matter of justice to this individual, but because there is something even greater than that involved, and that is the integrity and the continuity and morale in this very important enterprise.

In respect to the comments about this board itself, it consisted of three individuals whose backgrounds I should like to simply put into the record.

The assumption that only an intelligence officer or an individual with that background has judgment about people is, I think, fallacious. It is well known that physicians and lawyers frequently have as good, and I would say often better, judgment about people and their character, and better ability to judge people than do intelligence officers and security officers, and this will be indicated by the characteristics of the individuals on this local board.

There is a good deal more to be said on this subject, but I would just like at this point to repeat the importance of an early full discussion of this case as an example, Mr. Chairman, for the country to see, for the committee itself is familiar with the file, that grave injustices to a great many people and the growth of fear and apprehension can destroy this program if we do not in a public hearing expose the dangers of unsupported charges and a trial of individuals by particulars rather than in toto.

This has already happened all through the country in the atomic energy program as a result of this one incident.

It is the desire of the committee, and it has been the consistent desire of the committee, to prevent that sort of thing happening.

The CHAIRMAN. Do you see any difficulties to the security system and the arrangements that have existed heretofore with the joint committee in a full exposition of even one case?

Mr. LILIENTHAL. Well, I think—perhaps I do not understand the chairman's comment—

The CHAIRMAN. Let me repeat—

Mr. LILIENTHAL (continuing). The chairman's question.

The CHAIRMAN. Do you see any difficulties or any dangers to the functioning of this joint committee in the way it has been functioning heretofore in the full exposition of even this one case?

Mr. LILIENTHAL. In a public hearing?

The CHAIRMAN. That is right.

Mr. LILIENTHAL. Well, it is regrettable, of course, that this individual was identified, and that a partial statement about him, implying that he is a security risk, putting a cloud on the whole enterprise, has occurred, but having occurred, I think there will be great advantage to the efforts of the Commission to develop morale among its employees, and great advantage to the country as well as to the committee in following through the procedures in this case, to show how careful they have been and also to show the difference between charge and proof.

Therefore, my answer would be, that I would think it—the facts being as they are presently, the facts being that we have departed from the earlier procedures that the committee has successfully followed in discussing these matters only in executive session and with the full file before them—under the circumstances we now find, I would think it to be to the advantage of the atomic energy enterprise and of this investigation, that we proceed to a full hearing in this individual case.

The CHAIRMAN. Now, of course, your files are, in part, based upon FBI investigations. I assume you would not want those placed in the file and in the record of an open hearing?

Mr. LILIENTHAL. Well, the charges have been made in open hearing. I am somewhat—I think a great many people would be—stumped by the proposition of not being able to respond in open hearing to these public charges by stating that the materials in the files are secret. That is something that should have been thought of before this individual, before this matter was brought up in public hearing, but since it has been brought up I see no alternative to a full divulging of the contents of this file in some way. Otherwise I see no security at all for the good name of anyone in the atomic energy enterprise if this sort of thing can be repeated.

Senator KNOWLAND. Mr. Chairman, just at that point, if I might ask Mr. Lilienthal a question?

The CHAIRMAN. Yes.

Senator KNOWLAND. You are not here to make a statement, are you, that of your vast number of employees, that the overwhelming number of them have a security file of the size and substance of case A? I do not think you would want that impression to go out either to this committee or to the country, so that when you say it would cast reflection on all the members or all those in the atomic energy work, I am sure you would want to make clear that that is not so, that there is not a similar type of a file on every individual, and it is a very infinitesimally small number that might have a file of that size.

Mr. LILIENTHAL. No, Senator Knowland; I do not want to be taken to imply that, but I do say that if it is possible simply by raising one's voice in public, casting a suspicion upon individuals, not to have one dispose of that suspicion in some public way, to meet a charge with proof, then we are in a bad way indeed because in this particular case, Senator, the information in this file which followed a full FBI investigation, disclosed nothing of any character unfavorable to this individual.

Later an anonymous letter was received on the basis of which we requested a further FBI investigation. The further FBI investigation did produce the statements which were derogatory.

When this individual was confronted with his statements, but under oath, he stated that he had no basis in fact whatever to support the statement.

I simply say to you, Senator, that this is a prime example for every member on this committee who feels as you do, and as all the rest of you feel about the importance of protecting people, by procedures, against this sort of situation; this sort of thing could happen to anyone, because anyone having been cleared could, by some malicious individual or some loose-mouthed individual, some man with whom he had had a dispute or someone who was just out to cause trouble, could have such a charge made anonymously, and find himself in a position where he could not have a chance to confront his accuser, as was done in the case of this local board, so no one is secure.

Senator KNOWLAND. But does it not also show, Mr. Lilienthal, the responsibilities on the part of the Commission itself for getting clearances in advance so that the Commission itself will not put anybody in an embarrassing position by giving them access to top-secret information of a nature which might later, due to investigations or otherwise, embarrass him? In other words, there is also a responsibility on the part of the Commission itself to be doubly sure that there is no chance of security violation.

Mr. LILIENTHAL. Senator Knowland, you are exactly correct, and that is why this case in itself will be so illuminating in that respect, because here was an individual who did not have access to restricted data until a full FBI investigation and report had been received. The report, of course, was not evaluated. There was a general misapprehension on that score, but the report was received and clearance was made before he had access to restricted data. It is true that he received an emergency clearance, but he did not report to work, he did not have access to restricted data until the full FBI report was received, and his clearance was given.

Subsequent to that event, this could have happened in the case of any individual, months subsequent, subsequent to his clearance on the basis of a full FBI report, this anonymous letter was received.

My point, Senator, is that here the procedure was followed with care. In the case of anyone who has been cleared, not only in the Atomic Energy Commission, but anywhere, who has been cleared for access to restricted data, following a full report, such an episode as this of a man who is making statements which he is not prepared to support, unable to support, this could happen to anyone, so that the precautions that you have suggested should be taken, I agree with you heartily; but after those precautions are taken, this sort of thing can happen, and if we do not have this record spread before the country, I do not see how we can possibly expect people to have any sense of security against malicious individuals writing anonymous letters and setting off a train of events.

Senator KNOWLAND. Just one more question, Mr. Chairman.

I would just like to get the record straight. You have referred to case A, and I do not intend to go into that particular case, wherein you said that there was no security information, classified information, made available after a check. But you do not mean to say, do you, Mr. Lilienthal, that that is true in all cases where emergency clearances have been given, that the people are not given access—that security information is not made available to them?

Mr. LILIENTHAL. No.

Senator KNOWLAND. There are many instances where emergency clearances are given, and they do have access to classified information, and it is some time later before the FBI check is made. Is that not correct?

Mr. LILIENTHAL. The FBI check is made before, but the full investigational report is not received; yes, sir.

Senator HICKENLOOPER. Mr. Chairman, I merely want to suggest to the committee that in my judgment Mr. Lilienthal has revealed more information, or stated his opinion of more information inside this file than has yet been brought out. In fact, it is rather surprising, but I just want to say this to the committee, because I am not going to discuss case A any longer, that is, in detail at all; I want to say to the committee that the committee will note that Mr. Lilienthal said that this matter arose on the statement of one individual who later had admitted, there said, that he had no foundation for it.

I made the statement the other day that it was information developed from literally dozens of individuals in the file, and whether or not the file is in that way or the way Mr. Lilienthal says, I will, of course, leave to the judgment of the committee, all of whom here, I believe practically all, have seen the file, and have gone through it. Now, that is up to the committee which may decide that. I do not care to discuss that any further at this time.

Mr. LILIENTHAL. Mr. Chairman, may I say something?

Mr. PRICE. Mr. Chairman, then it is evident that a cloud had been placed over the situation, and Mr. Lilienthal's suggestion is that we remove the cloud. The only way we can do it is in open public hearing.

The CHAIRMAN. Well, suppose we defer further discussion on that as we agreed to do until we have our next executive meeting.

Mr. JACKSON. Mr. Chairman, may I reiterate what I said the other day at the last meeting, namely, that time is of the essence in this

matter, and I hope that the committee will go into case A in all of its details, including the individual involved, if he desires to appear, without delay.

I have before me copies of headlines from three newspapers which, I think, as far as the public interest is concerned, demonstrate the need that all facts be given.

Here is the New York Times, which says, "Atom Aide Under FBI Cloud; Had Data on Hottest Secret." That is one headline, the New York Times.

Here is the Washington Star, "Loyalty Suspect Declared Author of Atom Reports."

Here is the New York Mirror, "Charge Atom Aide Got Job Back Despite FBI."

Now, the only inference that can be drawn from that type of information in the public press is that this particular individual, as far as his loyalty is concerned, has a cloud over him, and I think that the public interest demands that all relevant evidence in connection with that case be presented in public.

I again reiterate the previous request.

The CHAIRMAN. Mr. Lilienthal, you have an observation?

Mr. LILIENTHAL. Yes, in two parts: One is the statement I made this morning which was that there was an anonymous letter from a single individual. I did not say that only a single individual was involved in the further investigation.

The second is that Senator Hickenlooper in his statements the other day made statements of fact about the trial before the local board and in other respects, which we do not believe are borne out by the record itself, the record of some 350 pages of testimony, and other parts of this record.

This again illustrates, it seems to us, the contradiction to the ordinary principles of fair play by which we set so much store in this country, and by which this committee has set such store, and which would require that the full statement of the situation here, rather than those selections, and, with all respect, what we believe to be inaccuracies which, of course, under the public hearing situation, condemn this man, and condemn the system, and raise a cloud about the entire enterprise until resolved.

The CHAIRMAN. I take it that your request is made on the basis of case A, and does not include B, C, D, and E, and so on?

Mr. LILIENTHAL. I have not had an opportunity to consult with my colleagues on this. My personal view would be that if we are going to go into these individual cases, and if the samples, if the examples we have had in the past of identification by inference continues, as I think we have reason to believe that they will, we ought to go into the entire record of all the individuals whose names have been submitted on this list.

The CHAIRMAN. Well, that is assuming that some public mention is made at a committee meeting in the nature of a syllabus.

Mr. LILIENTHAL. That is right. If things comparable in respect to case A transpire, then it would seem to be necessary from our viewpoint—

The CHAIRMAN. If I understand you correctly in your letter, if a syllabus of the case were not given publicly, it would be your prefer-

ence that the case be examined in executive session because of the fact that confidential files would be opened for general inspection, which would be contrary to good sound public policy.

Mr. LILIENTHAL. Senator McMahon, I believe our position is this: There is one of two ways of handling this problem. One is as the committee has handled it in the past, in executive session; there is a lot of tradition back of that, as well, and there is the precedent of the President's order in respect to confidential files. There is another way to handle it, and that is in public hearing. If it is held in public hearing, we believe the hearing should be public in extenso, with all the facts, and not a selection of the facts being made available, and there is really no middle ground.

Senator MILLIKIN. Mr. Chairman, may I suggest that the problem is exactly the same whether you have it in committee or whether you have it here in the open. If we have it in committee any facts that would be essential in public should be essential there, and the inquiry should be pursued in the same way.

Mr. LILIENTHAL. That is right.

Senator MILLIKIN. There is no difference at all between procedures if we are to have a thorough investigation.

Mr. LILIENTHAL. The difference only being whether it is an executive session or public session.

Senator MILLIKIN. The only difference is whether you want to keep from the public that which you develop in private; that is the difference.

Mr. LILIENTHAL. Our position is that we want the public to have the whole story if there is to be any public presentation at all.

Senator MILLIKIN. Mr. Chairman, I would like to ask Mr. Lilienthal one question: With reference to case A, did the Security Board which you set up to judge the subject of case A take testimony from all witnesses disclosed by the record?

Mr. LILIENTHAL. All of the witnesses disclosed in the record were invited and urged to attend.

Senator MILLIKIN. Did it take testimony from all of them?

Mr. LILIENTHAL. It did not, because a number declined to appear.

Senator MILLIKIN. You gave an opportunity to all witnesses to appear?

Mr. LILIENTHAL. It was more than that.

Senator MILLIKIN. Whose names were suggested in the record?

Mr. LILIENTHAL. Yes, Senator; and more than that, they were urged to attend.

Senator MILLIKIN. Yes.

(The following letters were submitted later for the record:)

UNITED STATES ATOMIC ENERGY COMMISSION,  
Washington, June 10, 1949.

HON. BRIEN C. MCMAHON,  
Chairman, Joint Committee on Atomic Energy,  
Senate Office Building, Washington 25, D. C.

DEAR SENATOR MCMAHON: Attached is a copy of the letter I have sent to Senator Millikin concerning my response to one of his questions regarding case A. I should appreciate it if this letter were made part of the record.

DAVID E. LILIENTHAL, *Chairman.*

JUNE 10, 1949.

HON. EUGENE D. MILLIKIN,

*United States Senate, Washington 25, D. C.*

DEAR SENATOR MILLIKIN: On Wednesday in reply to one of your questions concerning case A, I indicated that the local board had invited to appear before it all the persons who had furnished statements to the Federal Bureau of Investigation concerning Mr. A.

I was speaking then from recollection and find on checking the record of the case that the local board requested through the Federal Bureau of Investigation the appearance of the four persons who had made the principal statements unfavorable to Mr. A. Three of these persons did testify voluntarily. The fourth indicated to the Federal Bureau of Investigation that he did not wish to appear.

Sincerely yours,

DAVID E. LILIENTHAL, *Chairman.*

The CHAIRMAN. Now, if there are no further observations or comments about case A, and the problems which case A has given birth to, we will proceed to something else.

Senator Hickenlooper?

Senator HICKENLOOPER. Mr. Chairman, we have talked a great deal about personnel clearance procedures. They have been frequently mentioned, and we have talked about decentralization, of changes in plan in the Commission, and I have brought for the information of the committee this morning a most peculiar and remarkable document.

I have here, Mr. Chairman, and hold it where the committee can see it—let the committee get a look at it. I have here, Mr. Chairman, what is known as Personnel Clearance Procedure. First Phase Decentralization. This was developed by cartographers, I understand, from the Coast and Geodetic Survey, and it purports to outline the security clearance procedure of an applicant for a job.

Now, I have traced, begun up here where the individual is supposed to come in.

Now, just let me read a few things here.

Mr. COLE. Mr. Chairman, may I inquire: Is this chart one that was prepared at the request of the Senator from Iowa or is it a Commission—

Senator HICKENLOOPER. This is a Commission chart. Incidentally, the man who had charge of this, I am told, and personnel situations of this kind, had been a ship's damage-control officer in the Navy, and came from there to the Commission, and I do not know whether he thought he was dealing with a battleship or just what, in this chart.

Mr. PRICE. On whose recommendation was it prepared, Mr. Chairman?

Senator HICKENLOOPER. The Commission's recommendation.

Mr. PRICE. Do you mean Mr. Lilienthal or the Commission?

Senator HICKENLOOPER. Just the Commission's recommendation.

Mr. PRICE. I thought that you had directed your charges against the Chairman of the Commission.

Senator HICKENLOOPER. Well, you may think that or whatever you please.

Mr. PRICE. You said that at the opening hearing here.

Senator HICKENLOOPER. May I go on?

Mr. PRICE. Certainly, go on.

Senator HICKENLOOPER. May I go on with the presentation of this case? This gets a little beyond the individual situation.

A man comes in—I do not know whether he comes in or goes out. He is supposed to start here.

Senator KNOWLAND. It looks like a Rube Goldberg cartoon.

Senator HICKENLOOPER. There is a path that goes up here—here is a path that goes up here, and then an arrow goes out here into infinity; I do not know what that is, but anyway it starts out this way, "Assign case number and fill out in full (1)." Now, 1 is the master reference index card. "Fill out in full (1) to (9)," so you fill out the master reference index card down to control index card—"in the quantities indicated."

Then, the next step is "With flap of file folder (4) on the right-hand side and with folder open, staple (1) (5)"—that is the master index card, and (5) is the file summary sheet—"staple to the left-hand side and (1) (6) to the right-hand side."

Now, I do not know how you can staple one to the left-hand side and also staple one to the right-hand side. That is what the chart says.

"The combination of 4, 5, and 6 becomes (11)." That becomes the file folder in process.

Then, apparently this thing starts down into this highly complicated situation. This goes—wait a minute, I do not know where it goes. It goes out here four or five times, and then it comes down into here.

The fact is that this chart of the "First Phase Decentralization" of security—

Senator KNOWLAND. Is there another phase?

Senator HICKENLOOPER. Yes; there is.

This is the first phase I have gone through here, and finally there is an arrow that goes off here in sort of a detached way, and this says "Notice of action from personnel or other source," and that is that.

Now, I frankly have studied this a long time, and I cannot find my way through this maze. I think it might be well to have it printed as a puzzle and give you a prize if you can follow around and come to the end.

There is quite a system of what looks like a railroad switchyard down in here.

Now, this is the first sheet of the first phase decentralization of security clearance.

Here is phase 2, or the second sheet; this is the second sheet of the first phase of decentralization. Can the committee see this?

It is a remarkable thing. Instead of coming in up here some place it comes in down here in the middle, and goes on around through, I guess, because I have tried to follow these things through, and the significant thing about it is that in attempting to follow this remarkable pattern in the clearance procedures of personnel, I can find two or three places where if there is nothing wrong with an individual or no suspicion or no charges, he can be cleared if he is as clear as can be, and there is no question about him; there are two or three places that he can be cleared.

But if there is derogatory information, if there is doubt raised, I cannot find any place there where the fellow lights or roosts.

Mr. Chairman, it is a remarkable thing. I have tried it, and the best I can give you is that there are involved, as nearly as I can tell, 113

operations and they go into some, they ramify into some 20 or 23 offices before this fellow who is trying to get cleared gets off, if he ever gets off the second sheet; and I understand that sheet 3 was not finished. I do not know what happened to that cartographer who built it up, but I just use that this morning as an illustration of the confusion in this personnel clearance situation. I think that is plainly shown.

Now, these charts were prepared, and are quite expensive. They are prepared and produced by cartographers, printed by the United States Coast and Geodetic Survey. They are in three colors—in fact, they are in four colors—no, five colors. They are in green, in blue, in red, a sort of orange—let me see—I get lost every time I start looking at this thing, so you will have to excuse me. There is green, there is blue, there is orange, there is red, there is black, and that makes five, does it not?

Mr. COLE. Do not forget the white.

Senator HICKENLOOPER. Well, it is on white. [Laughter.] I have introduced those, and I would be glad to put those into the record, Mr. Chairman, if they can be introduced.

The CHAIRMAN. I do not think this can be reproduced in any record which we would be capable of making.

Senator HICKENLOOPER. I thought they might photograph it, which would be the only way to get it.

The CHAIRMAN. We will take up the mechanics of the problem, but they seem to me to be very great indeed.

(The charts referred to above entitled "Personnel Clearance Procedure, First Phase Decentralization," and "Procedure for Screening Cases, First Phase Decentralization," prepared by the Personnel Security Branch, Office of Security and Intelligence, Atomic Energy Commission, are filed with the Joint Committee on Atomic Energy and made part of the record of this hearing by reference.)

Senator MILLIKIN. Mr. Chairman, I would like to suggest that Senator Hickenlooper has rendered a disservice to his case because if any applicant got caught in that maze, he would never be cleared, and since no one is ever cleared, there is complete security. [Laughter.]

Senator HICKENLOOPER. I do make the point seriously that there are points in the first chart where if a man has not sufficient derogatory information to raise a question about him, he can be cleared. Of course, that could be an utterly simple thing. He applies, his record is clear on investigation, and he is cleared; but it is the fellow where doubt is raised who gets to wandering around there, and you may have something, I do not know.

I would be happy, Mr. Chairman, I do not know if anybody here can trace the operation through, I do not want to leave it, or I will just leave it as it is, whatever you think about it.

The CHAIRMAN. Is there any comment from the Commission on this subject? Is there any defense or offense?

Mr. LILIENTHAL. Well, there is the first incredible thing that I have heard in these hearings, but we have procedures which are described in print, and someone apparently has translated them into charts. Mr. Wilson might describe those procedures, if the committee desires to have them.

This has been done before, and is in your files. It just depends on how much time you want to put in on this.

Mr. WILSON. Mr. Chairman, I would like to submit a copy of GM-80 which is the basic delegation of authority in respect to the granting of clearances, both to the Director of Security and the Managers of Operations; that is about a page and a half, which I think spells out the basic procedure.

I should say that the particular chart or charts to which Senator Hickenlooper has referred represented an attempt where Admiral Gingrich felt this could be expressed in terms of flow charts, of flow sheets, and this was an attempt to do so.

How much it has been used, I am not in a position to say, but—  
 Senator HICKENLOOPER. May I just say that the naval officer to whom I referred, who had been a ship's damage control officer, was not Admiral Gingrich.

Mr. WILSON. No, but he was conducting this under Admiral Gingrich's general direction, I believe.

Mr. DURHAM. Was it made at his request, the security officer's request?

Mr. WILSON. They were made at his request.

Mr. JACKSON. Mr. Wilson, I wonder if you could give some of the other background of this individual. I assume he happened to be an officer during the war, which is no particular count against him. Could you tell us something else about his background?

Mr. WILSON. His general background?

Mr. JACKSON. Yes.

Mr. WILSON. I cannot tell you about it. He was brought in to do this job under Admiral Gingrich's direction. Admiral Gingrich had known him, I believe, and he had performed earlier work for him.

As I say, the attempt to reduce this to a flow chart—

Mr. JACKSON. Was he a Regular Navy officer?

Mr. WILSON. I believe he is a Regular Navy officer.

Mr. PRICE. Assigned to the Commission?

Mr. WILSON. The Coast and Geodetic Survey undertook this job for the Commission. Some of the people engaged in it actually worked in the Division of Security while these charts were being prepared. It was at the same time that they were also preparing for us maps of the various facilities indicating the different exclusion areas, and the like.

I might say that a good deal of the system—I do not claim that this represents or reflects the system—but I do believe that the system is functioning, and functioning well, and it involves handling about 70,000 individual cases per year, cases arising at any one of dozens of locations, and feeding into the various offices of operations, where the material is checked; the material is forwarded from there to the FBI, together with master control cards for the Washington headquarters. Completed reports are returned by the FBI to the originating office. They are then screened once, twice. Some 75 percent of all cases show up no derogatory information of any kind. Those go through fairly promptly. Others in which there is any derogatory information are screened again, and out of this there is an evaluation of the character of it.

Out of this total about 3 percent of all these 70,000 cases a year reveal what is called substantial derogatory information in the form of allegations, charges, and the like.

Senator HICKENLOOPER. Mr. Chairman, may I just suggest to Mr. Wilson he has emphasized the fact that there are 70,000 cases a year; I may be underestimating the turn-over, because there are about 50,000 contractor employees, and about 5,000 Commission employees; that makes about 55,000, so if they are processing 70,000 a year, maybe my turn-over percentage should be increased to well over a hundred percent.

Mr. WILSON. I believe, Senator, we submitted the figures on the turn-over in construction jobs, as I pointed out the other day, and there is a high turn-over. This is characteristic of construction jobs.

I believe that the written instructions which are basically contained in General Manager Bulletin 80 describe the authority and responsibilities and general procedures and they are supplemented by more extensive regulations which can be submitted for the record.

The CHAIRMAN. I wish you would submit that for the record, Mr. Wilson. I think we are familiar with the printed clearance procedures.

(The document referred to follows:)

#### ATOMIC ENERGY COMMISSION

Bulletin  
GM-80

Security and Intelligence  
Personnel Clearances

#### DECENTRALIZATION OF AUTHORITY TO GRANT PERSONNEL CLEARANCES AND OF CONTROL OF INVESTIGATIVE REPORTS

Ref: Amends General Manager's letter of February 14, 1947, subject: Personnel Clearance. Temporary security clearance for emergency appointments, clearances and approvals of aliens, and clearances and approvals for personnel of the Military Establishment are not covered by this bulletin.

For: Managers of Operations.

##### 1. Delegation of authority

(a) Effective April 15, 1948, Managers of Operations are authorized to receive on behalf of the Commission reports from the Federal Bureau of Investigation concerning the character, associations, and loyalty of individuals employed by the Commission or considered for such employment, or permitted by contractors or licensees to have access to restricted data or proposed to have such access; and to determine on behalf of the Commission that employing such persons or permitting them to have access to restricted data will not endanger the common defense or security and to grant security clearance therefor, *provided*: That the complete report by the Federal Bureau of Information shall not have disclosed any substantially derogatory information concerning the character, associations, or loyalty of such persons. If any such substantially derogatory information shall have been disclosed, the complete FBI report, together with other pertinent information, shall be forwarded to the Office of Security and Intelligence, Washington, D. C., for determination as to whether there is security risk.

(b) The authority to grant security clearance in cases where no derogatory information is disclosed may be redelegated in writing to such assistants as the Manager may deem necessary; the authority to grant security clearance in cases where derogatory information is disclosed, but is not considered to be substantially derogatory, may be redelegated in writing to area Managers, without power of further redelegation.

(c) For the purposes of this bulletin, the Assistant General Manager will act as Manager of Operations in the Washington area, and Washington area security operations will perform the functions assigned to local security offices.

##### 2. Allocation of responsibility

(a) Managers of Operations will designate the local security offices which are to assume the responsibilities and may delegate to the appropriate area Managers or other officials authority for granting the personnel security clearances, subject

to the limitations of paragraph 1 (b) above and exhibits I and II. Arrangements may be made between the respective Offices of Operations for the allocation of these responsibilities to one as an administrative service for the other, where the location of a facility is such as to justify such arrangement as a matter of expediency.

(b) TEC headquarters: The Office of Security and Intelligence will transmit to the designated local security offices investigative reports received from the FBI; receive and coordinate with the FBI all requests from the field relating to the procedure for processing of investigations; provide detailed information as to the subversive characteristics of organizations, upon request; and make the analysis, review, and security decision on all cases requiring decision and instruction by AEC headquarters.

### 3. Procedural guides

There are attached as exhibits I, II, III, and IV, the basic procedural requirements for processing personnel clearance actions under the new authority, and for furnishing statistical reports to Washington.

CARROLL L. WILSON,  
*General Manager.*

Revised June 17, 1948.

#### TRANSMITTAL NOTICE

Bulletin  
GM-80

Security and Intelligence  
Personnel Clearances

(Revised June 17, 1948)

Subparagraph (c) has been added to paragraph 1 on page 1 to delegate to the Assistant General Manager the same authority to grant personnel clearances for the Washington area as is delegated to the Managers of Operations for their respective areas of jurisdiction.

(Regulations supplementing the above regulation are marked "Exhibit 9" and will be found in the appendix.)

Mr. JACKSON. I would like to have the background of this employee who prepared the chart placed in the record.

Mr. WILSON. I will be glad to.

Senator HICKENLOOPER. Mr. Chairman, please do not misunderstand me. I am casting no aspersions on the employee who made the chart. My suggestion which I probably feebly made was that he had been a ship's damage-control officer, and I thought, perhaps, that this looked like a ship's damage-control chart in its complications. The officer is undoubtedly an able gentleman, and an able officer.

I was not casting any reflection on him as an individual, and I am perfectly willing to concede that he is a very high-class fellow.

Mr. JACKSON. I gathered—maybe I drew the wrong inferences—but it seemed to me that it was a question as to whether a damage-control officer was qualified to do this job. I do not see any harm in putting his occupational background and biographical sketch into the record.

The CHAIRMAN. Well, without objection it will be so ordered.

(The biographical sketch referred to is as follows:)

UNITED STATES ATOMIC ENERGY COMMISSION,  
*Washington 25, D. C., June 21, 1949.*

Mr. WILLIAM L. BORDEN,  
*Executive Director, Joint Committee on Atomic Energy, Washington, D. C.*

DEAR MR. BORDEN: At the hearing before the joint committee on June 8, Mr. Jackson suggested putting into the record a biographical sketch of the AEC employee who prepared the security-flow chart presented for the record by Senator Hickenlooper.

Accordingly, a sketch on this individual is submitted herewith:

This employee was employed on the floor of the New York Stock Exchange from 1929 to 1934. During the latter years of this period he attended Columbia

University and City College of New York, where he majored in business administration and mathematics. He was then engaged as a salesman by A. Stanley Brussel until 1938, when he started his own business for the sale, design, and distribution of metal and ceramic housewares. From this position he went to the Frankel Machinery Corp. in 1942, where he supervised the new engineering design and assembly of turret lathes. In June 1944 he joined the Consolidated Machine & Design Co., of New York, where he supervised drafting and graphic presentation, sales and field operations of all phases of mechanical design.

He entered the United States Army in June 1944 as a private. In August 1944 an application for a commission in the Navy made prior to his Army induction was approved, and he then entered the United States Navy, where he was appointed lieutenant (junior grade), with a classification of aviation volunteer specialist. On April 1, 1946, he was appointed lieutenant with a classification of aviation limited.

While with the United States Navy, he served from August 1944 to February 1945 as project engineer, Special Devices Division, BuAir, Washington, D. C.; served from February to August 1945 as project engineer, Maintenance Unit, Special Devices Department, Office of Research and Inventions, New York. During the period January 1945 to March 1946 he was given the temporary additional duties of BuShips representative in connection with the preparation of isometric diagrams of damage control systems of the several naval shipyards. He was separated from the service on April 15, 1946.

He then became associated with MacDonald Bros., industrial engineers, in New York City, as district manager, from March to September 1947.

He joined the Atomic Energy Commission as Assistant Chief, Inspection and Survey Board, Division of Security, on October 17, 1947, where he was responsible for initiating and completing of research and physical lay-out engineering study designed to reflect the physical security requirements of principal AEC installations and facilities. He left this position on November 19, 1948, to reenter private industry. He is currently serving AEC as a consultant in connection with security-mapping projects and other security functions as required.

This information is noted for insertion in the record of the June 8 transcript.

Sincerely yours,

CARROLL L. WILSON, *General Manager.*

Mr. WILSON. Mr. Chairman, I have in addition to the printed instructions and bulletins, a general description of the development and operation of the Commission's personnel security program which I would be glad to submit for the record. This is an unclassified document.

The CHAIRMAN. Please do so.

Mr. WILSON. All right.

The CHAIRMAN. That has been published, of course, Mr. Wilson?

Mr. WILSON. Well, it is unclassified. In this particular form it has not previously been published.

The CHAIRMAN. All right.

(The document referred to is marked "Exhibit 10," and will be found in the appendix.)

The CHAIRMAN. All right, Senator Hickenlooper.

Senator HICKENLOOPER. I think Senator Knowland spoke to me a minute ago and said he had a matter to take up. I am through with this particular phase. I have another matter later.

The CHAIRMAN. All right.

Senator KNOWLAND. We received from you, Mr. Wilson, under date of June 6, some answers to a query that I had raised in our committee hearings on the same day relative to the Argonne security in site D, and the letter, together with enclosures, should probably be put into the record at this point.

(The material referred to is marked "Exhibit 11" and will be found in the appendix.)

Senator KNOWLAND. Do you have the security people from the Argonne here this morning?

Mr. WILSON. I do, Senator. We also have a map, copies of which we can hand out to the committee, which indicates the areas at site D, and I believe Mr. Borden has copies of these.

Senator KNOWLAND. I think that would be helpful while we try to clear this up.

Mr. WILSON. I think it would. As soon as you have it in your hand, I will briefly describe it and then introduce Mr. Weidner, who is project engineer of the University of Chicago, supervising work of the Austin Co., which is the construction firm engaged in building certain new buildings at the Du Page County site.

As you will see on this map, the east area on the right—

Senator KNOWLAND. Before you start on the east area, just so we can all keep up with the procession here, site D itself, will you explain what site D covers?

Mr. WILSON. Site D is the terminology used in Chicago for identifying the Du Page County site. That is about 3,600 acres in Du Page County, which is the site of new laboratory buildings.

In other words, site A, for example, the Palos Park site; site B, the downtown site in the old brewery; this is a terminology; and site D, in terms of the parlance refers to the total area.

Senator KNOWLAND. On this chart which you have given the committee it shows site D, and there are three different places listed on here. Do you mean that it only includes these three installations, or are there more than three installations at site D?

Mr. WILSON. These are the only installations at present at site D.

Senator KNOWLAND. So that site D includes the east area, the west area, and apparently one disjointed area, whatever you may call it.

Mr. WILSON. That is right. We will come to that.

Senator KNOWLAND. Just directing again your attention to the instructions that I put in the record the other day labeled "Austin Co., Argonne National Laboratory, site D," I think you will agree with me that insofar as the instructions themselves are concerned, they do not differentiate between east area, west area, and the disjointed area, if we may use that term, but presumably, on the face, relate to site D; is that not correct?

Mr. WILSON. There is a possible ambiguity there, Senator. There was no ambiguity in terms of its understanding at Chicago, but we can understand that looked at apart—you will remember this was on the letterhead of the Austin Co. The Austin Co. has cognizance and supervision and responsibility only in respect to the west area.

These instructions went to their watchmen and guards in the west area, both the small area and the big area in the west area. They did not go to anybody in the east area.

Senator KNOWLAND. Now, directing your attention to what you called the west area, at the present time are there any subdivisions within the west area?

Mr. WILSON. In the west area there is the kidney-shaped section which is construction of new buildings.

Senator KNOWLAND. Now, may I ask this: Is the general public admitted—

Mr. WILSON. Yes.

Senator KNOWLAND (continuing). Into the west area without any checking whatever?

Mr. WILSON. There are watchmen and guards around to keep people from falling down holes and keep people from pilfering articles, but there are no fences; a highway runs adjacent to it on two sides; these is no basis or reason for having this a guarded area. There are only watchmen and watchmen after hours particularly to protect against theft of property and people falling down stairways.

Senator KNOWLAND. Insofar as the general public is concerned, any one of us in this room, without security clearance of any kind, could take our car and drive into the west area; is that what I understand?

Mr. WILSON. Drive into any part of this kidney-shaped area.

Senator KNOWLAND. If that is so, why, then, do you find it necessary under these instructions—which, it is true, were on the letterhead of the Austin Co., but also with the subheading “Argonne National Laboratory, Site D”—do you say that “the following persons and their guests will be allowed unlimited access to all areas of the property at all times upon identification of themselves,” if no identification is required of the general public?

Mr. WILSON. Senator, may I ask Mr. Weidner, who is in charge of this project, to answer that?

Senator KNOWLAND. Yes. I think there is some ambiguity.

Mr. WEIDNER. The area, Senator Knowland, that is under general construction, which is labeled here as the kidney-shaped area, has in it several major buildings under construction around which there is a considerable amount of construction material and that sort of thing.

In regard to this memorandum, if I may go back to that, Senator, that was put out on May 10 and was the result of an effort to try to cut down and control the amount of general public access to the area because we were having difficulty from the standpoint of operating it in the standard construction operation.

Senator KNOWLAND. You say it was an effort to cut down. That order or instruction of May 10 was the second to one that had been issued on April 22 of a generally similar nature.

Mr. WEIDNER. That is true.

Senator KNOWLAND. The one on April 22 listed 77 people who would have access with their guests to this area, and the one on May 10 had 154 who would have access with their guests; so you have increased by geometric proportions almost. It hardly seems you were cutting down when you more than double those with access.

Mr. WEIDNER. Perhaps, Senator Knowland, it would be better to go back and start from the beginning.

Senator KNOWLAND. I think it would be better, so we all understand it.

Mr. WEIDNER. Yes, sir. In the first place, everything outside of the east area, from the time it was constructed and turned over to the laboratory as an operating unit, has been treated as a normal Government construction operation because it does not involve at the moment or up to date any restricted construction.

Senator KNOWLAND. Are there no Quonset huts with security information?

Mr. WEIDNER. I will get to that in a moment.

Senator KNOWLAND. You said there was nothing but this construction.

Mr. WEIDNER. I said there was no restricted construction going on. In handling this operation we also must design it. We must design it to fit the needs of the scientific staff within the direction of the Commission.

In order to design it in that way, we must have given to us from time to time for the use of the design staff the design requirements, which may and do at various times involve parts of information that we must use in connection with the design.

That is kept over in this little area far to the west. The little building shown in red is where our office is, where the administration office is, that is within the security fence.

The CHAIRMAN. How far is that away?

Mr. WEIDNER. It is on the west edge of the construction area. It is about a mile and a half or a mile and three-quarters from the operating unit of the laboratory.

Now, this building over here in which I have my office and we have the engineering office—all of our engineering force have Q clearances. We have a standard three-combination concrete vault in which we have a locked file in which we keep this information as it is given to us until we are finished with it, and then we return it.

Senator KNOWLAND. Of this classified information which you keep in your office building there, some of it, of course, probably being more classified than others, what is the highest classification that you can recall? Would it be merely restricted, would it be confidential, would it be secret, or would it entail some top secret material?

Mr. WEIDNER. To my knowledge, Senator Knowland, we have never kept in that, since we have been on this site, anything above the level of secret. Whatever we have had to have of another nature, we would have gone to the other area, had our instructions in connection with it, and gone back.

Senator KNOWLAND. So that there is in that particular area of site D, west area, documents which would be of value to espionage agents if they could get their hands on them? In other words, you keep them in a three-combination safe.

Mr. WEIDNER. They are kept in a three-combination safe. As to your other question, Senator, I would say this: We do not get, neither do we desire to have anything except the express memoranda and design requirements which are necessary to us to design certain things. Now, we are not involved in the design of the classified or, shall we say, the equipment that goes in the building afterward. We simply have to make provision for it.

Consequently, it would be my opinion that unless someone were to be engaged in designing a basic research laboratory, which is what this is, and was interested in making provision for someone else to come in and install whatever they might like to do, the information in there would be of no value to them.

That does not, however, change the fact that we have handled all those documents there in strict conformance with AEC requirements. There is a guard in that building 24 hours a day. It is within a security fence. The memoranda that you have that you referred to in no way affects this. Guard post instructions of October 4, which are put out by the Austin Co., that is in the form of a bulletin. Now, the

Austin Co.'s procedure is that bulletins can only be superseded, amended, or changed by bulletins. Memoranda are simply those documents put out from time to time to their own guard force to elucidate what you want them to do, to explain something, to make it possible for them to operate in a better manner.

I have a copy of instructions to guard post No. 3, which is inside the building. I also have with me the original log sheets of that guard, which started—I have just picked them at random—from the 1st of May to the 6th of June, which covers a period both before and after, which demonstrates definitely that all visitors all during the day are recorded in, they are taken to the reception room, and then they go wherever they want to go. Because, after all, this administration area is the headquarters for all the construction, so you have a great number of people you must do business with who are not permanently on the site.

Senator KNOWLAND. Referring back to this site, I think you have clarified it to this extent: That your Austin Co. is responsible for what you show here in green, the two areas labeled "west area."

Mr. WEIDNER. Yes, sir.

Senator KNOWLAND. Rather than the entire site D. So it would probably have been more clear in your instructions if they had said "west area of site D."

Mr. WEIDNER. Senator Knowland, let me say this: We are handling this, the part that we are interested in is a standard construction operation. Outside of our own little problem in design, the security does not affect the other people. Consequently, the chief of the guards and watchmen and people who handle that were handling it in that normal construction fashion. It did not occur to them, it did not occur to any of the rest of us that it would be confused.

That is the ignorance of having lived in your own bailiwick and not wondering what somebody else will think about it. However, when it was brought to our attention, we immediately clarified that memorandum of May 10, and I will be happy to give you copies of the new one, which we think has removed all the confusion. We hope so, anyway. We have not reduced the number of names.

Senator KNOWLAND. I notice on this memorandum it is now headed "The Austin Co., Site D, West Area," which certainly clarifies that instruction.

Mr. WEIDNER. I can explain why the other one was on there. The contract reads to both our architect, engineer, and our constructors "Site D for the Argonne National Laboratory project."

Senator KNOWLAND. Now, on these prior instructions which allowed the following persons unlimited access to all areas, that would include both the disjointed part and the kidney-shaped part of the west area; is that not correct?

Mr. WEIDNER. This one over in here where the construction headquarters is.

Senator KNOWLAND. Yes.

Mr. WEIDNER. It was not so intended there, and there was no confusion. There was only confusion when somebody who had not received oral instructions from the guard lieutenant read it. It was to provide each guard and watchman with the names of people whom he could expect to pass into the separate construction areas.

Senator KNOWLAND. I notice on the new instructions, which seem to me to be much better—

Mr. WEIDNER. Thank you.

Senator KNOWLAND. If I may be pardoned for saying so—this memorandum refers to and supersedes subject memorandum dated May 10, 1949, upon proper identification of following persons—then you leave out “and their guests,” and you say they will be allowed access to those areas of site D under the jurisdiction of Austin Co. except that only those persons whose normal place of business is in the Administration Building and construction headquarters shall have access to that building, that access to be in accordance with the presently established guard regulations covering the operation of post No. 3.

I want to commend you on this language, and I hope that if we have gained nothing else out of this phase of the hearing, that the other installations of the Atomic Energy Commission will take due notice and will be sure that their instructions to the guards are so clear that there can be no misunderstanding, because you may get a serious security violation through a misunderstanding of a new guard who takes at face value the instructions which you have given him.

Mr. WEIDNER. I might explain, Senator, that these are not truly guards; all of this force is not guards in the same sense as the operating units of the Commission are. These people are construction watchmen and guards.

Their primary purpose, of course, is to prevent the removal of Government property and tools from the site. They are interested in maintaining order throughout. We try to be courteous to the public; we allow the public to come through. The first one that you read was very restricted and we found that it would not work at all. So, we put out the one of May 10.

What we are trying to do is restrict the public from the construction areas themselves and still not prevent the public from going through, as they do in any other normal unfenced Government construction project.

Senator KNOWLAND. I merely wish to say for myself that I am satisfied now with the corrective steps that have been taken by the Austin Co. and, presumably, by the Commission itself in this matter, and I think they are to be commended upon promptly closing up what otherwise might have developed into a loophole which would not have been satisfactory.

The explanation, to me, is satisfactory on the basis that they have used. I think they have now tightened up this in a satisfactory manner.

Mr. WEIDNER. May I say just one thing, Senator Knowland?

What we have put in this memorandum is a statement of what has always existed. It has clarified what we had out before, which I am perfectly willing to agree was a poor choice of words.

Mr. HINSHAW. It will be noted that following the list of names, it stated:

The official duties of the above persons are such that their presence is required on the project at irregular and unanticipated times. Said persons will be fully responsible for any and all persons accompanying them.

I think that is slightly in contradiction to Mr. Knowland's understanding of the first paragraph, which he read. I assume that their

guests or the persons accompanying them are still entitled to entrance without further clearance.

Mr. JACKSON. Is that for the purpose of making sure that you have honest people in the area so they do not start walking off with material? It is not for any reason of security?

Mr. WEIDNER. It is not security.

Mr. JACKSON. This is purely a problem of trying to keep track in an orderly fashion of the building materials and supplies and equipment that are on the premises, a practice that would be followed in any kind of construction work; is that right?

Mr. WEIDNER. That is correct; yes.

Mr. JACKSON. This has nothing to do with security?

Mr. WEIDNER. No.

The CHAIRMAN. If there are no further questions on this phase, Senator Hickenlooper would like to take up another matter.

Senator VANDENBERG. Mr. Chairman, may I ask just one question, first?

The CHAIRMAN. Yes.

Senator VANDENBERG. It is of no particular moment, but my curiosity was aroused the other day as to why you were sufficiently interested in identifying the persons who could have free access and you were not interested in their guests.

It seems to me that you still confront that anomaly because you are still only requiring registrations of the persons listed above and you are explicitly excluding registration of their guests. I do not understand why you have no interest in their guests.

Mr. WEIDNER. Senator Vandenberg, probably the choice of words in naming them as guests was very poor. The people we have listed on here are the responsible people whose duties require them to follow the development of construction. The people they will be bringing with them may be visitors from other of the Commission's activities, they may be subordinates in their departments, they may be various material men with whom we have to develop certain things. If you will refer to the map again, the one thing on this map that is not shown—perhaps we should have shown it—they are the major building areas which this list allows—I mean which this memorandum allows these people and the people they believe should go with them to visit.

The general public is allowed to go back and forth as they see fit as long as they do not go in the major building construction areas separately.

Now, the reason for not registering guests or the people whom these other gentlemen have with them seemed logical to us inasmuch as these are the responsible parties and it is understood that they would be taking only people whom they have an interest in showing the place to, and since it has no security problem, being a problem of controlling Government property, it is a good bit like allowing officers in the Navy to clear themselves at the gate and take who they may with them into the navy yard and back again, which we all did many times during the war, and still do.

We require the guard or the watchman to count the number of people in the party for the sole purpose of keeping a record of how many were in and out, and if anything did develop, we know that John Smith, who may have been cleared by the guard on this list to go in, had five in his party at a certain time.

It is not that we are interested in either this man or the people he takes with him. We are simply trying to maintain some sort of property control so that we know who are wandering around the site.

Senator VANDENBERG. I do not want to belabor the point, because I think it is purely inconsequential, but I still find myself intrigued by your interest in registering known visitors whom you have already cleared and your lack of interest in unknown visitors whom you have not cleared.

Senator HICKENLOOPER. Mr. Chairman, I would like to present to the committee an instance of a serious breach of responsibility which includes within itself the elements of potential impairment of our national security, a violation of the spirit and, I believe, the letter of the law, and a very substantial departure from the program of isotope distribution as originally laid down by the Commission and upon which basis the approval of the program was made by the Secretary of State.

I think it clearly violates the scope and the limitations of the isotope distribution program as announced by the President on September 3, 1947.

In the Commission's proposal to the General Advisory Committee in 1947 it was made clear that the distribution of isotopes would be made for biological and medical research almost exclusively. On May 31, 1947, and based upon the Commission's proposal to the General Advisory Committee, that Committee concurred. During the middle of June the Medical Board of Review considered the matter and on August 19, 1947, the Commission formally adopted the program. According to the Commission's news release of May 24, 1949, the vote on this question was 4 to 1, with Commissioner Strauss voting in the negative.

On August 27, 1947, the Commission notified the Secretary of State of the action, and emphasized the purposes of the program to be humanitarian.

On August 28, 1947, the Acting Secretary of State acknowledged this notice and stated, according to the Commission's news release, as follows:

I note that these valuable products of United States atomic energy plants will now be available in the service of mankind and that, to this extent at least, we are able to advance toward the beneficent use of this new force. This initiative should promote harmony and good feeling among nations.

Based on your assurance that this offer on our part does not prejudice our national safety, and in view of the checks and safeguards set up in the distribution scheme as you outline it in the enclosure to your letter, the Department of State sees no objection from the point of view of foreign policy.

On September 3, 1947, the President made the following announcement of this program, at St. Louis, I believe:

I want to advise you that it is now possible for the United States to take an important forward step toward greater international cooperation in the field of medical and biological research. On behalf of the people of the United States I am pleased to announce to the Fourth International Cancer Research Congress that progress in the production of radioisotopes by the United States Atomic Energy Commission now permits limited distribution to qualified research workers in other countries of radioisotopes principally for medical and biological research. I know that the representatives of the United States attending the Cancer Research Congress share my hope that the open, impartial, and truly international character of medical research will carry over into the realm of other problems of world concern. The sharing by and among all nations of both the means and the results of cancer research will reduce the loss of life and human suffering from disease throughout the world.

Mr. Lilienthal has repeatedly referred to the distribution of radioactive isotopes, produced in our own atomic piles, and has constantly assured us that their distribution is for humanitarian purposes.

Now I come to the point.

On May 28, 1949, it was reported in the New York Times in a dispatch from Oslo that the Norwegian Defense Establishment has been negotiating with the United States for radioactive isotopes. This report is not quite correct. The isotopes had already been sent. The sender is the Atomic Energy Commission. The recipient, you will note, is not a hospital or a university but a part of the military establishment of a foreign government. It would torture reason to presume a humanitarian objective in the research conducted by a military establishment. The fact is that the purposes for which this shipment was sought by the Norwegian Military Establishment and the purposes designated by the Commission for which they were sent are not for medical or biological purposes but are definitely and specifically for purposes which have a direct bearing upon very important military research. This definitely marks a departure from the announced policy and I believe a clear violation of the purposes and program as laid down by the President, as well as by the Commission, and as well as that understood by the State Department.

Mr. Chairman, I have a little more in this statement, but I would like to say that I have specifically refrained from naming the purposes for which these isotopes were solicited and for which they were sent solely for the reason that the document or the report which reports them is not classified as confidential or restricted, but it does have placed on there by the Commission the words "Not for publication."

Personally, I see no classification on the document, I see no reason why the purposes could not be made public, but because of that I did not want to state it unless the Commission felt it was all right. As I say, the document has no classification.

The CHAIRMAN. Mr. Lilienthal, is there any particular reason why this should not be for publication?

Mr. LILIENTHAL. May I see it? I would like to make this preliminary comment. I realize that procedures of a legislative committee are not those like any other procedures, but I understood after Mr. Cole's remark about the effect of having a room full of people who should be at their other work, that we would be given some kind of reasonable notice as to what matters were going to be taken up, and this morning less than an hour before this meeting, at 10:15, which is about the time we left for the Hill, Mr. Bergman of the committee staff called to say that upon checking with Senator Hickenlooper's office, he was told that, and I quote, "Senator Hickenlooper will take up some personnel clearance matters relating to isotopes."

This was a very puzzling message and, as a result, the memoranda relating to this matter and the individuals who have them in charge are back at their work. They will be here shortly.

This subject, it may be personnel clearance matters relating to isotopes, but the definition of it was not very helpful. If I may examine the paper while these documents are on their way—

The CHAIRMAN. I might say for Senator Hickenlooper that, of course, the difficulties that have arisen due to the questions we have been discussing and also due to the fact that the committee has not yet passed upon six of the requests, has put an unusual burden upon

him in the presentation of his case. I just want to say that for the record.

As far as the transmission of that somewhat mystifying designation of what was to be taken up, of course, I cannot speak for Senator Hickenlooper's staff, and I have not asked Mr. Bergman. At any rate, we must keep in mind that the Senator has been somewhat hindered so far in the presentation of his case through difficulties that we e inherent in the problem.

Mr. LILIENTHAL. I am only suggesting that we will have to have virtually all of our staff members here with all the documents and all of our records if we are going to be confronted with such a situation as this is this morning, and that is what we will have to do.

Senator HICKENLOOPER. This is probably an understandable mistake. We thought that we had made it clear that we were going to continue talking about personnel clearances and probably refer to the isotope program later as a second field. We thought we had made that clear. Perhaps our office did not make it clear to Mr. Bergman.

The CHAIRMAN. At any rate, we are sure you will cooperate with us and with the Commission in endeavoring to give them as much notice as possible.

Senator HICKENLOOPER. I would like to complete my statement, if I may.

The CHAIRMAN. Let me get an answer to the question from Mr. Lilienthal as to why that is marked "not for publication." I realize the answer might be something that you would not want to give publicly. If so, you can just say so.

Mr. LILIENTHAL. There is nothing secret about isotopes and nothing dangerous about them, and there is nothing dangerous or secret about the statement.

The reason it is not for publication is that we present semiannual summaries, and until those summaries are prepared, the monthly statements are not published, but there is no reason at all why this should not be—

The CHAIRMAN. I am glad of that, because that removes the difficulty.

Senator HICKENLOOPER. Then at this point I will say that on April 28, 1949, the isotope of iron 55 in the amount of 1 millicurie and with the reference "highest specific activity" was shipped to Norway to the Norwegian Defense Research Establishment, Kjeller, near Lillestrom; the purpose was the investigation of the rate of diffusion of iron in steel at high temperatures.

Mr. Chairman, I will continue my statement. I have just a few more words here.

It is significant that in the periodic press release on the distribution of isotopes made by the Commission, no mention is made of the purposes of this particular shipment.

In fact, I think it applies to the purposes of other shipments, that they are not generally mentioned.

While section 5 (c) of the Atomic Energy Act makes reference to the distribution of radioactive material for research—and authorizes it, I am quite sure, upon reading the statute—it is to be noted that section 10 (a) (1) provides as follows:

That until Congress declares by joint resolution that effective and enforceable international safeguards against the use of atomic energy for destructive pur-

poses have been established there shall be no exchange of information with other nations with respect to the use of atomic energy for industrial purposes; \* \* \*

I also call attention to the fact that numerous shipments of radioactive isotopes, all of which have been produced in our atomic piles, have been sent, among other destinations, to the Joliet-Curie establishment in France. I am happy to have the benefits of biological and humanitarian uses of this material, but I call attention to the fact that the social and political views of Madame Curie and her husband have been widely publicized not only in Europe but in the United States.

I call attention to the fact that once these isotopes leave our possession we lose control of the actual use to which they may be put and we lose control over the destination of either the isotopes or the information gained therefrom. I also call attention to the fact that many of these isotopes can, in fact, be used for the development of information that will not be used for the benefit of mankind nor for humanitarian purposes.

The reference to the Norwegian Defense Establishment shipment was contained in the Commission's report to the committee for the month of April 1949.

I want to call to your attention also, Mr. Chairman, the fact that in May 1949 three shipments of isotopes, radioactive isotopes, in the amount of 1 millicurie each—1 calcium, 1 cobalt, and 1 zinc—were sent to Finland to the University of Helsingfors. The purposes given here which they were applied for, the purposes listed here show it to be, as to the radioactive calcium, for radioactive standards for measurement of radiations; the second shipment of cobalt, I believe—if "CO" stands for cobalt—is another one of the radioactive standards for measurement of radiation; and the third shipment of zinc, radioactive zinc, to Finland is for the radioactive standards for measurement of radiations.

Now, I think it is only fair to say, Mr. Chairman, that, without doubt, in medical and biological research the radioactive standards for measurement of radiations may be important—without doubt—but it is also important in other phases and fields of atomic research which may not be beneficent or which may not be humanitarian.

Now, the point that I am trying to make is that while we believe in the extension of humanitarian aids in biology and medicine and medical research to as much of mankind as we can, yet it has been at least my firm understanding—I am sure it is the complete interpretation of the President's announcement of the radioisotope shipment program, and of the State Department—that this is to be strictly and completely controlled and limited to biology and medicine and perhaps some plant experimentation in agriculture and perhaps some basic research application.

I suggest, Mr. Chairman, that the beginning, the opening wedge, for the shipment of isotopes for a purpose other than humanitarian—and without that, a military establishment that studies the rate of diffusion of iron and steel at high temperatures, that very thing alone has a high significance to those who know what the deficiencies are in some military programs today—I suggest that it is the beginning of the opening wedge where information may, perhaps not by intent—I do not know, but it is an exercise of discretion and authority in this program that has a potential imperilment to our national security.

Senator MILLIKIN. Is there any reason why we may not know the industrial significance of what Senator Hickenlooper has been talking about? I mean the military-industrial significance.

Senator HICKENLOOPER. Let me consult the chairman. After consultation with the chairman, I believe he and I are in agreement that—and I may say, Senator Millikin, I possess no information, I am not qualified as a scientist in any way, I am repeating what qualified scientists have told me—that the use of this material or similar materials, radioactivated, is very valuable indeed in research in the development of higher temperature steels which will withstand the heats of the sleeves of jet engines.

Senator MILLIKIN. Rockets?

Senator HICKENLOOPER. Rockets, and it has many other steel experimental uses in developing finer qualities of steel and steel with special qualities, the discovery of which we may not have yet made ourselves. It has many uses, and this illustrates one use to which it can be put in research and investigation.

Mr. JACKSON. Mr. Chairman.

The CHAIRMAN. Mr. Jackson.

Mr. JACKSON. I understand that with the exception of the Norwegian case, that this information was released back in August 1947, August 27, the radioisotope program. Has there been any legislation introduced or any recommendation to the Atomic Energy Commission to terminate this program since that time?

Senator HICKENLOOPER. I might say, Mr. Chairman, that, generally speaking, an examination of the isotopic distribution system indicates that, with few exceptions, it has gone to friendly countries, countries with whom we are on the best terms scientifically and otherwise, and, with very few exceptions, it has gone strictly for medical research and biological research and some agricultural research.

The CHAIRMAN. The complaint, Senator, is not as to the policy of shipping isotopes but to the following out of that policy or carrying it out by the Commission; is that your point?

Senator HICKENLOOPER. That is it. And this particular shipment which startled me when I examined the record a few days ago is a definite departure from that policy and a definite invasion of at least the industrial field, and it goes to a military establishment, and I do not know exactly what they are going to do with it, but I believe a military establishment is primarily interested in military things. This occurred April 28, 1949. It did not occur last year, and it was just reported to the committee 2 or 3 weeks ago.

Mr. JACKSON. In order that I understand the issues that are before the committee, is the condemnation directed toward the export of isotopes in general or just this Norwegian shipment?

Senator HICKENLOOPER. I have raised no objection to the general program. That is not an issue. I am raising an objection to the deviation from the program as announced by the President, from the program as announced otherwise, and going into this particular field as the first definite step in deviating from this humanitarian program.

Mr. JACKSON. In other words, the Norwegian shipment—

Mr. PRICE. We cannot tell whether there is a deviation or not until we hear the explanation as to the shipment.

The CHAIRMAN. That is, of course, true. Before Mr. Lilienthal gives any explanation, I may say that the problem of the shipment

of radioactive isotopes was very carefully considered in the committee when we deliberated on this act, and we, equally deliberately, provided that the uses of atomic energy for industrial purposes and the prohibition on the dissemination of information pertaining thereto did not include radioactive isotopes.

I think it should be said for the record that many of the men who are on this committee deliberated on the general policy at the time that the act was under deliberation; so it is not the policy that is being questioned but rather it is the action taken under it in specific cases.

Mr. JACKSON. I was just trying to define what the issues were, whether we were going into the whole radioactive isotope export program or whether it is limited to this Norwegian report here presented this morning.

The CHAIRMAN. Senator Hickenlooper?

Senator HICKENLOOPER. There is one other matter that I called attention to. I referred to the fact that we cannot follow these isotopes and completely control them when they are gone. We must rely on reports and visitations. We cannot be there all the time.

I called attention to the fact that isotopes had been shipped to the Curie Institute in France, not that I want to keep the French people's regular research institutes from getting the benefits of the humanitarian research, but I called attention to the fact that the Curies' political and social views are known all over the world, and we have lost control of the isotopes once they are shipped.

Mr. COLE. I should like to inquire of the Senator from Iowa if he is advised of the considerations that confronted the Commission when this decision was made last summer with respect to isotopes, which resulted in a lack of unanimity in the Commission.

Senator HICKENLOOPER. No, not specifically. We were very interested in the isotope program, the committee and everybody else, and I understand that Commissioner Strauss had some feeling on the matter, and he is here with the Commission. I think he could better speak for himself.

I would not undertake to interpret another man's intricate reasons or his substantive reasons for voting as he does. I do not know.

The committee did consider it at length, and we went all through it.

The CHAIRMAN. It will be developed. I suggest we permit Mr. Lilienthal to proceed to an explanation, and, then, of course, in the normal course of events we should hear from Commissioner Strauss as to his views.

Are you prepared to go forward with an answer to this question, Mr. Lilienthal?

Mr. LILIENTHAL. Yes, I would have been better prepared if I could have known about this at 9:30, but I think sufficiently for the purposes of this preliminary discussion.

First, may I say at the outset that I do not know of any problem of this character that has received more careful, patient, painstaking consideration within the staff of the Commission, among its scientific and technical advisers, and with the Joint Committee.

This whole matter, over an extended period, has been very carefully, and not casually, explored, and the members of the committee, examining the written record and recalling the conferences with the committee, will bear that out, I believe.

Second, I would like to see if I am proceeding on the correct basis. I am not clear whether the objection to the shipment to the Norwegian Research Institute is an expression of fear as to the friendliness or unfriendliness of Norway to this country and to the democracies or whether this is a different kind of objection. The emphasis on the shipment to Norway raised it in my mind.

Senator HICKENLOOPER. I can clarify that right now. I consider Norway a very friendly country to the United States.

Mr. PRICE. It is an Atlantic Pact country, is it not?

Mr. LILIENTHAL. I understand Norway is included in the discussions of military aid, so I, therefore, assume this is not fear that Norway will betray us, but some other consideration.

I would also like to say in a preliminary way that the figures, while I do not have them precisely in mind, will be approximately this upon a reexamination of them: That 80 percent of the shipments abroad of isotopes are in the field of medicine, medical treatment, and biology; and we make reports to the committee and public reports to the Congress on these statements and their character.

Senator KNOWLAND. Mr. Chairman, right at that point, so we can clarify the issue down to the fundamentals and get our teeth in them, if it be 20 percent, you said 80 percent relates to medical research, et cetera, but let's deal specifically with the problem which appears to be, regardless of how otherwise desirable it might be, in violation of a specific section of the law, that no shipment shall be made without a joint resolution of the Congress if it relates to industrial processes.

Mr. LILIENTHAL. Senator, with all respect, I do not believe that is what the provision says. It reads:

Until Congress declares by joint resolution—  
this is on page 13 of the printed statute, section 10 (a) (1)—

that effective and enforceable international safeguards against the use of atomic energy for destructive purposes has been established, there shall be no exchange of information with other nations with respect to the use of atomic energy for industrial purposes.

Now, all basic research is aided by the use of these isotopes, but I do not think anyone would suggest that the shipment of isotopes themselves is an exchange of information. At least, no such suggestion was made when we discussed this matter with the committee, and I do not know that anyone has.

Senator KNOWLAND. Just a minute. You mean that on your theory on which you are now pursuing this that regardless of the fact that the isotopes of a particular type can be used in industrial processes, that the Commission now feels that they have an unlimited precedent to ship them any place without a joint resolution of the Congress? This is just so we can clarify the issue, so we can understand it on this side of the table. What is in your mind?

Mr. LILIENTHAL. The provision of section 10 (a) (1)—that has never been construed by anyone in the long discussions that have been had with the committee and within the Commission to affect the export of radioactive isotopes on the basis that they involve an exchange of information with respect to the use of atomic energy for industrial purposes.

Now, it is perfectly true that any basic research, basic metallurgy, structure of matter, can at some juncture have value for industrial purposes, but it is not that kind of information that is referred to here.

Senator KNOWLAND. I want to clear this point, because I think it is a very vital point that we on this committee must thoroughly understand. By the same reasoning would it not permit the committee to ship manufactured uranium of various types and classifications along with isotopes, if your theory is correct; is that right? Because you would not be shipping over information. It might be used in a pile of some kind, and on the same theory which you have just expressed and which is a little astounding to me, I must say, you could make the shipments of uranium just as well as you could make them of these isotopes; is that not correct, under the principle you have just enunciated?

Mr. LILIENTHAL. No, I disagree.

Senator KNOWLAND. Will you differentiate as to where I have misunderstood you, then?

Mr. LILIENTHAL. The provision of the law relates to the use of atomic energy for industrial purposes. The use of radioactive isotopes is not, in any one's opinion I have heard expressed thus far, the use of atomic energy for industrial purposes.

Senator KNOWLAND. Even though it is used in the manufacture or exploratory work on the manufacturing of sleeves for jet engines and rocket propulsion?

Mr. LILIENTHAL. It is not atomic energy. Radioactive isotopes are not atomic energy. Let me give you some background to indicate these questions have been considered carefully.

Counsel calls my attention to the fact, before we go to the background, that the statute contains one flat prohibition, a flat prohibition on the export of fissionable material and that, of course, has been fully complied with and is not involved in this picture.

The degree to which this matter has been explored, I think, has a good deal to do with the suggestion that this latest shipment to Norway in some way endangers the common security and defense and is a deviation from the law.

Senator Hickenlooper has said that he is not a scientist, and I am not a scientist. There are not very many scientists in this room, but questions involved here do have a technical—

Senator HICKENLOOPER. Mr. Lilienthal, in the current issue of Collier's under your name in an article it says, "A noted scientist, David E. Lilienthal, writes the following article." I assumed you were a scientist from that.

Mr. LILIENTHAL. I think the Senator has a better understanding of my background and limitations than Collier's headline writer, and if he has not, I will quickly demonstrate it.

But we do rely upon scientists, and I may say this question of the export of radioactive isotopes to the Norwegian Military Institute, and the whole question of the criticism that has been directed—and wholesome and helpful criticism it is—directed against the export program, and the export program itself was reexamined by the Statutory General Advisory Committee as recently as last Friday and Saturday. They were in session, and I should think it would be very helpful—this is regarded as a grave matter, but I do not think it will be after we explore it a while—to have some of these men called before the committee.

These men are not dopes and they are not unpatriotic men, and they are not naive men. Dr. James B. Conant, who is a member of this com-

mittee, his war service and his sensitivity to things that are injurious to this country's interests, are as great as anyone I can think of; and Dr. Lee DuBridge, president of Cal Tech, whose war service is notable, is a man with a lot of savvy. These men are not innocents.

They reexamined this thing, and I am advised that the particular question of the Norwegian shipment was brought to their attention, and they have sent to us, dispatched to us as of yesterday, I believe, a statement relating to their reexamination. I should like to read it, since it is only two paragraphs. This, I should say, is a statement from the General Advisory Committee to the Atomic Energy Commission regarding foreign distribution of isotopes and the fellowship program, and it reads:

We have had from the Atomic Energy Commission itself and from the Director of Research a request to reconsider the question of the distribution of isotopes abroad and the question of AEC fellowships; both of these questions were referred to us again because of public criticism of the Commission's policy.

I will read only the portion relating to the subject under discussion:

With regard to the isotopes distribution we have reexamined in detail the statement made by us at our fourth meeting.

This was a statement made as of June 1, 1947, a copy of which was supplied to the joint committee—that is 2 years ago—and to which I should like to refer in a moment. To repeat a bit:

\* \* \* we have reexamined in detail the statement made by us at our fourth meeting. Despite the criticisms that have been voiced to Commission policy, we wish to reaffirm our conviction that these recommendations constituted sound policy. We believe that it would be useful to have available a documentary account of how the results from the foreign distribution of isotopes have in fact served to further progress in therapy and in research.

It is in basic research in metals, as I understand it, that this Norwegian shipment is to be used.

Then they refer to the General Advisory Committee's unanimous conclusion of June 1, 1947, and in view of the importance attached to this, I would like the opportunity of reading it, and it is about 300 words:

The Atomic Energy Commission has authorized the distribution of specified radioactive materials to scientists in foreign countries, through their respective governments, in order that these valuable by-products of atomic energy work may be employed in scientific and medical research and in therapy.

This represents an important step in implementing the declared purpose of Congress, as stated in the Atomic Energy Act, to utilize the developments in atomic energy for "improving the public welfare \* \* \* and promoting world peace."

May I interject and say that that provision in the preamble of improving the public welfare and, particularly, promoting world peace is still in the law, and it is still the Commission's duty to seek in every reasonable way to further it.

Continuing with the statement of the General Advisory Committee:

These radioactive isotopes, such as radio phosphorus are made by exposing materials to the intense neutron radiation from the chain reacting pile at the Clinton Laboratories, Oak Ridge. They are very valuable tools for research in chemistry and biology and in treatment of certain diseases. A plan for making them available at cost to United States scientists for research purposes was announced a year ago. They will be equally valuable to scientists and medical men abroad and the research done with them will benefit all mankind.

In these days when the restoration of free science and the building up of good will among people is so vital, it is essential that the United States should

take this step to share its new tools for research and therapy with other countries, and thus prove that this democratic country will do all it can, consistent with its own defense and security, to improve the public welfare and raise the standard of living throughout the world.

It is emphasized that the quantity of radioactive materials required and to be made available for research are extremely small, so that they can be used with safety with only ordinary precautions, that they are not useful for military or industrial employment of atomic energy and cannot constitute a danger to world peace or to the security of the United States. Also the materials are now produced in sufficient quantities so that foreign distribution will not interfere with an ample supply for United States scientists.

The conditions under which these materials will be sold at cost to an individual scientific laboratory are such as to insure that the sole purpose for which they will be used is for research or medical treatment. The research results obtained are to be published and reported to this country and the laboratories are to be open to qualified scientists in accordance with established traditions of free science. Thus diversion of the material to secret or military research will be difficult and any continued diversion of this sort will be impossible.

The radio isotopes available were well known to scientists before the war and can be produced by standard instruments such as cyclotrons.

May I interject at this point the fact that the French have a pile, have a chain reacting pile of their own, built with their own resources, and that this pile is available for the production of radioactive material.

The CHAIRMAN. How about the English?

Mr. LILIENTHAL. The English also have in operation a pile, which produces and is capable of producing and is producing radioactive isotopes.

Mr. PRICE. Do not the English distribute isotopes?

Mr. LILIENTHAL. The English do distribute isotopes to friendly countries in the west of Europe.

To continue:

However, the scientists in countries abroad do not have access to such facilities on any scale—

this has been since modified, this is 2 years ago—

and the quantities and concentrations producible in a pile are such as to be more useful to science. It is therefore a very great service to have the materials available immediately.

The Commission also points out that a continuous supply of radioactive isotopes is necessary for such research, but that such supplies cannot accumulate since they are mostly of relatively short life and because they are expended in the experiments themselves beyond practical recovery.

Finally the Commission will maintain continuous contact with the laboratories supplied with the material, will expect the foreign governments to certify the qualifications of the scientists applying and to assure the United States that the materials will be used only for the purposes stated. Under all these conditions the beneficial results of the program will be great in terms of good will and it may assist distinguished foreign scientists abroad who work in open laboratories to make important discoveries of benefit to all.

I will say that the question of the particular shipment about which the question has been raised here was, I understand, brought to the attention of the General Advisory Committee, and its conclusion was on the whole matter to confirm, as of last week, the end of last week, Saturday, I believe, in a dispatch made available to us yesterday, its conclusions of 2 years ago.

There is a great deal more that can be said on the subject and will be said on the subject, but this lays the ground work.

Senator HICKENLOOPER. Did the General Advisory Committee come to a conclusion recently on this specific shipment?

Mr. LILIENTHAL. I am told that the question of the Norwegian shipment was specifically discussed with them, and the answer was the report I had, that the criticism of it did not impress them, at least to the extent of their making any—

Senator KNOWLAND. Is there a written recommendation in that regard?

Mr. LILIENTHAL. No. So far as I know, they did not, but they are available for questioning here before the committee.

Mr. PRICE. Was it your personal decision?

Mr. LILIENTHAL. No. There are no personal decisions in our 5-man Commission. This was not a personal decision. It was the decision of the Commission as a whole. The decision as to the Norwegian shipment?

Mr. PRICE. That is right.

Mr. LILIENTHAL. No. This was a shipment made under procedures previously determined upon by the staff of the Commission.

The CHAIRMAN. Senator Hickenlooper?

Senator HICKENLOOPER. I have nothing except to add this or restate this: That in this situation I have not raised the issue of objection to the isotope program as announced by the Commission originally, and by the President and accepted by the Secretary of State.

My point goes to the complaint that this is the first definite diversion from that policy, in my judgment; it goes away from the humanitarian, medical, biological research field, and goes into the industrial field. That is the point of my complaint.

I tried to make clear that I do not know of any other similar diversions, but this is the first one I know of, and it is a recent one.

Mr. LILIENTHAL. Mr. Chairman, may I say that this is the first advice we have had from any member of the committee that there was objection to this particular shipment or a shipment of this character, and we, of course, are happy to explore with the committee the questions involved in this and get the views of the committee.

Senator KNOWLAND. Mr. Chairman, at this time it would seem to me to be appropriate, because we are all interested in the common defense and what appears to be a departure from at least the pure medical end of it, getting into the industrial phases, I would like to have the views of Admiral Strauss on this question.

The CHAIRMAN. Just before we do that, I would like to ask Mr. Lilienthal one question. There was a Finnish request for a shipment of radioactive isotopes, and while that was in the course of consideration, I believe they thought we were too slow about it, and they got them from Great Britain. Is that correct or do you know about that?

Mr. LILIENTHAL. I believe that is a correct statement of fact.

Senator HICKENLOOPER. They have received shipments here, Mr. Chairman. I put three shipments in the record here in this last report, the Finns.

The CHAIRMAN. On one request they made for a rather unusual quantity of isotopes, that matter was given consideration. Before it was determined whether to accede to the request or not, the Commission was advised, as I understand it, that they did not need them from us because they had gotten them from Great Britain.

Mr. LILIENTHAL. That does correctly describe the first request. As Senator Hickenlooper said, there were other requests, and there have been other shipments since that time.

Senator MILLIKIN. I suggest that if this is undesirable policy, Mr. Lilienthal, it does not mitigate it any by suggesting that they can be gotten elsewhere. The question is: Are we doing our duty here? What is your reaction to that?

Mr. LILIENTHAL. We should like very much to discuss this because there is more to be said.

Senator MILLIKIN. I am assuming for the purpose of the question that it is undesirable policy, and if it should be undesirable policy, it does not mitigate it by saying they can get the isotopes elsewhere.

Mr. LILIENTHAL. I think it is somewhat more complex than that because of the problem of our maintaining friendly relations—this is a State Department matter—with nations who will get them either from us or others. At least, this is something I hope the committee will consider.

Senator MILLIKIN. I notice your challenge to the point that provisions of the law do not cover this particular shipment. This is a by-product of atomic energy, is it not?

Mr. LILIENTHAL. Yes, it is.

Senator MILLIKIN. Is not the actual delivery of such a byproduct the ultimate in the exchange of information?

Mr. LILIENTHAL. I believe not.

Senator MILLIKIN. I would like to have your reasoning on that. If you and I are engaged in conversation about what can be done with the isotope, and I say, "Well, Mr. Lilienthal, we are just in the talk stage and I would like to find out what can be done with the isotope," and you hand me the isotope, I have got the ultimate in the exchange of information.

Mr. LILIENTHAL. No. I am trying to think of a simple analogy, and I think the simplest analogy is perhaps that of a microscope or any other research tool. To transmit to a person a microscope would not be the ultimate of information that would be revealed by a microscope or interpretation of it.

Senator MILLIKIN. Might not be revealed by the microscope, but if you are talking about what is a microscope and you hand me a microscope, that is the ultimate in exchange of information as far as microscopes are concerned. You are going into a further subject. We are talking about isotopes and what can be done with the isotope, and I am curious about what can be done with the isotope. We are talking about it now, and a little bit later you hand me the isotope and say, "Find out for yourself." Is not that the ultimate in the exchange of information?

Mr. LILIENTHAL. The statute does not say, "Exchange of information about isotopes." It says, "Exchange of information with respect to atomic energy for industrial purposes," and that is not what this is.

Senator MILLIKIN. You said this is a byproduct of atomic energy, and under the description of the shipment it is for industrial purposes. What is the use of experimenting around with the distribution of molecules in iron and what you can do with radioactive isotopes and tracing them if it is not for an industrial purpose? And what would a military establishment be doing it for unless it were for a military-industrial purpose? I do not think we quite clinch. I am not arguing the case, but would like to have a little—

Mr. LILIENTHAL. I think it would be helpful to have someone here in the witness chair who knows what he is talking about in the scien-

tific field. This seems to be clear, to me at least. This is where we stand.

Mr. PRICE. Maybe Dr. Smyth could help us there.

The CHAIRMAN. Would you like to volunteer, Dr. Smyth?

Dr. SMYTH. I would be glad to.

The CHAIRMAN. Mr. Lilienthal did not hesitate to waive.

### STATEMENT OF HENRY D. SMYTH, COMMISSIONER, UNITED STATES ATOMIC ENERGY COMMISSION

Mr. SMYTH. I would say that Mr. Lilienthal's analogy of the microscope was a fairly good one. These isotopes, as far as their existence and their properties are concerned, are perfectly well known abroad.

Therefore, they are not going to learn any more about the isotopes by having a sample than they would learn about microscopes, by getting another microscope or several microscopes.

Senator MILLIKIN. But, doctor, the qualities of the isotope may be well known, but they are not so well known that they do not desire the actual isotope for further experimentation.

Mr. SMYTH. For use as you would use a microscope.

Senator MILLIKIN. For use. Is that not the ultimate exchange of information?

Mr. SMYTH. I should certainly not think so.

Senator MILLIKIN. I want to find out what I can do in the way of use with an isotope, and you and I are talking about it, and you supply me with the isotope and say, "Find out for yourself." Is not that the ultimate in the exchange of information?

Mr. SMYTH. No, I should not think so.

Senator MILLIKIN. What remains?

Mr. SMYTH. I would say—let's continue on the matter of the microscope, if you wish.

Senator MILLIKIN. Let's keep on the isotopes. If we were exchanging information as to a microscope, the ultimate exchange would be to hand me a microscope. I agree.

Now, we are talking about isotopes. If we are exchanging information about isotopes, I respectfully suggest the ultimate exchange of information is to hand me the isotope and say "Find out for yourself."

Senator KNOWLAND. Might I just add right at that point, Senator Millikin: The Russians knew that the B-29 existed and yet when a B-29 landed there they had an opportunity to work on one, take it apart, and the general impression in the military establishment of this country is by having the sample in hand, they have been able to pretty well duplicate the B-29.

Mr. PRICE. That is in the field they already know pretty much about.

Mr. SMYTH. I wish we knew as much about the nuclear structure of these various isotopes as we know about the B-29; but actually the point of getting the isotopes is merely, for uses, at least, to have a particular kind of material that can be easily identified.

That is, we use the atoms of the iron isotope, for example, as tagged atoms. They are atoms that you can mix in with other iron atoms and follow their course.

Senator MILLIKIN. For what end purpose, Doctor?

Mr. SMYTH. For any end purpose that you might want.

Senator MILLIKIN. Exactly.

Mr. SMYTH. You might want to put the iron isotopes in something that you would take into your body to follow where the iron atoms went in the blood. In fact, if I remember correctly, the use of radioactive iron was very important in the study of blood plasma during the war.

Senator MILLIKIN. I assume I might also want to find out how to develop a heat-resisting material in magnitudes not now known, and that this isotope might be useful for that. That could be an end purpose; could it not?

Mr. SMYTH. It could be; it does not seem to me it is an immediate direct use. It is a use; the development of such materials probably depends on getting further information and understanding of the solid state.

Senator MILLIKIN. Would you say it is useless for that purpose?

Mr. SMYTH. For getting further information about the solid state?

Senator MILLIKIN. Yes.

Mr. SMYTH. No; I certainly would not.

Senator MILLIKIN. Of course not. That is why they want the isotopes; is it not?

Mr. SMYTH. I do not know.

Senator MILLIKIN. Mr. Chairman, what is the specific reason for the isotope shipment to Norway?

The CHAIRMAN. Investigation of the rate of diffusion of iron and steel at high temperature.

Senator MILLIKIN. That is what they want to find out. That would be useful to know in connection with heat-resistant material; would it not?

Mr. SMYTH. It might be useful to know, but it is a problem that was first suggested, as I recall, that kind of use of radioactive isotopes was first suggested and first talked about in our laboratory, probably many others, 7 or 8 or 10 years ago, by people who were interested entirely in the theoretical study of the solid state; that is, of metals.

Senator MILLIKIN. Let's assume I were qualified to do it, and I had completed my theoretical studies, but I would actually like to find out in practice. The best way I can find out is to get some isotopes; is it not?

Mr. SMYTH. I would not like to say what is the best method of going from a theoretical study to—

Senator MILLIKIN. That would be a useful way of doing it; would it not? That would not be precluded as a way of doing it; would it?

Doctor, why do these people want these isotopes if they do not consider it a useful way of getting information?

Mr. SMYTH. I do not know. I am trying to tell you what they may want them for. You may also be right. It is very likely they may want them to study steels. I do not know.

Senator MILLIKIN. They have said so in their request.

Mr. SMYTH. Steels for a particular purpose.

Senator MILLIKIN. We do not know the particular purpose, but we know what the purpose might be.

Mr. SMYTH. That is right.

Senator MILLIKIN. Does the Commission know the purpose, as far as you know, except the specification?

Mr. SMYTH. No, I have been serving the Commission for a week and have spent most of the time down here, so I do not know.

Senator MILLIKIN. There has been some criticism of the large number of employees of the Commission sitting around here. Personally, I regard that as very wholesome.

It is a constant reminder that we have some laws in the United States and that the Commission is subject to those laws; and, if these gentlemen can be kept here until they can be infiltrated with that basic thought by their attendance here, it might not be a bad idea.

Now, let's get back to what we are talking about, Doctor—these people over in Norway. A military establishment wants isotopes, I assume, for information, and they have specified the kind of information they are interested in.

Does that preclude a study for further development of heat-resistant materials in connection, let us say, with rockets or in connection with high-speed planes?

Mr. SMYTH. It certainly does not preclude it.

Senator MILLIKIN. Of course not. I do not think there is any difference of opinion between us, except you know so much more about the scientific end than I do.

The CHAIRMAN. Now, I think it should be emphasized, however, that there is no legal restriction on the exchange of information about isotopes contained in this act.

Senator MILLIKIN. I challenge the chairman's statement to that effect.

The CHAIRMAN. I think that can be documented completely and thoroughly.

Mr. SMYTH. I would certainly interpret that—it is a little difficult for me to act simultaneously as a lawyer and as a physicist.

Senator MILLIKIN. Do not hesitate. The lawyers go into the scientific field with equal stupidity.

Mr. SMYTH. Speaking as a physicist, I would say information about radioactive isotopes was not information about atomic energy or the use of atomic energy for industrial purposes.

The CHAIRMAN. That is the heart of it.

Senator KNOWLAND. Mr. Chairman, Senator Hickenlooper is coming back and can speak for himself, but in view of the chairman's statement that this in no way is covered by the existing law, I do not want to, by my silence, acquiesce to his interpretation of the subject, and I think that will have to be gone into further by the committee.

The CHAIRMAN. It is a proper matter for inquiry by the committee as to whether or not the Commission used good judgment under the power that was given to them in making this particular shipment. However, I also think that it is important for me to state at least my interpretation at this time of what the law provides, and it is that there is no legal restriction on the exchange of information about isotopes.

That requires legal interpretation. I give it as a lawyer who has given some consideration to the act.

Mr. ELSTON. Mr. Chairman.

The CHAIRMAN. Mr. Elston?

Mr. ELSTON. I want to disagree with the chairman in his interpretation of the law. It so happens that in the debate in the House more time was consumed on this particular section than on any other section.

The original act did not read like section 10 now reads, and I offered an amendment, which was debated at considerable length in the House, and later on the language was written as it appears in section 10, subsection 1, on page 13, which specifically and definitely provides that, until Congress declares by joint resolution that effective and enforceable international safeguards against the use of atomic energy for destructive purposes have been established, there shall be no exchange of information with other nations with respect to the use of atomic energy for industrial purposes.

Now, I am certain that the Congress meant no information, and when an isotope is transferred to another nation it certainly contains information which might be useful for industrial purposes; and, if it contains information, then it is a violation of the law, in my opinion, and the transfer of the isotope in this particular case was a direct violation of the law.

Congress did not care in what manner the information was transferred. They were concerned only with whether or not information was transferred to other nations which might be useful to those other nations for industrial purposes.

This certainly was not for any humanitarian purpose, but was for an industrial purpose, a military purpose is certainly an industrial purpose.

The CHAIRMAN. But not in connection, I might say, with the use of atomic energy for industrial purposes. That is the point—atomic energy.

Mr. ELSTON. If you have an isotope—

The CHAIRMAN. It is not atomic energy. Whether you think it is or is not.

Mr. ELSTON. We disagree about that.

Mr. PRICE. Can you produce isotopes from a cyclotron?

Mr. SMYTH. Yes.

Mr. PRICE. The prominent universities of the country can produce isotopes?

Mr. SMYTH. That is correct.

Mr. PRICE. They have been doing it. It is not atomic energy?

Mr. SMYTH. I would not consider it so.

Senator KNOWLAND. These are all pile-produced isotopes; are they not?

Mr. SMYTH. You can produce most of these isotopes either by a pile or cyclotron.

Senator KNOWLAND. I am asking about these particular ones that were shipped.

Mr. SMYTH. I presume so. Otherwise, I see no reason—

Mr. DURHAM. Mr. Chairman.

The CHAIRMAN. Mr. Durham?

Mr. DURHAM. I believe the doctor is qualified to give us a definition of atomic energy, and I would like to have your definition in the record at this point.

The CHAIRMAN. And why radioisotopes are not atomic energy.

Mr. SMYTH. May I say that I have regretted for a number of years that I was persuaded to use this term "atomic energy" rather than the term "nuclear energy," which is more appropriate, but it has now become accepted, so I will use it in that sense.

I would say that by "atomic energy" we mean in common parlance the energy released by the fission of uranium nuclei or any other nuclei that might split in that general way.

Mr. DURHAM. And a radioisotope cannot do that?

Mr. SMYTH. Radioisotopes give off a tiny fragment from the nucleus, a very small fragment rather than a complete disruption. It seems to me of totally different character.

The CHAIRMAN. May I read the definition of atomic energy as contained in this act, under section 18:

As used in this Act, the term atomic energy shall be construed to mean all forms of energy released in the course of or as a result of nuclear fission or nuclear transformation.

Senator HICKENLOOPER. May I ask Dr. Smyth a question?

The CHAIRMAN. Pardon me a second. Is that a correct definition, Doctor?

Mr. SMYTH. I should think so. I am not quite sure what you mean by "nuclear transformation."

Mr. HINSHAW. May I ask whether or not the radiation from a nucleus such as that coming from a radioactive isotope is not subject to that same definition?

Mr. SMYTH. Would you mind repeating that question?

Mr. HINSHAW. I asked if the radiation coming from a radioactive isotope is not the release of energy as described in that definition.

Mr. SMYTH. It is the release of energy as the result of a nuclear change, but it is an entirely different order of magnitude of nuclear change from the fission process.

Mr. HINSHAW. We were not talking about fission; we were talking about atomic energy or nuclear energy. Fission is a different thing, no doubt.

Mr. SMYTH. Fission is what I call nuclear energy in the sense that we are talking about it here.

Mr. HINSHAW. Here you have split off a piece of radiation in the form of energy; and, if that is not energy, I do not know what it is.

Senator HICKENLOOPER. Mr. Chairman, may I pursue that just a moment? That was the question I was going to ask Dr. Smyth. Does the isotope release energy? That is, the radioactive isotope. Does energy emanate from that isotope?

Mr. SMYTH. Yes, in a small amount.

Senator HICKENLOOPER. Now, then, is that emanating from the isotope as a result of nuclear fission?

Mr. SMYTH. No.

Senator HICKENLOOPER. What is it the result of?

Mr. SMYTH. It is the result of a relatively small change in the nuclear structure; whereas nuclear fission is a complete disruption.

Senator HICKENLOOPER. Is not that a byproduct or result of nuclear fission?

Mr. SMYTH. No.

Senator HICKENLOOPER. Does not nuclear fission cause the creation of the radioactive isotope? Is not that the source of the energy that causes the radioactive isotope?

Mr. SMYTH. No. It may be. You can produce radioactive isotopes in a number of ways. It is true that, when nuclear fission occurs, the fragments of the uranium nucleus which result from the fission process are radioactive and then continue in these relatively

minor transformations of energy, but you can also produce radioactive isotopes and do produce radioactive isotopes very frequently—in fact, usually in the laboratory, by bombarding nuclei, by bombarding ordinary materials with streams of neutrons, protons, or other particles. That is, the fission process is not required to produce a radioactive isotope.

Senator HICKENLOOPER. The radioactive isotopes produced in the atomic piles, are they produced as a result of nuclear fission?

Mr. SMYTH. There are two ways in which radioactive isotopes are produced in the atomic pile, sir. One is as the result of fission directly. That is, the radioactive fission products are actually mixed in with the uranium and separated out chemically later when the uranium is processed.

The other way of producing the radioactive isotopes in a pile is to use the pile merely as a source of neutrons. Put some material that you want to bombard with neutrons in the pile, and some of the atoms absorb the neutrons and are made radioactive thereby.

Senator HICKENLOOPER. Would you have any way of saying whether the radioactive isotope of iron that was shipped to Norway was produced as a result of the fission process or some other way?

Mr. SMYTH. That is one of those things I ought to know but do not.

Senator HICKENLOOPER. But can you in the pile, in an operating pile—well, if fission is not going on in the pile in some degree, can you create a radioactive isotope in that pile?

Mr. SMYTH. No; but you can produce a radioactive isotope in other machines.

Senator HICKENLOOPER. Yes; but that pile, when you produce radioactive isotopes in a pile, fission must be going on in that pile; regardless of what bullet hits the nucleus, fission must be going on in the pile in order to produce the end result of radioactive isotopes in that pile operation?

Mr. SMYTH. That is true, and it is also true that the fission must be occurring if you are going to produce hot air in the air that comes out of the pile.

Senator HICKENLOOPER. That is right. I am merely trying to pin it down to the designation in the statute, and I recall it has been testified that all of these isotopes are isotopes produced in the atomic pile. Therefore, I think it is perfectly clear to say that these isotopes are produced as a result of fission, nuclear fission; and then I go to the definition of atomic energy, which says, "The term 'atomic energy' shall be construed to mean all forms of energy released in the course of or as a result of nuclear fission or nuclear transformation."

I merely submit, Mr. Chairman, to the committee, that "in the course of" would take in other than the direct measures of fission bombardment. I mean it is a wider term than to limit it right down to fission.

It seems to me that would be the interpretation, the clear interpretation, of that act.

The CHAIRMAN. Doctor, ordinary radium is, in all respects, the same as radioactive isotopes, is it not?

Mr. SMYTH. That is correct, except that it occurs naturally.

The CHAIRMAN. Yes. Of course, we have no restriction on the shipment of radium anywhere. I believe not very much of it is found

in this country; I have never known it to be. Is the use of radium comparable to the use of radioactive isotopes in the treatment of cancer?

Mr. SMYTH. That is correct.

Senator KNOWLAND. Is it just as usable in the testing of steel to take high temperatures?

Mr. SMYTH. Well, it is more difficult to get, it is more difficult to control, it has different chemical properties.

Senator KNOWLAND. So these isotopes would be of far more value in the testing of processes for the development of high-temperature steel than what radium might be available to the person who is making the test, would it not?

Mr. SMYTH. I should think so.

Senator KNOWLAND. I would like, Mr. Chairman, before we recess today to ask Admiral Strauss to take the stand.

The CHAIRMAN. It is 10 minutes after one. I am entirely agreeable. What time does the Senator suggest that we recess? I have other engagements, and I am sure other members of the committee have also.

Senator KNOWLAND. Within 5 minutes, as far as I am concerned.

The CHAIRMAN. Very well.

Mr. Volpe, do you have an observation?

Mr. VOLPE. I would merely like to say in connection with the definition of atomic energy in section 18, the definition which is given here describes the process which is used in the reactor, which in turn produces the radioisotopes.

Therefore, atomic energy, as defined here, is the process within the reactor itself and not the byproduct, radioisotopes.

Senator MILLIKIN. Could you send the ultimate activated material itself under that definition?

Mr. VOLPE. Senator Millikin, we are speaking now of the definition of the term "atomic energy."

Senator MILLIKIN. I understand that.

Mr. VOLPE. And the only point I wish to make—

Senator MILLIKIN. Under your own explanation you could ship activated 235.

Mr. VOLPE. No, we cannot. There is a prohibition.

Senator MILLIKIN. There again you would have an ultimate exchange of information.

Mr. VOLPE. There is a flat prohibition in the law with respect to 235. My only point, Senator, was that atomic energy, as defined in the act, means the method by which these isotopes are produced and not the isotopes themselves.

Senator HICKENLOOPER. Just a minute. The definition of "atomic energy" in the act is clear, specific, and it is composed of two and one-third lines, and here it is, and this is not in any section of the act except the section on "General definitions," which means, of course, that wherever used in this act "atomic energy" means this:

The term "atomic energy" shall be construed to mean all forms of energy—that is, all forms of energy—

released in the course of or as a result of nuclear fission or nuclear transformation.

Mr. VOLPE. That is right, sir.

Senator HICKENLOOPER. That applies to every place in the act where the term "atomic energy" is used.

Mr. VOLPE. As I understand Dr. Smyth's testimony, Dr. Smyth has testified that it is by the process of nuclear fission that isotopes are produced. For example, the radioisotope iron—iron is injected into the pile, and through the process of nuclear fission, which the pile itself undergoes, the radioactive iron is produced; and the definition here has to do with the process of nuclear fission which takes place within the pile itself.

Senator KNOWLAND. Is it your interpretation, as counsel for the Commission, Mr. Volpe, that insofar as radioisotopes are concerned, the Commission has unlimited authority to ship them abroad any place where their judgment directs they should go, even though it is clearly understood they shall be used in industrial processes and that there is no limitation of any type or character upon the Commission as to what countries they may be shipped to, in what amounts they may be shipped, and in the fact that they are clearly stated as being used for industrial purposes?

Now, I ask the question because, while I do not agree that the law gives you that authority, in may be that there is a loophole in the law that will need legislation to close up. I want to find out from you, as counsel of this Commission, how far you believe your authority goes in the shipment, not for medical purposes but for industrial purposes, of isotopes.

Mr. VOLPE. Senator, I would answer that in this way: I do not believe that the Commission has unlimited authority. There are many provisions in the law which define the Commission's authority.

Senator KNOWLAND. I am speaking of the shipment of isotopes now.

Mr. VOLPE. The Commission under the act is required to exercise its authority in such a way as to further the common defense and security of the United States, and the paramount objective of everything the Commission does is the common defense and security of the country.

Now this, of course, requires judgment; and it is my understanding that the Commission has exercised this judgment on the basis of the best scientific and technical advice they could possibly get.

With the question of whether or not these isotopes are used for industrial purposes, it is not my understanding from what I have heard through the testimony or the discussions by scientific and technical people that these isotopes are being used for industrial purposes.

It is my understanding that they are being used for research purposes. Now, it may be true, but this is something which I personally believe scientists and technical people should be heard on, it may be true that ultimately these research activities may lead to industrial techniques and discoveries at some future date in other fields such as steel and iron and planes and jet propulsion, and so on, but this is quite far removed from atomic energy itself.

The CHAIRMAN. At any rate, Mr. Volpe, the question as to the legal power of the Commission has never been raised until this time and, as I understand it, Senator Hickenlooper's point is not a quarrel with the shipment of radioisotopes, which he said he specifically approved of, but rather—

Senator HICKENLOOPER. I did not go that far.

The CHAIRMAN. But rather, the specific case.

Senator HICKENLOOPER. I am not raising the issue of whether I approve or do not approve.

The CHAIRMAN. I thought you stated earlier you had no objection to the radioisotope program or shipment abroad, except in the particular case.

Senator HICKENLOOPER. I said I was not raising objection, and I do not want to be understood as either approving or disapproving. I want to keep that issue out of my point.

The CHAIRMAN. I am sorry if I misunderstood you.

Mr. SMYTH. May I make a statement? It seems to me Mr. Volpe summed up very clearly what I was trying to explain, and I would reaffirm my statement that I would not consider radioactive isotopes to be atomic energy. I feel they are not within the definition.

Mr. COLE. May I ask a question?

The CHAIRMAN. Mr. Cole.

Mr. COLE. Do you consider a radioactive isotope as being a form of energy released in the course of or as a result of nuclear fission?

Mr. SMYTH. No.

Mr. COLE. Why? Is that because it might be produced in some other fashion?

Mr. SMYTH. It can be produced in another fashion.

Mr. COLE. But if it is produced in this fashion, then it is atomic—

Mr. SMYTH. Heat is also produced in this fashion, and I cannot be convinced that heat is atomic energy per se.

Mr. HINSHAW. Mr. Chairman, I believe I am correct in stating—and Dr. Smyth can correct me—that the fast neutrons that are released in an atomic pile are very much the same as the fast neutrons that are speeded up by a cyclotron, are they not?

Mr. SMYTH. Neutrons are not directly speeded up in a cyclotron. You can produce neutrons by having the particles that are speeded up in a cyclotron impinge on various targets.

Mr. HINSHAW. In other words, the type of energy produced in the cyclotron for the purpose of producing isotopes is very similar to the type of energy which produces those same isotopes in a pile, is it not?

Mr. SMYTH. That is correct.

The CHAIRMAN. Now, Mr. Strauss.

#### **STATEMENT OF LEWIS L. STRAUSS, COMMISSIONER, UNITED STATES ATOMIC ENERGY COMMISSION**

The CHAIRMAN. Mr. Strauss, we would like to adjourn at 1:30, but do not feel that we are rushing you. If it is necessary for you to testify beyond 1:30, we will give you a further opportunity at the next session.

Mr. STRAUSS. I am here to respond to questions.

Senator KNOWLAND. Admiral, I would like to ask this question: I have understood from the statement made by Senator Hickenlooper earlier that on this question of the shipments or at least of some shipments of isotopes the vote of the Commission was 4 to 1. Is it correct that you voted in the negative on that?

Mr. STRAUSS. Senator Knowland, that vote occurred in August of 1947. It was the first of a dozen or so times that I found myself in disagreement with my fellow Commissioners.

It was the occasion of a good deal of grief to me, but I feel and I think they understood that I believed and they believed that the function of a five-man commission as opposed to, let us say, the idea of a single administrator was the idea of the Congress in obtaining divergent points of view.

I felt strongly on the subject, and I felt it my duty to maintain it.

Senator KNOWLAND. Could you give to the committee—because I think this is important, and we feel we have need of education on it, since it is relatively new—could you give the committee your reasons for believing that it was a mistake in policy for the shipment of isotopes and with particular reference to isotopes that might be used for industrial purposes?

Mr. STRAUSS. I am talking against time.

The CHAIRMAN. No, you are not, Admiral. You go ahead and give your story. We will recess at 1:30 and you can take it up tomorrow.

Mr. STRAUSS. Thank you, Mr. Chairman.

It seemed to me that the provisions of section 10 (a) (1) of the act and another sentence somewhat shorter, but which I cannot identify at the moment from memory, referred not specifically or particularly to atomic energy as such but to atomic energy information; and, based upon that construction, which was not only my own but, I think, in other instances, has been the Commission's, we have restricted the export of, let us say, certain documents or certain designs or even certain instruments to other countries.

There are, in fact, isotopes which we do not export at all, and there is no export, let us say, to Russia of isotopes. If they are not instruments which might be used adversely to our interests, there would be no purpose in arresting the export of isotopes to Russia any more than shoes.

I was, naturally, much concerned about the statement of the General Advisory Committee, for the members of which distinguished body I have unbounded respect, but as I read it and listened to it, I think that it is clear that they reaffirmed that their original recommendations constitute sound policy. I jotted that down as it was read this morning.

That does not have any particular reference, it seems to me, to the case of the export of a radioactive pile-produced isotope to the military establishment of another country.

The point has been made and was made in August 1947 by those of us who discussed it that certain isotopes could be produced in cyclotrons, and that they are produced also in piles which may be in other countries.

In August 1947, when I voted on this subject, there were, to the best of our knowledge, no piles in any foreign country with the exception of one at Chalk River, as to which we had some very special relations which you would not wish to be made a part of this particular record, and isotopes which can be produced by cyclotrons, because of the peculiar characteristics, which differentiate a high-energy electrical machine such as a cyclotron and a pile, are of totally different orders of magnitude.

That is to say, it will take in some cases thousands of cyclotron years—a cyclotron operating thousands of years—to produce as much of a certain specific isotope as can be produced in our piles in very large

quantities in a time of a totally different order, and the amounts of isotopes that are ordinarily produced in cyclotrons are submicroscopic.

As to whether it is the policy of the Government to assist a friendly European nation in its military research, I am not qualified to speak.

I felt and I feel that it is not a function of the Atomic Energy Commission, that there are other agencies of Government that should deal with that, and independent action by the Commission oversteps its statutory provisions.

I think I should also conclude by saying that the use of radium in place of radioactive iron in research, as is indicated by the Norwegian Military Establishment, is not indicated. The reason for radioactive iron in such an experiment is that because iron and steel are the two materials which are involved and the radioactive iron is used as a tracer in that particular experiment. Radium would be of no value in it whatever, as far as I have been able to ascertain upon investigation.

I could go to considerable length as to my reasons, which were expressed in August of 1947, for my deferential dissent from this decision, but they are well expressed in the minutes of the Commission.

I might only say that one of the things that I feared and anticipated—and that is in the minutes—is that some of these isotopes might be used in metallurgical research for the specific purpose for which this is, I assume, to be dedicated. I do not want to imply that there was any very high grade prophecy involved there, and I have more mistakes to my credit than hits.

Senator KNOWLAND. I do not want to pursue this matter, Mr. Chairman, because you said you wanted to adjourn at 1:30, but it is something we might want to explore further at a later date.

The CHAIRMAN. We have 2 or 3 minutes. Mr. Durham?

Mr. DURHAM. I would like for the admiral to give us his educational background.

Mr. STRAUSS. Mr. Durham, that is a matter of some embarrassment to me. I haven't any. I have a common-school education. I have some honorary degrees, but I take it that it is not worth while to cite them. I also occupy—quite recently—the position of president of the board of trustees of an institution of higher learning, and I am a director on the board of four colleges, which directorship I was permitted to retain when I resigned all my business connections; but educational pretensions I have none.

Mr. DURHAM. You raised the question in my mind because you expressed so many scientific opinions.

Mr. STRAUSS. If I gave the impression that I had some technical competence, I would like to disavow it.

Senator HICKENLOOPER. I might suggest to Admiral Strauss that I believe for many years he has been deeply interested in what amounts to charitable activities in the public interest on his part in cancer research and in many fields of biological research where he has supported much activity along that line.

Mr. DURHAM. I commend him for that.

The CHAIRMAN. Mr. Price?

Mr. PRICE. I am certain that no one questions Admiral Strauss in any form. As a matter of fact, he need suffer no embarrassment. I think he is to be commended for his record. This, of course, is a five-man Commission and, naturally, there was no compulsion on the part of any Commissioner to commit himself in advance as to how he was

going to perform on this Commission, except in what he felt to be the best interests of the country.

Many times during your discussions you probably were in disagreement, and if you were not, you probably would not be a good Commission. What was the vote on this particular issue?

Mr. STRAUSS. The vote on this particular issue was 4 to 1. I would like to repeat there are no four men for whom I have a higher regard or for whose sincerity I have a higher regard than the four who participated on the Commission with me.

Mr. PRICE. I think they will share the high regard for you also, and I know this committee does.

I would like to ask this, since this hearing is directed against the Chairman of the Commission—the Commission itself is not on trial, as I understand it, the Chairman is on trial: Has there ever been any evidence in your experience on this Commission where the Chairman used coercion to compel other members of the Commission, to compel their views to conform with his own?

Mr. STRAUSS. I could only speak from personal experience. He has never used any coercion on me.

Mr. PRICE. That is about all I have to say.

Senator MILLIKIN. So the witness will not go away disheartened at his lack of formal education, I would like to remind him that he is in the company of Edison and Burbank.

Mr. STRAUSS. I hope those gentlemen will take it all right.

Mr. DURHAM. I did not mean to embarrass the admiral at all.

Mr. STRAUSS. There is no embarrassment.

Mr. COLE. At the beginning of these hearings on Monday, I think it was, I inquired of Mr. Lilienthal the number of times that there had been lack of unanimity. I was going to say dissension, but rather I would say lack of unanimity in the decisions of the Commission. As I remember, he responded that there were perhaps 5 out of 500 decisions. In your statement this morning you said that it had occurred in a dozen or so instances. I do not want the answer nor the explanation at the moment, but I would like to have you be prepared or tell me now, if you can, how many instances there were of lack of unanimity.

Mr. STRAUSS. May I supply that for the record?

Mr. COLE. If you prefer to later, and also be in a position to explain the nature of the subjects over which there was disagreement and your reasons for taking the position that you did.

Mr. STRAUSS. Mr. Cole, I think some of them could only be broached in executive session.

Mr. COLE. I realize that.

The CHAIRMAN. The committee will stand in recess until 10:30 tomorrow morning for an open hearing.

(Whereupon, at 1:35 p. m., the joint committee recessed to reconvene at 10:30 a. m. on Thursday, June 9, 1949.)

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# INVESTIGATION INTO THE UNITED STATES ATOMIC ENERGY PROJECT

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## HEARING

BEFORE THE

## JOINT COMMITTEE ON ATOMIC ENERGY CONGRESS OF THE UNITED STATES

EIGHTY-FIRST CONGRESS

FIRST SESSION

ON

## INVESTIGATION INTO THE UNITED STATES ATOMIC ENERGY PROJECT

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### PART 6

JUNE 9, 1949

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# INVESTIGATION INTO THE UNITED STATES ATOMIC ENERGY PROJECT

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THURSDAY, JUNE 9, 1949

CONGRESS OF THE UNITED STATES,  
JOINT COMMITTEE ON ATOMIC ENERGY,  
*Washington, D. C.*

The joint committee met, pursuant to adjournment, at 10:30 a. m., in the Caucus Room, Senate Office Building, Washington, D. C., Senator Brien McMahon (chairman) presiding.

Present: Senator McMahon, Representative Durham (vice chairman); Senators Vandenberg, Millikin, Knowland, and Hickenlooper; Representatives Holifield, Price, Jackson, Cole, Elston, and Van Zandt.

Also present: David E. Lilienthal, Chairman; Sumner T. Pike, Commissioner; Gordon E. Dean, Commissioner; and Henry D. Smyth, Commissioner; Lewis L. Strauss, Commissioner; Carroll L. Wilson, General Manager; Carlton Shugg, Deputy General Manager; Joseph Volpe, Jr., General Counsel; Frances Henderson, Assistant to the Chairman; Roy B. Snapp, Secretary to Commission; Philip J. Farley, Office of the Secretary to the Commission; Everett Hollis and Bennett Boskey, of the Office of the General Counsel; Dr. Shields Warren, Director, Division of Biology and Medicine; William S. Trueheart, Office of the Director of Intelligence; Morse Salisbury, Director, and Rodney Southwick, Division of Public and Technical Information Service; Lt. Col. Kenneth E. Fields, Division of Military Application; Fletcher Waller, Director, Division of Organization and Personnel; Walter J. Williams, Director, and Frederick Warren, Division of Production; Dr. Ralph Johnson, Associate Director, Division of Research; Francis Hammack, Acting Director, C. A. Rolander, Edward Brosnan, Robert A. Havnie, and Bruce Uthus, Division of Security; all of the United States Atomic Energy Commission.

The CHAIRMAN. The committee will come to order. Will the Commissioners take their accustomed places, please?

Mr. Lilienthal, because we restricted Commissioner Strauss yesterday and because we had to adjourn the meeting, we will now hear from Commissioner Strauss as to the remainder of his statement on the shipment of isotopes.

Mr. LILIENTHAL. Mr. Chairman, may I make this comment? In view of the reference to dissent, may I read into the record the views of the four members of the Commission—Robert Bacher, William Waymack, Sumner Pike, and myself—on this matter? It is rather unusual to start with a dissent rather than with the majority view.

The CHAIRMAN. We really did not start with the dissent, Mr. Lilienthal. We started with a general statement from you and then

Commissioner Strauss was called to explain why he disagreed with the policy. And now he has had only 10 minutes within which to do that. It seems to the chairman of the committee that the only fair thing to do, rather than cut him off and rather than to make the case, well, shall I say, choppy, it would be better if Commissioner Strauss were allowed to present his full view on it.

We have had testimony from you and from Dr. Smyth. Later we will be very happy to have the statement read into the record.

Mr. LILIENTHAL. I simply want to suggest, Mr. Chairman, that in view of the fact that the charges are directed against the Commission and particularly against me that to have dissenting views put in before the views of the Commission itself does seem a little unusual, but I will abide by the decision.

The CHAIRMAN. We have had the views of the majority from Dr. Smyth, although I realize he was not on the Commission.

Mr. LILIENTHAL. No; he was not.

The CHAIRMAN. It happens that I agree with the majority of the Commission in the shipment of foreign isotopes for many reasons, which I will go into at the proper time. But we have had a presentation, perhaps not a full one, and certainly the Commission is entitled, the four members, to have their views presented.

However, I believe that Admiral Strauss, having been interrupted when he was in the middle of his statement, it would be only fair to permit him to finish. If the committee could have sat yesterday until 2 o'clock, he probably would have finished his presentation.

Mr. JACKSON. Mr. Chairman.

The CHAIRMAN. Mr. Jackson.

Mr. JACKSON. I would like to make a brief comment. I have been attending these meetings now since they opened a little over a week ago. We started out with the charge that the Atomic Energy Commission was guilty of incredible mismanagement. I had understood that we would have a bill of particulars to these charges. When the time came, we did not get a bill of particulars or the list of charges. We started out with a hearing.

The members of the Commission were called up here and not advised as to what the charges were other than a blanket charge of incredible mismanagement. The members of the committee, the triers of the facts, were not advised as to what the charges were and have not been advised up until this time.

We meet every day and we do not know whether we are going to talk about construction projects at the Argonne National Laboratory or if we are going all the way to the fiords of Norway, and it seems to me that the people who are the triers of the facts here ought at least to have an opportunity of knowing the agenda for the following day. I think it is only fair that members of the Commission be advised as to the topic to be discussed.

I may be wrong about this, but it is my understanding or recollection that each morning at about 9 o'clock the Commission is advised as to what is going to be discussed.

The result is—if that is true, I do not know—the result is they come up before this committee not knowing what is going to come up. An example of it occurred yesterday when we discussed three different topics, the last one being isotopes, which the Commission did not

have an opportunity at all to present any specific information on because they had not been advised of the charges.

Now, I have served in Congress five terms, but I must confess this is the first time I have been on a committee where at least members of the committee have not had an opportunity to know what the specific charges that are being investigated are. Certainly, I think in fairness and for orderly procedure, there should be some sort of agenda arranged and worked out. I think we ought to know what we are going to discuss tomorrow or the following day.

I think that it makes us look a bit ludicrous, to say the least, to come in here every day or whenever we have a committee hearing and call the Commission up and start asking questions. It is certainly contrary to every concept and precept of Anglo-Saxon law, and the courts certainly go a long way to make sure that those who are accused of serious charges are given opportunity to be heard and that all relevant testimony may be presented.

I think the Coplon trial could be mentioned. Yesterday the decision of Judge Reeves is indicative of the sacredness of a fair and decent trial for every one.

I must confess that I am not at all satisfied with the procedure that we are following here and, as I have protested on previous occasions, I want to lodge my protest again as to the way the facts are being presented in this case.

Senator HICKENLOOPER. Mr. Chairman.

The CHAIRMAN. Senator Hickenlooper.

Senator HICKENLOOPER. May I say I undertook to present in an orderly fashion—the committee knew that I attempted to present in an orderly fashion the matter of security clearance procedure. I was immediately blocked on that after the first case by a very proper question by the committee as to what method of procedure they thought we should go into.

I am still blocked because no decision has been made on that score yet. As a result, the procedural methods and the investigation of this matter have been completely turned over.

Yesterday I had not intended to go into this matter, but a hearing was set—that is, the matters we went into yesterday—on that day I had not intended to go into. Procedural matters were upset. I was not quite fully prepared or as adequately prepared as I would have liked to have been myself.

I suggest the matter of clearance procedure is a vital matter in this, and it has to be determined. I believe the chairman is trying to be diligent in getting some kind of ground upon which we can proceed, but I do hope that that particular question can be resolved immediately. If so, there will be no question about my being able to proceed very shortly.

The CHAIRMAN. I just want to indorse the statement as to the diligence of the chairman. He has done little else for the last 3 or 4 days except to try to work out this very troublesome matter. We have an executive meeting scheduled for this afternoon, and I do hope, Senator, that we are going to be able to come to a final conclusion.

Mr. JACKSON. I want to say to the Senator that I am directing my complaint primarily at the procedure that is being followed in this case. Now, the Senator from Iowa, I think, has reference to case A, and certainly the public record discloses my views on that. We have

nothing to hide in any of these matters, and I think if we are going to get the truth, we should have all the facts before the committee; but I am complaining about the fact that we have not received a bill of particulars as to the specific charges against the Commission.

The first day the testimony related to turn-over in personnel, which is common to any department. The testimony of the second day related to the clearance program, without any specific charges. They are just general allegations.

I think the time has come—when a complaint or an information is filed in an ordinary court of law, it is usually followed up by evidence.

That is my complaint. I would like to find out what the charges are.

The CHAIRMAN. I might say that before we finish this investigation, I only reiterate what I said when it opened: It is not any persecution, it is not any attempt for whitewash; it is going to be a fair investigation, as far as I can keep it a fair investigation, giving both protagonists the fullest opportunity to present their views.

The Chairman certainly has no intention of doing anything else, and I know the Congressman from Washington appreciates that fact.

Mr. JACKSON. The chairman has been very fair. I do not think he could be any fairer with 18 members of the committee probably sometimes wanting to ask questions at the same time. He has a difficult task, and he has been most fair, and I am not complaining about the way the chairman has conducted the hearing. I think he has been very fair. I merely make my suggestions in the hope that we can have some orderly procedure rather than sort of a carnival of confusion here.

At least, it seems that way to me, since we have testimony running from laboratories to isotopes to personnel problems all in one day.

Mr. LILIENTHAL. Mr. Chairman, as I leave the table, may I make this comment in respect to Congressman Jackson's remarks: There is outstanding as a result of yesterday's impromptu discussions, as far as we were concerned, since we were not advised in advance as to what was to be taken up, a problem, a very distressing kind of indirect accusation against a friendly country, the country of Norway; and we would hope this morning that we will be able to explore that further and clear that up.

The CHAIRMAN. You certainly will, just as soon as Commissioner Strauss gets through with his statement, which was interrupted. I expect that you will come back and make a statement.

Commissioner Strauss, will you please take the stand?

#### STATEMENT OF LEWIS L. STRAUSS, COMMISSIONER, UNITED STATES ATOMIC ENERGY COMMISSION

Senator HICKENLOOPER. Do you have a statement in continuation of your discussion yesterday?

Mr. STRAUSS. Yes, Senator, I do.

Senator HICKENLOOPER. Would you care to proceed with it, and then maybe I can question you or some members can question you later.

Mr. STRAUSS. I would appreciate the opportunity.

Senator HICKENLOOPER. Do you have a copy of your statement?

Mr. STRAUSS. I have a reading copy and I have been told that other copies will be provided.

The CHAIRMAN. You have a statement on this matter, Admiral?

Mr. STRAUSS. I have, Senator.

The CHAIRMAN. Proceed.

Mr. STRAUSS. On yesterday, when I was called to the stand near the close of the hearing, there were available only a few minutes for me to respond to questions dealing with the export to foreign countries of radioactive isotopes produced in the atomic piles of the Commission. As has been testified in the course of recent hearings before the Subcommittee of the Senate Appropriations Committee, there had been a dissent from this proposal. I was the dissenter.

I should like to repeat that neither then nor at any time past was there any personal friction nor any question in my mind as to the devotion, loyalty, and integrity of my colleagues in connection with this subject, or in any of the matters dealing with national security where I have been compelled to differ from the majority point of view. When the Congress placed the control of atomic energy in a body of 5 men, rather than establishing a single administrator, it must have been for the purpose of obtaining points of view which would not necessarily be uniform and, while it has been a matter of considerable unhappiness to me to find myself from time to time out of phase with men whom I respect, I have, nevertheless, believed it my clear duty to support and maintain my principle in those dissents where I felt that I was right and they were wrong.

Mr. Justice Holmes, a patron of my youth, long ago lifted dissent from the area of apologetics.

The instance in question was the second split vote in the Commission and the circumstances are as follows. I shall try to be as brief as I can.

Shortly after the Commission took office, representations were made to us to permit the export of radioactive isotopes made in the pile at Oak Ridge, to foreign countries for medical therapy and for medical and biological research. The arguments were appealing. I was somewhat concerned by the fact that the radioisotope is a tool of possibilities as yet unplumbed; that certain of them can be used for military as well as for peaceful research; and that control of radioisotopes once they had left our shores presented insuperable difficulties.

I was mainly concerned, however, by the fact that the McMahon Act under which the Commission functions provides first, in its declaration of policy, the information concerning the "practical industrial applications of atomic energy" are to be shared and disseminated "as soon as effective and enforceable safeguards, against its use for destructive purposes can be devised." And there is, of course, the familiar section 10A (1) of the McMahon Act which states "That until Congress declares by joint resolution that effective and enforceable safeguards against the use of atomic energy for destructive purposes have been established, there shall be no exchange of information with other nations with respect to the use of atomic energy for industrial purposes." That is the end of that section.

The legal question may not be so important as in this case what seemed to me to be prudence and judgment.

In August 1947, I apprehended what today I know to be a fact, that radioactive isotopes would be increasingly useful in providing information not only for atomic energy research but also in a vast field of industrial and military applications not involved in production of the atomic bomb itself. Since the hearing yesterday morning, I have reviewed the records of that meeting of the Commission on

August 19, 1947, at which the subject of the export of radioisotopes was formally settled.

Although I should be quoting only myself, there may be some impropriety in reproducing any part of minutes of the Commission as they have not thus far been supplied to the committee and I am, therefore, paraphrasing the statement recorded by the secretary as expressing the views which I voiced at that time. And I refer to myself, therefore, in the third person.

Mr. Straus is quoted as saying that he was apparently the only member opposed to affirmative action at this time and added that, when some weeks ago he had realized that fact, he had attempted unsuccessfully to conform his thinking with his colleagues.

He said that he was compelled to conclude that the burden of proof rested upon those who wished to see radioactive isotopes exported. He summarized the reasons which had been advanced on behalf of the argument in favor of export, these being as follows:

(1) That the Commission possesses the legal right to take such action;

(2) That it was necessary in order to prevent scientists abroad from becoming disaffected in their attitude toward the United States;

(3) That there was little likelihood that radioisotopes which were exported could possibly be used in research and other activities that would result in any military advantage; and finally

(4) That we would be divulging no knowledge that would not eventually be discovered by other nations in any case.

The minutes go on to record that Mr. Strauss stated that the record would not sustain the thesis that foreign scientists were all well disposed toward America. He said that many had worked, or had been compelled to work for the dictatorships of both the "right" and the "left," and that in general in political matters scientists were as divergent in their views as less gifted men. He held that this indicated that until satisfactory international control of atomic energy is secured, the United States should take no steps to assist science in any unfriendly nation. He expressed doubt that it would be possible to acquire the good will of foreign scientists on any permanent basis by authorizing the distribution of isotopes abroad.

As to the contention that the export of radioactive isotopes would merely make available what foreign countries would eventually obtain by means of their existing cyclotrons or the cyclotrons which could be built, Mr. Strauss pointed out that such an argument disregarded the time factor; that cyclotrons produced microscopic quantities of radioactive isotopes and that to obtain amounts comparable to a few days' production of the Oak Ridge pile would require very many years of cyclotron operation.

I might interpolate that in 1947 there were, so far as we knew, no atomic piles overseas.

Commenting upon the conditions proposed to safeguard the export of radioisotopes, Mr. Strauss expressed doubt that the proposed conditions could effectively prevent their use for unfriendly purposes or their divergence to unfriendly hands. The minutes continue to the general effect that Mr. Strauss stated that he never contended that the isotopes in question could be used by other countries to produce atomic bombs but he felt that they could be most useful as tools (1) in bio-

logical research (at this point I remember citing the possible mutation of agents for use in biological warfare); (2) in petroleum chemistry (and here I recall citing their employment in cracking processes and calling attention to the importance of petroleum in modern warfare); and (3) in metallurgical research (and in that connection I mentioned the race in which all nations with military establishments are engaged in order to find alloys which could withstand the intensities of heat and erosion that are the two great metallurgical hurdles in the design of jet and rocket motors).

The report continues that Mr. Strauss said that he was not competent to pass on the legal aspects of the problem but that the language in the act prohibiting the exchange of information with other nations for the use of atomic energy for "industrial purposes" seemed clear to his lay mind and that this lesser prohibition, he thought, must obviously presume the greater prohibition of possible military uses.

While having no other course than to accept the opinion of the general counsel as to the legality of the proposed action, Mr. Strauss concluded by calling attention to the fact that during the Senate debate on confirmation of the Commission, indeed on its last day, the issue was crystallized by the fact that the President pro tempore of the Senate took the floor himself and, in reply to an allegation made earlier in the debate that the Commission would give away secrets to foreign countries, had reminded Members of the Senate that the Commission could not evade the many mandates of the act in this matter; that these mandates would last until there was international control, and that there was little prospect for international control before the 18 months for which the Commissioners were to be confirmed would expire. That was a prophetic statement.

For all these reasons Mr. Strauss expressed his belief that we should not approve the plan as then presented for the distribution of radioisotopes.

During the Commission discussion an argument was advanced to the effect that the foreign distribution of radioisotopes was a relatively small matter compared to such matters as the United States export of electric generators for installation at the Dnieperstroy Dam in Russia. Mr. Strauss replied that the Commission had no responsibility for the export of generators, although he felt and said that the Government agencies which had such jurisdiction should exercise it. Whereas, on the other hand, there is a law which the Atomic Energy Commission is charged with executing which provides for control in our own field of activity and where obviously we have the primary responsibility. That is enough for that meeting.

Almost 2 years have elapsed since this meeting. I have not altered the views which I then entertained and the intervening events, as a matter of fact, have fortified them.

The subsequent history of this decision is brief. A press release was issued by the Commission in which it was stated:

Foreign governments whose research workers request radioactive isotopes must first agree to permit qualified scientists *irrespective of nationality* [the emphasis is mine] to visit the installations where the materials will be used to obtain information freely.

At the conclusion of the August 1947 meeting of the Commission, it was agreed that the Commission's recommendations and reasons for approving the foreign distribution of radioisotopes would be for-

warded to the Department of State for review and that, as a mark of consideration to me by my colleagues, the reasons which had been advanced against such action would also be presented. The Commission's arguments and mine appear in the following paragraph of a letter to the Secretary of State, which has subsequently been declassified by the Commission:

The Commission is of the opinion that the type of radioisotopes involved, in the quantities and under the conditions prescribed, will not contribute to atomic energy research in other countries except to the extent that radioisotopes are tools which can contribute to any nation's general scientific program. The view may be taken, therefore, that to this extent their distribution is detrimental to this country's welfare. It is the Commission's judgment, however, that the advantages the United States will gain from taking steps at this time to make available the use of radioisotopes for *humanitarian purposes* outweigh this consideration.

The emphasis on the words "humanitarian purposes" is my own.

The reply from the Acting Secretary of State concludes with the following words in a letter which the Commission has also declassified.

The CHAIRMAN. Who was the Acting Secretary?

Mr. STRAUSS. I am not sure. I quote:

Based on your assurance that this offer on our part does not prejudice our national security and in view of the checks and safeguards set up in the distribution scheme as you have outlined in the enclosure to your letter, the Department of State sees no objection from the point of view of foreign policy.

I called attention to the fact that this letter appeared to have been written under some misapprehension since it assumed an unqualified assurance that there was no prejudice involved to our national security; whereas that, of course, was a matter of opinion.

The views on this subject of the distinguished General Advisory Committee to the Commission have been cited in the course of testimony yesterday. The General Advisory Committee is composed of outstanding scientists who are devoted to their country and who are likewise in another sense devoted to the established scientific tradition which endorses the widest dissemination of knowledge in time of peace. None of them, I feel sure, questioned the moratorium on that principle during the years of the hot war.

The question of whether indiscriminate dissemination of knowledge on atomic energy ought to be made during the period of a cold war is the real point at issue. In any case, it is not accurate to imply that the General Advisory Committee has approved the export of radioisotopes produced in our atomic piles to the military establishment of any foreign country. Their statement to the Commission, dated only June 6 last, I do not read as such an endorsement. The pertinent part of that statement is as follows:

With regard to the isotopes distribution, we have reexamined in detail the statement made by us at our fourth meeting (May 30-June 1, 1947). Despite the criticisms that have been voiced to the Commission's policy, we wish to reaffirm our conviction that these recommendations constituted sound policy.

The recommendation of the General Advisory Committee at their fourth meeting, which occurred between May 30 and June 1, 1947, which the foregoing statement reaffirms includes the following:

The conditions under which these materials will be sold at cost to an individual scientific laboratory are such as to insure that the sole purpose for which they will be used is for research or medical treatment.

And further that—

Thus diversion of the material to secret or military research will be difficult and any continued diversion of this sort will be impossible.

I, therefore, feel it is unfair to the General Advisory Committee to construe their current statement as an endorsement of the action of the Commission in exporting a radioisotope to a research division of the Norwegian Military Establishment in April.

This does not appear in my prepared statement, but I certainly did not wish to cast any opprobrium or criticism at the Norwegian Government in their position. I think I should have asked for this myself.

The purpose for which this radioisotope was requested was to investigate the flow of iron in steel at high temperatures. It has been stated here that this could very well be basic research not at all related to any military end result. It seems to me that the request for this material by a military establishment has to be judged upon its face. And this is quite apart from the fact that it also seems to me to run contrary to the mandate in the act.

As to the use of such an isotope, what the use might be, let me briefly read from the New York Times of January 3, this year, which quotes Dr. William Shoupp, manager of the electronics and nuclear physics department of the Westinghouse Laboratories, as stating:

Isotopes also aid our scientists to find out what happens on the surface of a metal or alloy when it is exposed to extremely high temperatures. This information is vital to the development of new alloys for gas turbines, jet engines, and other high-temperature apparatus.

In a memorandum which I prepared for my colleagues in September 1947, about a month after the dissenting vote, and in which I asked for reconsideration of the decision, I proposed that qualified researchers from countries which have agreed to support the United States proposal for international control of atomic energy be made welcome in our institutions to use the radioisotopes on the announced lists to further their medical and biological studies and that, in cases where isotopes were urgently required abroad for medical treatment of sick people, they be provided in all locations where supervision could be supplied from the staffs of our consulates.

In closing, I should like to repeat that this dissenting vote represents a difference with my colleagues that I consider and that I hope is within the area of divergence which men may have without impairing their respect for one another. My colleagues think they are right; I think they are wrong. The Congress will have to decide. These are not ordinary times, and the law which we are sworn to administer is one which we simply construe differently.

On yesterday, before I left the stand, Mr. Cole asked me to supply for the record data concerning the number of times that there was lack of unanimity in the Commission. Chairman Lillienthal has testified at a previous session that there was only one Commissioner who had dissented and, therefore, it was not necessary for me to look up the votes of any of my colleagues except myself, since my recollection confirmed that the Commission has always been unanimous except in those cases when I found myself the minority.

The Secretary of the Commission has informed me that, in the Commission minutes which have been approved to date, there are eleven dissenting votes and one additional in a minute which has not yet

been circulated to the Commission. There are, of course, several other occasions on which a difference of opinion has been voiced or was implicit to my colleagues but which for one reason or another have not entailed a vote.

Mr. PRICE. Out of how many decisions?

Mr. STRAUSS. I do not know. Mr. Lilienthal said 500, and I am sure that was probably the right figure. I did not check as to that. Mr. Cole did not raise that question with me.

All of these dissents deal with aspects of security and national defense. I do not recall any of them that run to operational matters, and I believe they are questionable subjects for an open hearing.

Mr. COLE. All of them?

Mr. STRAUSS. That is my belief, sir.

If I may be pardoned a personal reference, I would like to anticipate some criticism by stating that I am not an isolationist and have never been. As far back as 1916—it seems a very long time ago to me—I began my interest in the welfare of the human beings irrespective of their nationality. I served in the Belgian, French, German, Austrian, and Russian Relief. I organized the relief fund for Finland when that country was attacked by Russia in 1939, and I came to the Atomic Energy Commission after a long, active, and somewhat poignant personal interest in radiation as a possible key to the understanding and cure of cancer. I have brought this personal note into my remarks because I would not be thought indifferent to human welfare by those who do not know me. National security, however, as long as I am a member of this Commission, must be my paramount responsibility.

Thank you.

The CHAIRMAN. Admiral, was this matter cleared with the Military Liaison Committee?

Mr. STRAUSS. Senator, may I say that I think that, as a result of an oversight and an inadvertence, it was not; but I am satisfied that there was no intent not to clear it, and I am satisfied, furthermore, that individuals on the Military Liaison Committee were fully aware of the fact that the issue was before the Commission and what the action of the Commission would be likely to be.

The CHAIRMAN. Mr. Durham?

Mr. Durham. I have no questions, Mr. Chairman.

The CHAIRMAN. Senator Vandenberg?

Senator VANDENBERG. No questions.

The CHAIRMAN. Mr. Holifield is not here. Senator Millikin?

Senator MILLIKIN. No questions.

The CHAIRMAN. Mr. Price?

Mr. PRICE. No questions.

The CHAIRMAN. Senator Knowland?

Senator KNOWLAND. Just one question, Admiral.

In regard to the contract that we have with the nations to which the isotopes are shipped, I understood you to say that there was a provision that inspection could be had by scientists irrespective of nationality. Is that correct?

Mr. STRAUSS. That is correct, sir. That is a brief statement of a section in our regulations, which perhaps might be submitted.

Senator KNOWLAND. Could we have the copy of those instructions or regulations that are issued made available to the committee?

(The information requested is marked "Exhibit 12" and will be found in the appendix.)

Mr. STRAUSS. I am sure that that can be done, Senator.

Senator KNOWLAND. That is all.

The CHAIRMAN. Mr. Price has indicated he now has a question.

Mr. PRICE. I would just like to ask: How long did the Commission have the question of the isotope distribution before it, before it arrived at a decision?

Mr. STRAUSS. I would not have been able to answer that question yesterday, but I sat up last night reading the record, and the earliest memoranda are almost coeval with the formation of the Commission. They date with the taking over of the properties of the Commission. They date from January 1947; and I think it fair, therefore, to say that the matter was in the Commission for a period of 6 to 7 months and was under active discussion for a period of 1 to 2 months.

Mr. PRICE. During the course of which the views of the General Advisory Committee were taken into consideration?

Mr. STRAUSS. They were, and I am sure they weighed very heavily with the Commission, as they properly should.

Mr. PRICE. That is all I have.

The CHAIRMAN. Mr. Cole?

Mr. COLE. Yes.

Admiral Strauss, I judge from your statement, in which you express considerable personal concern over the fact that you had to differ with your colleagues, it indicates that it was only in the extreme cases or in those of such an important nature that in your opinion justified your expressing a dissent; is that correct?

Mr. STRAUSS. No, Mr. Cole. I think that my assents when they were given were wholehearted and that it was a concurrence without reservation.

Mr. COLE. Is it correct that there is a tendency on your part as well as the other members of the Commission to concur in decisions?

Mr. STRAUSS. I think when five men get together, unless there is an earnest attempt made to reconcile divergent points of view, they do not last as a group very long; and I am sure that my colleagues have earnestly tried on those occasions when I differed to see, first, whether they could not convince me and, then, whether there was merit in the position which I had taken to which they could subscribe.

Mr. COLE. Then it is as a general proposition true that the Commissioners have tried to reach an agreement?

Mr. STRAUSS. It is true, sir.

Mr. COLE. With respect to the problems that confront them, so that they can be united and not have to face divisions.

Mr. STRAUSS. That is true.

Mr. COLE. That being so, can it not be said with reason that it has been the unusual and the extreme instance when division was found to be necessary?

Mr. STRAUSS. That is true.

Mr. COLE. Have there been any other instances in the application for and the shipment of isotopes which the Commission has acted on favorably which would support your fears except the one to Norway?

Mr. STRAUSS. That is the only instance, that is the first instance and a very recent instance of the application for a radioactive isotope directly from a military establishment. There have been other in-

stances when I felt it was prudent to assume that use other than that requested might be made of the isotope.

Mr. COLE. Perhaps the question is not proper to place to you, but if the chairman has no objection, would you mind explaining the procedures through which these applications for isotopes are confirmed or approved? Does the Commission itself act on each application?

Mr. STRAUSS. No, Mr. Cole. In respect of certain countries these applications are handled in what is described as "a routine manner" by the staff of the Commission, although when the program was instituted, it was agreed that if applications were received from certain countries, those applications would be considered *de novo*.

Mr. COLE. As far as you know, has that understanding been followed with respect to applications from those countries?

Mr. STRAUSS. As far as I know.

Mr. COLE. What was there about the Finland application that was the basis for concern?

Mr. STRAUSS. I would say that concern was not shared. My concern with the application from Finland was the size of the application, which was considerably larger than that amount applied for by any other country, including much larger countries, and the unhappy political position of Finland in the world.

Mr. COLE. Does the Military Liaison Committee play any part in clearing these applications for isotopes?

Mr. STRAUSS. I cannot answer that question because I do not know.

Mr. COLE. Do you know whether the Military Liaison Committee, even though it may not have expressly approved of the decision of the committee at the time it was made with respect to isotopes, has since indicated any opinion, either in support or in opposition to the decision?

Mr. STRAUSS. I do not know.

Mr. COLE. If the liaison committee had been opposed to the decision of the Commission, would not that fact have been brought to your attention?

Mr. STRAUSS. I should think so.

Mr. COLE. So the fact that you do not know would indicate that the Military Liaison Committee has not disapproved the decision?

Mr. STRAUSS. My answer to the effect that I do not know, Mr. Cole, was based upon my feeling that it was an impropriety for me to testify as to whether or not the Military Liaison Committee approved or disapproved any action of the Commission.

Mr. COLE. But can you not tell us from your own knowledge whether if the Military Liaison Committee had disapproved, you would have known it?

Mr. STRAUSS. Had there been a formal disapproval, I feel certain I would have known it.

Mr. COLE. That is all, Mr. Chairman.

The CHAIRMAN. Mr. Jackson?

Mr. JACKSON. Admiral Strauss, I take it that your fear in connection with the dissemination of isotopes is the possible use that it might be put to by other countries which might be detrimental to the United States.

Mr. STRAUSS. That is correct.

Mr. JACKSON. As I understand it, the Commission before acting on this matter had the advice of the General Advisory Committee.

Mr. STRAUSS. That is correct, sir. I read from a part of that advice a few moments ago, in which that board expressed its attitude with respect to military use, the diversion of the material to military research.

Mr. JACKSON. The General Advisory Committee was in agreement on the isotope policy?

Mr. STRAUSS. As hitherto carried on, I should say they were in agreement without qualification.

Mr. JACKSON. Without qualification. You feel that the men on the Advisory Committee are men of loyalty and integrity and believe in our institutions and our way of life?

Mr. STRAUSS. I most certainly do.

Mr. JACKSON. Included on the board that passed on this policy is Dr. James Conant, president of Harvard University; is that correct?

Mr. STRAUSS. That is correct.

Mr. JACKSON. No question about his real interest in the security of our country?

Mr. STRAUSS. None whatever.

Mr. JACKSON. Also included on the Advisory Committee is quite an eminent businessman and industrialist, Hartley Rowe, vice president and chief engineer of the United Fruit Co.?

Mr. STRAUSS. That is correct.

Mr. JACKSON. No question about his standing and loyalty to our country?

Mr. STRAUSS. None.

Mr. JACKSON. Also included on the board is Oliver E. Buckley, president of the Bell Telephone Co.; is that correct?

Mr. STRAUSS. That is true. Dr. Buckley was not a member of the board at the time that the recommendation in question was made. He is a recent appointee.

Mr. JACKSON. Do you know whether Mr. Buckley is opposed to this policy?

Mr. STRAUSS. I have never had an opportunity to discuss it with him or to hear his views expressed.

Mr. JACKSON. Would you not feel, without mentioning all the other members of the Advisory Committee, that the Commission acted prudently and wisely in getting the advice of such an eminent group of men?

Mr. STRAUSS. The statute requires that we do so.

Mr. JACKSON. Yes; but is not that quite a safeguard as far as protecting the security of our country is concerned?

Mr. STRAUSS. Yes, sir; but the final responsibility rests not with an advisory board but with the five Commissioners.

Mr. JACKSON. That is correct; under the statute, there is no question. But would you not say that the Commission received good advice and good counsel in having the assistance of such an eminent board?

Mr. STRAUSS. Having the assistance; yes. In taking the action that it took, Mr. Jackson, of course, my vote is the evidence of my opinion.

Mr. JACKSON. Yes, and these men that are on the committee, in addition to the ones I have mentioned, include a number of outstanding scientists and physicists, men who are familiar with the atomic energy program and all of its implications?

Mr. STRAUSS. If you omit "all of its implications," I would subscribe to that.

Mr. JACKSON. Dr. Robert Oppenheimer, director of the Institute for Advanced Study, of Princeton; Dr. Lee A. Du Bridge, president of California Institute of Technology; Dr. Enrico Fermi, professor of physics, Institute of Nuclear Physics, University of Chicago; Dr. I. I. Rabi, chairman, department of physics, Columbia University; Dr. Glenn T. Seaborg, professor of chemistry, University of California, at Berkeley; Dr. Cyril S. Smith, director of the Institute for Study of Metals, University of Chicago; and Dr. John H. Manley, the secretary and, I believe, connected with the Los Alamos project. The other men I mentioned previously, so I did not include them in the list.

Mr. STRAUSS. They are members of the General Advisory Committee.

Mr. JACKSON. Would you not say on this board you have businessmen with long experience and good judgment and, in addition, you have the scientific personnel, men who can technically pass on a problem such as the one that was presented to the Commission?

Mr. STRAUSS. Well, sir, I might add that the Commission has not felt it is under the necessity of accepting all the recommendations of the General Advisory Committee and has not done so.

Mr. JACKSON. In this case I am talking about.

Mr. STRAUSS. In this case the Commission did.

Mr. JACKSON. I am confining my questions to the isotope policy.

Mr. STRAUSS. That is right, sir.

Mr. JACKSON. Is there much difference, Admiral Strauss, in providing military assistance to one of the Atlantic Pact countries, Norway, and sending these isotopes over for metallic research?

Mr. STRAUSS. I think, sir, that would be a question for the determination of the President and the State Department and not of the Atomic Energy Commission; and that runs directly to the point of my vote.

Mr. JACKSON. But as a practical matter, would there be a great deal of difference in sending tanks and guns and other advanced type of equipment that is proposed under the Atlantic Pact and sending isotopes?

Mr. STRAUSS. No; but I understand that the other proposal has not received the approval of the Congress. This is an act which has taken place without reference to, or approval by, the Congress.

Mr. JACKSON. I appreciate that, but I believe that you understand our policy is, at least, thus far, it has been reported out of the committee, to preserve the territorial integrity of these countries—let's put it that way—that are participants or will be participants in the Atlantic Pact; and it is common knowledge that the program would be implemented with military assistance.

Mr. STRAUSS. Unfortunately, sir, I know too little about it to give you a responsive answer. I am not trying to dodge it. My feeling simply is that if that becomes the policy of our Government, its implementation then becomes the function of agencies created and designed for that specific purpose. That purpose does not appear in the McMahon Act under which the Commission operates.

Mr. JACKSON. In other words, as I get it, your difference with the other four members on the Commission is an interpretation of the provision in the act.

Mr. STRAUSS. That is a correct statement.

Mr. JACKSON. Do you feel, Admiral Strauss, considering the steps taken by the Commission in this instance, that the Commission was guilty of incredible mismanagement?

Mr. STRAUSS. No; I think this was an error in judgment. I do not think this had anything to do with management.

Mr. JACKSON. Do you think the conduct of the Commission during the period that you have served on it is such that it has been guilty of incredible mismanagement?

Mr. STRAUSS. Mr. Congressman, I think that is a difficult question to put—

Mr. JACKSON. You are a man of long business experience in operating various business enterprises and have had an opportunity to observe the management of business in large enterprises.

Mr. STRAUSS. I have never seen an enterprise like this, Mr. Congressman.

Mr. JACKSON. I appreciate there is not something quite analogous to it in size, but you are a man of substantial business experience. I realize your possible hesitancy.

Mr. STRAUSS. I wish you would permit my hesitancy to continue as a matter of record. It is somewhat reminiscent of the judgment of Paris. I could no more pass judgment on my colleagues than you on yours.

Mr. JACKSON. You have had the opportunity to witness the operation of the Commission during this period of time.

Mr. STRAUSS. I have.

Mr. JACKSON. You are familiar with the very difficult situation that confronted you and your colleagues when you took over from the Manhattan District.

Mr. STRAUSS. I am.

Mr. JACKSON. And in view of what you have observed as a member of the Commission in all of its ramifications, do you think the Commission is guilty of incredible mismanagement?

Mr. STRAUSS. I am too close to the picture to make a judgment. My feeling is we have done in many respects a remarkably fine job, that we have made a number of mistakes.

Mr. JACKSON. That would occur in any kind of—

Mr. STRAUSS. That I cannot say. The evaluation of our performance—and I share in this with the Commission—the evaluation of our performance must be made from the outside.

Mr. JACKSON. Must be made—I did not understand.

Mr. STRAUSS. From the outside. I am too close to the picture to give a judgment to which I could subscribe.

Mr. JACKSON. You think the Chairman of the Commission is an able man?

Mr. STRAUSS. I certainly do.

Mr. JACKSON. And he has done a good job?

Mr. STRAUSS. I do not think I personally could have done a better job.

Mr. JACKSON. That is all, Mr. Chairman.

Mr. PRICE. Do you know of anyone who could have done a better job?

Mr. STRAUSS. I have a long list of people, acquaintances, some of whom I think a great deal more of than I do myself. Some of them could do a better job than I could.

The CHAIRMAN. Mr. Elston?

Mr. ELSTON. Admiral Strauss, as I understand it, the Advisory Committee did not at any time pass on the question of the shipment of isotopes to foreign countries for military purposes.

Mr. STRAUSS. Mr. Elston, there was a clicking, and I did not hear your question.

Mr. ELSTON. As I understand your statement, the Advisory Committee did not at any time pass upon the question of the shipment of isotopes to foreign countries for military purposes?

Mr. STRAUSS. My understanding is that at this fourth meeting, they quite specifically opposed it.

Mr. ELSTON. Yes. Their only recommendations were with respect to the use of isotopes for humanitarian purposes.

Mr. STRAUSS. Well, their statement was "for research and medical therapy."

Mr. ELSTON. Yes.

Mr. STRAUSS. Those are the words.

Mr. ELSTON. Now, some inquiry was made about the size of the shipment to Finland. I do not know whether the exact size is something that should not be revealed, but I will ask you how the size compared with the isotopes that were sent to other countries for medical research.

Mr. STRAUSS. I know the figures, sir, but I have a feeling that there is some delicacy involved in putting them in the open record.

Mr. ELSTON. I would not press you for an answer, that is, in open session.

Mr. STRAUSS. Thank you, sir.

The CHAIRMAN. Does that conclude the questioning of Admiral Strauss?

Senator HICKENLOOPER. I had a question or two.

The CHAIRMAN. I beg your pardon, Senator.

Senator HICKENLOOPER. I wanted to ask this question—may I ask this question, Admiral: We have records and reports from the Commission here on the amount of the isotope shipments. With respect to the question that Mr. Elston asked you, would you care to give an answer along this line as a rough comparison: Would you consider that the request for the isotope allocation or shipment to Finland was considerably greater than its size as a country and the general scientific equipment that it had would indicate, in comparison with, say, countries like Great Britain or Belgium or France or some of these other countries?

Mr. STRAUSS. Senator, to be responsive to that question, I would have to say that I had no criteria as to its needs. My only idea of measurement was the amount of the same isotope requested by other countries of far greater size and population. It was out of proportion, very much out of proportion, by a factor of many times, and that, together with the location of Finland, was the basis for my dissent on that particular item.

Senator HICKENLOOPER. Was the matter of the shipment of the isotope of iron to Norway the subject of Commission action?

Mr. STRAUSS. No, sir; it was handled by staff.

Senator HICKENLOOPER. I do not have any further questions.

Senator MILLIKIN. Mr. Chairman, may I ask one question?

The CHAIRMAN. Yes, Senator.

Senator MILLIKIN. Admiral Strauss, just as a matter of principle, where important matters affecting our security are concerned, do you believe that we can make important plans or take important actions on the theory that the international friendships and enmities of the moment will have permanence?

Mr. STRAUSS. Obviously, Senator, my answer on that is completely unrelated to my service on this Commission.

Senator MILLIKIN. I understand that.

Mr. STRAUSS. My observation is that international friendships are ephemeral.

Senator MILLIKIN. I would suggest, before a lot of argument is made on that point, that the history of World War II be reviewed, the history of the Balkan wars be reviewed, and if anyone wants to have some real skull practice on the subject, he should study the Napoleonic wars.

Thank you very much.

Mr. STRAUSS. Thank you.

The CHAIRMAN. Thank you, Admiral Strauss.

Mr. STRAUSS. Thank you, Mr. Chairman. Thank you, gentlemen.

The CHAIRMAN. Now, Mr. Lilienthal. I think before you commence, I should say I have sent for the minutes of the joint committee, reporting the meeting we had with the Commission upon this subject, because I think it is only fair for the public to know that this matter was discussed with the Joint Committee on Atomic Energy at some length. Have you, in your files, any communication from the joint committee disapproving of the action that was taken?

**STATEMENT OF DAVID E. LILIENTHAL, CHAIRMAN, UNITED STATES ATOMIC ENERGY COMMISSION; ACCOMPANIED BY CARROLL L. WILSON, GENERAL MANAGER, AND JOSEPH VOLPE, JR., GENERAL COUNSEL, UNITED STATES ATOMIC ENERGY COMMISSION**

Mr. LILIENTHAL. No; no, we have not. We have communications on the subject, and I assume we can put our hands on them at the moment.

The CHAIRMAN. I am talking about general policy questions. As I recall—I have sent for the minutes of the meeting to refresh my recollection—the matter was brought up in the joint committee at a very extensive hearing.

Mr. LILIENTHAL. That is correct, Senator.

The CHAIRMAN. And I think it is only fair that that fact should be known. It should be put into the record that this is not the first time—that the joint committee considered under Senator Hickenlooper's chairmanship—the joint committee did discuss this question. Am I not correct?

Mr. LILIENTHAL. The chairman is correct in that statement.

Senator KNOWLAND. Mr. Chairman, might I ask Mr. Lilienthal one question?

The CHAIRMAN. Yes.

Senator KNOWLAND. May I ask whether to his knowledge the question of the shipment of the radioisotopes to Norway for military purposes was ever brought to the attention of the committee and was it ever discussed?

Mr. LILIENTHAL. Senator Knowland, as I will indicate shortly, there has been no shipment to Norway for military purposes. The Norwegians themselves say this is not for military purposes, and I am in the habit, because of my very high regard for Norway and the Norwegians and their record, of feeling that they are not dissembling; I think their statement may be taken as correct.

I must say that I am considerably disturbed about the aura of suspicion of Norway that this whole discussion has created here, not intentionally, I am sure, but necessarily, and I hope we will not delay in clearing that up.

Senator KNOWLAND. Well, Mr. Lilienthal, with all due respect to you, so far as I know, no one has cast any reflection on Norway, which is a very fine country and is one of the Atlantic Pact nations. I still would like to ask the question——

Mr. LILIENTHAL. I have answered it, Senator.

Senator KNOWLAND (continuing). If on the shipment to Norway, which we have particular reference to, if that matter was specifically called to the attention of the joint committee; and the committee, I believe, is entitled to a straight answer to that question. Was it?

Mr. LILIENTHAL. Yes, it was reported, Senator. The reason I did not answer the question is that you had in the question a statement which you would not have wanted me to include in it if I thought it was contrary to fact, that is, the matter of military use. The answer is: It was reported.

Senator KNOWLAND. It was reported to the committee just quite recently, was it not?

The reason I want to bring it up——

Mr. LILIENTHAL. The transaction is a recent one.

Senator KNOWLAND. That is right. The chairman of the committee has said that this matter of isotope shipments had been discussed with the committee before. That is quite correct. But I believe it was on the basis that it was for medical research and humanitarian purposes. I wanted the record to be perfectly clear that so far as I know, the specific matter of the shipment to Norway, under the request as given in the document presented to this committee, was not specifically discussed with this committee heretofore.

Mr. LILIENTHAL. Senator, the last part of your statement is correct, but may I, with all respect and without the slightest disrespect, point out that there was never any indication that the distribution of isotopes, whether within this country or abroad, was limited to medical applications or medical research? It is true that about 80 percent had been so used, but it has been made very plain that the scope of this distribution was research and medical therapy; and research is what the Norwegian distribution concerns itself with.

Mr. JACKSON. Mr. Chairman, I wonder if it would not be fair to have read into the record correspondence between the Commission, if there is any, and the committee regarding this isotope problem? I think that it all ought to be made public, except any part of the correspondence that might be restricted.

The CHAIRMAN. Mr. Jackson, I think that is a proper request. We will endeavor as quickly as possible to get the file from the joint committee files bearing upon this particular subject.

Mr. JACKSON. I would like for it to be read into the record, not just placed into the record.

The CHAIRMAN. I understand that, and I will endeavor—

Mr. PRICE. Mr. Chairman?

The CHAIRMAN. Just a minute, Mr. Price. I will endeavor to have that brought from the committee's offices. As you know, it is over in the Capitol and it may take 10 or 15 minutes to locate; but, Mr. Price, you have a question. Please proceed.

Mr. PRICE. Mr. Chairman, I would like to ask Mr. Lilienthal whether this shipment to Norway was reported to the committee in the usual manner.

Mr. LILIENTHAL. It was reported in the usual manner.

Mr. PRICE. What is the usual manner?

Mr. LILIENTHAL. The usual manner is, I believe, a monthly report. This leads me to raise a question. I am somewhat puzzled by my friend Lewis Strauss' suggestion that there is any delicacy about these figures on the shipment to Finland. This paper was put in the record yesterday in which we indicated it was a routine monthly report and contains a statement about shipments to Finland. I think it would be unfortunate to cast an aura of mystery about this subject, because these isotopes that are shipped abroad are not secret.

Mr. PRICE. They are not classified information?

Mr. LILIENTHAL. No. And the shipments in the monthly report will indicate, if you would total them up, that there were 300 millicuries of radio phosphorus and 6 shipments made to Finland. I do not see where there should be any aura of mystery.

(The following information was submitted later for the record :)

The above statement was an inadvertent error. A full statement of facts on requests from and shipments to Finland of radioisotopes is set forth in Mr. Lilienthal's letter to Senator McMahon of June 9, 1949. As stated in that letter, the shipments actually made consisted of 1 millicurie of the three radioisotopes: calcium 45, cobalt 60, and zinc 65.

The CHAIRMAN. Just a minute, gentlemen—we cannot have order with everybody talking at once. Are you finished with your question, Mr. Price?

Mr. PRICE. Yes.

The CHAIRMAN. Senator Knowland?

Senator KNOWLAND. I would just like to ask Mr. Lilienthal this: Does the shipment that had been proposed to be made to Finland, which was not made, show up in this report?

Mr. LILIENTHAL. A shipment which is not made, I suppose, would not show up; I am not sure.

Senator KNOWLAND. In other words, there was a request made from Finland for a greater amount, which, for a number of reasons which as yet have not been brought out at this time, the Commission did not finally ship. Does that show any place in the report submitted to the committee?

Mr. LILIENTHAL. The report to which I referred, Senator, was a report, a monthly report, of shipments; so, I assume it does not appear, but on the 18th of January, Senator—

Senator KNOWLAND. Of this year?

**Mr. LILIENTHAL.** Of this year. I am sorry, the 18th of January 1949, the Commission directed a communication to Senator Hickenlooper, a letter which I signed, informing the joint committee of the proposed inclusion of Finland in the program for distribution of radio-isotopes, and the letter, I assume, will be here fairly soon.

**Senator VANDENBERG.** Mr. Chairman, before Mr. Lilienthal proceeds, I want to make an observation upon the fact that he has twice said this morning that there is some implication in this Norwegian situation of a reflection upon Norway.

I find no implication of any such sort except in Mr. Lilienthal's own statement, and I think it would be most unfortunate if any remote implication were left, remotely in the record. Whether or not these isotopes are shipped to unfriendly or doubtful nations might add to the reason why they should not have been shipped, but the fact that a nation is a friendly nation does not change in the slightest the Commission's responsibility to the law, and so far as I am concerned, it is my understanding that the question here raised has no relationship whatever to any remote reflection upon Norway, but relates itself exclusively to the internal justification of the action of the Commission under the law.

Mr. Lilienthal is well familiar with the fact that there are some other arguments that we have had, which have never been a matter of public record, and probably never should be, regarding other Commission decisions in respect to highly friendly nations.

The friendliness of a nation and our complete trust in it, I hope, are not to be factors of consideration in this survey.

My distinguished friend, the Congressman from Washington, said something a little while ago about the fact that since Norway is a member of the contemplated North Atlantic Pact, underscores the fact that it has a special identification of friendliness. That is quite true, but there is absolutely nothing in the North Atlantic Pact which changes by one comma the responsibilities of the Atomic Energy Commission in respect to its administration of the law.

Now, I just hope we have heard the last of any implications about the friendliness or unfriendliness of those with whom we are dealing.

I do not want to leave any misunderstanding about what I am saying. The shipment of isotopes to an unfriendly nation is a dangerous enterprise under any circumstances.

But the fact that a nation is obviously friendly and reliable—as is the clear case with Norway—does not relieve the Commission of its duty to consult the implications of the law under which it operates in respect to security. It is no reflection on Norway to apply such tests.

**Mr. LILIENTHAL.** Senator McMahon?

The **CHAIRMAN.** Just one minute.

**Mr. JACKSON.** May I make this observation? I think the Senator from Michigan has gone to the heart of this whole inquiry. The difficulty is that the record, I think, is pretty clear, but when the final outcome appears in the papers, the wrong inferences are drawn by the public. I think that is the unfortunate aspect of some phases of the hearing.

For instance, on Monday, the Senator from Iowa stated, as I recall, nothing about the disloyalty of the individual referred to as case A,

but I called to the attention of the committee headlines from three important newspapers in which the opposite inference was carried, and they are reputable newspapers; and I again refer to it: In the New York Times, after the hearing had been conducted on case A, it said:

"Atom Aide Under FBI Cloud; Had Data on Hottest Secret."

Then, the Washington Star said:

"Loyalty Suspect"—this is a headline—"Declared Author of Atom Reports."

I think that is the viciousness of what results from a hearing of this kind when all of the facts are not brought out, and unfortunately certain parts are brought to light, and the balance remain up in the air.

The CHAIRMAN. Well, we cannot edit all the newspapers; we cannot write all the radio commentators' remarks on this. I guess under our system that would be considered to be not only unnecessary, but decidedly unwise.

Mr. JACKSON. I quite agree with the Senator. I am not suggesting, Mr. Chairman, censorship. All I am suggesting is that we have everything out.

The CHAIRMAN. You are outlining the problem.

Now, Mr. Lilienthal, with those few preliminary remarks, can we hear from you about what you have to say about radioisotope shipments abroad?

Mr. LILIENTHAL. At the risk of being taken out into the woodshed by Senator Vandenberg, my respect for him and his judgment hardly being one of the secrets for which I am responsible, I would just like to respectfully suggest that the friendliness or unfriendliness of a country is necessarily a relevant consideration.

For example, the suggestion about Finland is because there is a country about which we had to consult the State Department, and I make this point in order to get it out of this situation, because you will recall that great emphasis was put upon the fact that this was a military establishment. This raises the question: If this were a hospital, that is one thing. If it is a military establishment, why then what about the Norwegians and the military establishment?

Except for the chairman of the Foreign Relations Committee, there cannot be anyone who can speak with more authority on the subject to which Senator Vandenberg has addressed himself, but I am also disturbed in the fact that in the statement made this morning by my friend, Lewis Strauss, appears phrases such as this, "the assisting of scientists in unfriendly countries."

There was a discussion yesterday about the jet engines and rockets. Now, I would be very happy if those inferences could somehow be obliterated, so that we get down, not to the question of whether there is something ominous in sending isotopes for what the Norwegians say is not a military use, although it is a military establishment, and just pass over it to the other phases of the case. But it has been injected, and I think unfortunately injected.

There are, if I may proceed from there, a number of points at this juncture I should hope the committee would hear. One of the first is the question of the law.

There was a discussion of the law and what it means yesterday, and I think our General Counsel, Mr. Volpe, can clarify a good many of the loose ends.

We entirely omitted from our consideration yesterday some rather specific provisions of law about radioisotopes. That is natural in the less-than-calm atmosphere of a hearing, under lights, and so on, and I think that would help to kind of get back to the law.

The CHAIRMAN. Are the lights bothering you?

Mr. LILIENTHAL. No, there is nothing that bothers me now, Senator. [Laughter.] Not recently.

The second is a question of history. The history of this is very relevant. The history dates back, as I should like to indicate in some reasonable detail, to communications in January of 1947 when the Commission—I was about to say—had just gotten into the saddle, but I do not think, considering the amount of daylight between the Commission and the saddle at that time, that that would be a good figure of speech.

At that time Colonel Nichols, who was the deputy to General Groves, and who is now a major general, and head of the armed forces special weapons project, addressed a communication to the General Manager of the Commission dealing with the foreign distribution of isotopes produced in the atomic pile.

This was followed some weeks later by a memorandum even more explicit by Colonel Haywood, assistant to General Groves, at the Manhattan District, on the same subject, and is followed by the history on down—by the history, from that point forward.

Then, I should like to comment on some of the points made by Lewis Strauss, and with this general comment: We have all, I believe, had a good time on this job, partly because it is so onerous and heavy that you are drawn together with men whom you are necessarily and by circumstances associated. Among these men, no one of the five of us knew the others in any personal way, and I think the record of free and easy discussions, in a family sort of way, and disagreements around the table, have brought out the facts that men of divergent viewpoints can find a common basis for understanding.

Far from there being any criticism of anyone for lack of unanimity, I think if anything, the record of the Commission might be criticized in the fact that its Chairman and the members sought so hard on every point to try to establish unanimity. Unanimity is something that occurs occasionally—occurs in a criminal jury, but it is not the ordinary course of human events, and I want to say that the relations between the Commissioners have continued to be relaxed and friendly, whether there is unanimity or not.

As to the basis of the law, may I request that Mr. Volpe review that in the light of the fairly scattered discussion of yesterday?

The CHAIRMAN. Proceed, Mr. Volpe.

Mr. VOLPE. The section of the act which deals expressly and specifically with distribution of isotopes is section 5 (c). The title is "By-product Materials. Definition."

As used in this act the term "byproduct material" means any radioactive material (except fissionable material) yielded in or made radioactive by exposure to the radiation incident to the processes of producing or utilizing fissionable material.

#### Subsection 2, "Distribution":

The Commission is authorized to distribute with or without charge byproduct materials to applicants seeking such materials for research or development activity, medical therapy, industrial uses, or such other useful applications as may be developed. In distributing such materials the Commission shall give preference

to applicants proposing to use such materials in the conduct of research and development activity or medical therapy. The Commission shall not distribute any byproduct material to any applicant, and shall recall any distributed materials from any applicant who is not equipped to observe or who fails to observe such safety standards to protect health, as may be established by the Commission, or who uses such materials in violation of law or regulation of the Commission, or in a manner other than as is disclosed in the application therefor.

I would call attention to the fact that there is no other limitation in section 5 (c) of the Atomic Energy Act with respect to distribution.

The very next section, it seems to me, is quite relevant and pertinent to this question of foreign distribution. The next section then reads:

General provisions. The Commission shall not, (1) distribute any fissionable material to (a) any person for use which is not under or within the jurisdiction of the United States; (b) any foreign government; or (c) any person within the United States, if in the opinion of the Commission the distribution of such fissionable material to such person would be inimical to the common defense and security.

Therefore, we find in section 5 specific and express authorization for the distribution of radioisotopes, and in the very same section a flat prohibition with respect to the export of fissionable material.

Now, at the time the McMahon bill was reported out of the McMahon special committee, the chairman of the special committee, Senator McMahon, made some observations with respect to this provision. Senator McMahon, in his commentary on section 5 in the McMahon section of the committee report, stated that, and I quote:

Testimony before the committee indicates that the radioactive material—

The CHAIRMAN. Just a minute. This was a committee report, this was not my report.

Mr. VOLPE. I believe this was your commentary, sir, on the Senate floor.

The CHAIRMAN. When the bill passed through the Senate?

Mr. VOLPE. That is right, sir.

I will begin again:

Testimony before the committee indicates that the radioactive materials yielded in the production of fissionable materials are of enormous scientific and industrial value, and their distribution involves no danger to the national security. The Commission is required to distribute these materials with or without charge for research and development activities, medical therapy, and industrial and other uses, giving priority to medical uses and research.

I would also call attention to the fact, a fact which is, of course, well known, that before the McMahon bill was reported out of the special committee, there had been weeks and weeks of testimony by a very large number of competent and distinguished scientists.

There had been a considerable amount of testimony before the McMahon committee on this very question of the distribution of isotopes, and I believe that the record will bear out Senator McMahon's statement at the time the bill was being considered on the Senate floor that the distribution of radioisotopes in no way would affect the national security of the United States.

Yesterday we discussed section 10 (a) (1) of the McMahon Act. I would like to refer, in addition to 10 (a) (1), to section 10 (a) (2). Section 10 (a) reads, and I quote:

It shall be the policy of the Commission to control the dissemination of restricted data in such a manner as to assure the common defense and security.

Consistent with such policy the Commission shall be guided by the following principles.

Then section 10 (a) (2) reads:

That the dissemination of scientific and technical information relating to atomic energy should be permitted and encouraged so as to provide that free interchange of ideas and criticisms, which is essential to scientific progress—

Yesterday we discussed 10 (a) (1), which reads:

That until the Congress declares by joint resolution that the effective and enforceable international safeguards against the use of atomic energy for destructive purposes have been established there shall be no exchange of information with other nations with respect to the use of atomic energy for industrial purposes.

Now, it would seem to a casual reader of these two provisions that there is a contradiction in the law. Actually we have felt that there is no contradiction in the law, and that the Congress wisely found and wisely declared that a real distinction could be made by scientific and technical people between those things which have to do with industrial or military uses of atomic energy, and those things and those matters which have to do with scientific progress and scientific research; and it is in this way that the Commission has attempted to administer this law, and it is in this way that the Commission arrived at its conclusion that the distribution of radioisotopes did not have to do with the utilization of atomic energy for industrial purposes, but rather had to do with the utilization of radioisotopes for scientific research and progress.

The early record of the Commission's consideration of foreign distribution to which Mr. Lilienthal referred goes back to January 15, 1947, and perhaps, Mr. Lilienthal, you would like to take over.

Mr. LILIENTHAL. First is a memorandum of January 15, 1947, 2 weeks after the Commission, by Executive order, became responsible for what was then known as the Manhattan District, and this is a memorandum from Col. K. D. Nichols to Mr. Carroll L. Wilson, who is, of course, the General Manager of the Commission. Colonel Nichols I have previously described.

One says:

The Clinton Laboratory at Oak Ridge is currently producing and selling certain unclassified radioisotopes to institutions within the United States for scientific and research purposes.

Senator HICKENLOOPER. Mr. Chairman, may I just ask a preliminary question?

The CHAIRMAN. Yes.

Senator HICKENLOOPER. What is the marking on that document? What is the classification?

Mr. LILIENTHAL. This is marked "confidential."

Senator HICKENLOOPER. That is all, Mr. Chairman. I am not raising any question. I was merely curious because there were a number of other confidential documents which, I believe, in my own personal opinion, have no reason to be marked that way, but I have refrained from using confidentially marked documents up to this time without the full approval of the committee. I merely make that point.

Mr. LILIENTHAL (reading):

1. The Clinton Laboratory at Oak Ridge is currently producing and selling certain unclassified radioisotopes to institutions within the United States for scien-

tific and research purposes. No such sales have been approved for foreign countries in general, but Canada and Great Britain have been advised that they could purchase isotopes on sale in this country and surplus to United States requirements.

2. Pursuant to this policy, Dr. W. B. Lewis, National Research Council—the National Research Council being a Canadian institution—

Chalk River, Canada, was notified by letter of 20 November 1946 that his laboratory had been allocated the following materials: 12 mc. separated P32, 5 mc. C14 in barium carbonate, 1 irradiation unit of S35, containing approximately six mc. of S35 in 33g of KCl, irradiated beryllium nitride, containing approximately 0.2 mc. of C14.

Five mc. each of Sr 90 and Ru 106 were also tentatively allocated pending receipt of further specifications. No shipments of isotopes have actually been made to Canada, as purchase orders from Chalk River were not received in time to permit shipment before 1 January 1947.

3. Mr. W. H. Stephens, Assistant Director, United Kingdom Scientific Mission, has requested the following materials for the Atomic Energy Research Establishment, Harwell, England: 2mc. of C14, 2mc. of S35, 20 mc. of I131, 50 mc. of P32, 10 mc. of Zn65, 5 mc. of Ca45.

Mr. Stephens has not been advised of any allocation of material. Under the Manhattan District policy, all of the items requested could be allocated except the iodine 131 and phosphorus 32, the current supply of these materials not meeting the United States demand.

4. In view of the past collaboration in atomic energy matters among Canada, Great Britain, and the United States, it is recommended that the AEC approve continuance of the policy of making available for sale to Canada and Great Britain isotopes currently on sale for unclassified off-project use in this country and surplus to United States requirements.

The next memorandum in this important history of the background of the Commission's action in August of 1947 is a memorandum herein marked "restricted," from Col. K. D. Nichols to Mr. Carroll L. Wilson, which is entitled "Sale of Isotopes to Foreign Nations," dated January 21, 1947. It is as follows:

Some 20 foreign nations have indicated interest in purchasing unclassified radioisotopes currently being sold by Clinton Laboratories—

this is now called the Oak Ridge National Laboratory at Oak Ridge—

to institutions within the United States for scientific and research purposes. No such foreign sales have been approved and no definite commitments for such sales have been made except in the cases of Canada and the United Kingdom. (The special situation with respect to these two countries has been presented to the Commission for decision in memorandum of January 15, 1947—

this being the memorandum which I have just read into the record—

subject: Sale of Radioisotopes.) However, announcements on the isotope program have indicated that sales to foreign nations would be initiated after domestic requirements had been met and necessary distribution procedures developed.

That announcement to which Colonel Nichols referred is an announcement by the Manhattan District.

2. Isotope production facilities are now adequate to permit extension of sales of certain radioisotopes to foreign nations without affecting United States work. All isotopes now on sale in this country could be made available except radioiodine and radiophosphorus which can probably be made available at a later date.

3. If the Atomic Energy Commission decides to sell radioisotopes to foreign countries no responsibility for the safety of the proposed uses should be assumed. Foreign requests should be submitted through the appropriate national scientific body of the country concerned—the body corresponding to the United States National Academy of Science or National Academy of Medicine. Sale could be made to a designated agent within this country. This agent would be responsible for payment and necessary shipping arrangements.

The safety refers to the physical safety, that is to say, safety of those handling or exposed to the materials.

4. In order to provide information on activities of foreign nations in the field of atomic energy, requestors should be required to describe the proposed use of the requested isotope. Sale should appropriately be limited to publishable scientific investigations or clinical investigations or treatments.

5. The sales prices recommended for adoption by the Commission in my memorandum of January 20, 1946, subject: Revision of Prices for Off-Project Sale of Radioisotopes, would result in substantial subsidization—

I am having trouble with my z's this morning—

of the program by the Government. A higher price might be charged for foreign sales. Such increased prices would have to be established arbitrarily as the extent of actual subsidization will depend upon the volume of future sales. The Commission could appropriately establish the same prices in the interest of international good will.

6. The Atomic Energy Commission might logically approve sale to foreign nations or nations of isotopes currently or hereafter released for sale for off-project purposes in this country, provided these isotopes are surplus to United States requirements and are to be used for publishable scientific investigations or clinical investigations or treatment. However, prior to such approval it is recommended that the entire policy in regard to distribution be reviewed, either by the Commission employees or by an advisory group.

This is followed on January 30, 1947, by a memorandum from Col. O. G. Haywood, whom I previously described as having been an adviser and assistant to General Groves in this matter at the Manhattan District, to Mr. Bennett Boskey of the staff with reference to Sale of Isotopes to Foreign Nations. This is as follows:

1. The following information is furnished pursuant to your request for additional data regarding the radioisotopes program for use in connection with your study of Col. Nichols' memorandum of January 21, 1947, to Mr. Wilson on this subject.

Senator HICKENLOOPER. Would you give the classification of this document?

Mr. LILIENTHAL. This is unclassified; has never been classified.

2. A complete list of the isotopes currently on sale for off-project utilization is given in the Monsanto price lists—

and Monsanto then being the operator of the Clinton Laboratory—

as approved June 28, 1946. This price list was furnished Mr. Wilson as an enclosure of Col. Nichols' memorandum dated January 20, 1947, subject: Revision of Prices for Off-Project Sale of Radioisotopes. Briefly, the isotopes consist of specially irradiated samples and fission products. The irradiated samples are materials which are prepared and placed in a pile to be exposed to neutron irradiation. The fission products are materials resulting from the fission of uranium atoms in production or experimental piles.

3. All isotopes currently being sold under this program are radioactive and are produced in piles utilizing fissionable material. None of these isotopes being sold are fissionable. All of the isotopes, therefore, are "byproduct material" as defined in section 5, (c) (1) of Public Law 585.

That is the provision of the statute read by Mr. Volpe.

4. Radiosotopes may be used in practically every field of science. About 40 percent of the requests approved to date are for investigations directly related to medicine. A further 20 percent are indirectly related to medicine; for example, studies in physiology and biochemistry. However, materials have been allocated for use in a wide range of other fields such as agriculture, bacteriology, botany, chemistry, entomology, metallurgy, petroleum engineering, physics, soil science, and zoology.

5. Certain uses of radioisotopes may be directly or indirectly applicable to industry. For example, C-14 may be synthesized into a hydrocarbon molecule.

This labeled molecule may be used for laboratory experiments in tracing such hydrocarbon molecules through any chemical reaction such as in the manufacture of synthetic gasoline. This research may indirectly result in improved industrial processes. The labeled hydrocarbon molecules could equally well be used to trace the flow of underground oil—a direct industrial application.

6. The radiation emitted by radioisotopes as they decay usually results in nuclear transformations.

This is Col. O. G. Haywood, an officer in the United States Army who is talking.

7. None of these materials would directly assist any nation in producing a military weapon or in utilizing atomic energy for industrial-power purposes. Certain indirect assistance might be given by assisting them in developing and teaching laboratory and safety techniques, and in advancing basic scientific knowledge. For example, the release of fission products to foreign nations would permit their study of the effects of fission products upon human beings. This information, however, is declassifiable under the current Guides and is rapidly being released in this country. It is not considered that the furnishing of foreign nations with the isotopes currently on sale would furnish any information which could not be declassified under the current Declassification Guides.

8. In considering the wisdom of releasing radioisotopes to foreign nations, some consideration might appropriately be given to the fact that many of the ores in which the Project is interested are located in foreign countries. A list of these ore-deposit locations could be prepared if you consider this pertinent.

9. A list of the requests received from foreign nations—

this is as of January 30, 1947—

and the nature of these requests is attached for your information.

I would like to read, further in the background of this matter, testimony before the Special Committee on Atomic Energy in the hearing on bill S. 1717, which became the present Atomic Energy Act of 1946. This is part 2, pages 275–276, and the witness is Prof. Edward Teller, now of the Institute of Nuclear Studies of the University of Chicago, a very distinguished physicist and one of the consultants—a man who was engaged at Los Alamos during the war in the atomic bomb work and presently a consultant to the Commission.

His testimony is:

Use of radio elements which are byproducts of atomic power plants will have an extremely great influence in science, particularly in medical science. Work with these byproducts will lead to a better understanding of living organisms, and the knowledge so gained will, in the end, help to save human lives. Progress in this direction has been practically negligible so far. In the past this was due to necessary wartime secrecy which made it impossible to distribute the radio elements among the men who could have made use of them. The publication of the Smyth report has changed this situation. The distribution of many radio elements would disclose now no important secret and would result in no real danger since, in appropriately small quantities, these byproducts are harmless. That the byproducts have not been distributed and used in the last months is due, to a considerable extent, to the inertia of the administrative apparatus required for the distribution. I believe that these materials should be made available not only to scientists in this country but to scientists throughout the world. This would be a gesture which would cost us little and would bring us great returns in good will as well as in the advancement of scientific knowledge.

Senator MILLIKIN. May I ask, Mr. Lilienthal, for the citation?

Mr. LILIENTHAL. Yes. This is the hearing on S. 1717, part 2, that being the Atomic Energy Act, part 2, pages 275 and 276.

Senator MILLIKIN. Thank you.

Mr. LILIENTHAL. I should like to read into the record, because the question of relations to other countries and the question of the security,

the common defense and security involved in the distribution of isotopes abroad, have been properly raised, a memorandum to the Department of State which was proposed for the Commission's transmission to the Department of State by the General Advisory Committee of the nine distinguished gentlemen whose names—with whose names you are familiar.

This memorandum was used, was studied, by the Commission in making its representations to, and its communications to the Department of State.

The purpose of this memorandum is to inform—

Senator HICKENLOOPER. Would you state whether these documents are classified or unclassified?

Mr. LILIENTHAL. This document is unclassified.

The purpose of this memorandum is to inform the Department of State of certain considerations—

Senator HICKENLOOPER. I thought I saw a mark on the bottom of it, and I just wondered.

Mr. LILIENTHAL. The mark on the bottom says "Isotope Program," with a mark on it, and perhaps I should make plain that, if I did not in my preliminary statement, this memorandum was prepared by the General Advisory Committee for our use in addressing a communication to the Department of State.

A communication we, ourselves, sent to the Department of State will also be in the record, but these are among the considerations the Commission had before it in the decision which it reached.

The purpose of this memorandum is to inform the Department of State of certain considerations relating to the program of the United States Atomic Energy Commission to authorize distribution of specified radioisotopes to qualified users outside the United States.

The radioisotopes in question are byproduct materials produced in a uranium chain-reacting pile. They are valuable tools of research, of potential benefit to people everywhere, especially in the field of cancer control and in the study of biological and chemical processes. Radioisotope distribution within the United States was authorized by Manhattan District nearly a year ago. The experience gained from domestic distribution has satisfied the Commission that certain radioisotopes may now be distributed to meet the needs of doctors and scientists abroad. It is proposed that foreign distribution under this program will be in limited quantities and initially will be made only for uses certified to be for scientific research and for medical therapy, including such uses on animals as may be related to medical research and therapy. Such foreign distribution will not interfere with the Commission's continuing program for meeting the needs of qualified doctors and institutions in the United States.

The program of foreign distribution which the Commission proposes to authorize will enable doctors and scientists abroad to carry on new types of research and medical therapy of benefit to mankind. The results of such work will benefit the United States, as well as the rest of the world.

The foreign distribution will be on a limited scale. The Commission considers that this program for distribution will be advantageous to the United States and can be undertaken without any adverse effect on our common defense and security.

I would like to recall that there was some reference in the discussions within the Commission to the possible usage of these materials in respect to biological warfare.

It should be understood clearly—

returning to the reading—

that under the program proposed the Commission will not authorize any foreign distribution of radioisotopes which would further the development of atomic

energy for military or industrial purposes by any foreign government or any person abroad.

Foreign distribution will not be authorized for naturally radioactive materials, that is, the natural elements of higher atomic number than element 83 (bismuth).

Foreign distribution will not be authorized for any newly produced heavier element of higher atomic number than element 92 (uranium).

It is important to bear in mind that not all isotopes are provided for foreign distribution, and this limitation described here is the limitation, I believe, that was adopted in the Commission decision.

The CHAIRMAN. What is the basis for the distinction?

Mr. LILIENTHAL. The basis is a technical one that in the elements not on the distribution list, I understand, there would be a question of national security involved; whereas, in the other elements this would not be the case.

The report continues:

None of the radioisotopes to be distributed abroad are fissionable. The Commission proposes to authorize foreign distribution of limited quantities of the following radioisotopes:

Antimony 122, 124, 125	Cobalt 60	Potassium 42
Argon 37	Copper 64	Silver 108, 110, 111
Arsenic 76, 77	Gold 198, 199	Sodium 24
Bromine 82	Iodine 131	Sulfur 35
Calcium 45	Iron 55, 59	Zinc 65, 69
Carbon 14	Mercury 197, 203, 205	
Chlorine 36	Phosphorus 32	

The radioisotopes listed above are radioactive forms of ordinary elements which are found in nature in stable form. The Department of State will be notified in advance of any proposed deletions from or additions to the list.

I would suggest—

Let me read one more page and then perhaps go to something else.

All the radioisotopes proposed for foreign distribution were discovered prior to the war. They are all produced on Commission projects with a chain-reacting pile, but they also are all producible by other devices such as the cyclotron or other high-energy accelerators. A pile has the advantage of making production possible in much higher quantities at much lower cost. Most of the radioisotopes listed either have been produced abroad in small quantities or at one time were supplied by cyclotron laboratories in the United States. At present there are not sufficient operating cyclotrons abroad to satisfy legitimate demands for radioisotopes needed for medical uses. Cyclotron laboratories in the United States generally find it uneconomical, as well as detrimental to their research program, to attempt to provide these radioisotopes. The Commission's projects now constitute the only practicable source of supply for most of these radioisotopes.

Failure of the Commission to make foreign distribution would place the United States in the position of attempting to monopolize various types of medical research and therapy. Patients outside of the United States would be denied, at least for that period, the benefits of radioisotope treatment of proven therapeutic value.

Many fruitful lines of research for the discovery of new treatments and cures of disease, as a result of the progress of medical science, would be retarded, to the long-range injury of this country as well as others. There is no short-range benefit justifying such consequences.

The proposed program of distribution is wholly consistent with our paramount objective of assuring the common defense and security of the United States. This program will not in any way enable persons abroad to obtain significant information on classified production processes in use in the United States.

In this connection (1) the proposed program will exclude from foreign distribution those radioisotopes which are "fission products," that is, which result from fission. (The single exception, iodine 131, is discussed later.) In consequence, users abroad will have no opportunity whatever to divert radioisotopes, even in minute quantities, for use in studying means of separating fission products in any test plutonium production process they might attempt.

(2) Iodine 131, which has proved its importance in the treatment of thyroid conditions, will be distributed abroad under this program. This radioisotope is producible both by uranium fission and by the transmutation of tellurium. In the plutonium separation process, the iodine 131 is evolved as a gas and its separation presents no technical problem. The possession of iodine 131 will not assist any foreign government or any person abroad in studying the technical problems of separation inherent in any plutonium production process.

The small quantities of radioisotopes which would be distributed abroad under this program create no hazard of possible use in some form of poison warfare.

The radioisotopes now proposed for foreign distribution are all isotopes of elements used significantly in the human body or in studies of therapeutic agents. While the radioisotopes listed would be useful in fields other than medical research and therapy, the possibilities of diversion from the use certified in the application are remote and in any event would create no significant hazard:

(1) Only very limited quantities would be sent abroad; (2) they would be sent to a large number of different users; (3) much of the material remains radioactive for only a short time, and is expended in the process of the research; (4) reports of the work done will in large part disclose the uses to which they actually have been put—

Senator VANDENBERG. Mr. Lilienthal, may I just interrupt you with one question for my information at that point? To what extent do papers of this character come to the attention of the Military Liaison Committee for their evaluation of the security factor?

Mr. LILIENTHAL. When the Military Liaison Committee is advised of intended action by the Commission, and usually under the practice, a considerable period before that time, they have the full files of staff papers, discussions in staff, and then, documents of this character, so that there is on subjects in which there is any possibility of interest on their part, and this would be one of them, a complete staff liaison.

Senator VANDENBERG. For instance, in the case of the Norwegian shipment, would that come to the attention of the Military Liaison Committee?

Mr. LILIENTHAL. Well, I would not know, because this was dealt with not as a Commission matter, but as the exercise of a delegated authority in the staff, but since the staff liaison is now complete that my guess would be that they would have that knowledge. I think it would be helpful at some stage to describe the degree of interweaving of the two organizations at the staff level prior to the Commission decision.

Senator VANDENBERG. Well, I do not want to divert you from your line of approach, but I hope, before you are through, that you will give us an evaluation of whether or not you think the existing Military Liaison Committee either has an adequate approach to the security factor in your decisions, or whether or not they have adequately used the approach that they do possess.

Mr. LILIENTHAL. Well, let me state at once that I think that one of the most remarkable unifications of staff that I know of in any enterprise, even as complicated as this, where the interweaving of the two organizations in order that their views on all kinds of matters may be known at the earliest possible stage at the beginning, was far from adequate, as one might expect, but the development of that process, and by beginning early in the stage of consideration has been, in my opinion, one of the most interesting developments, managerially, in this enterprise, and my conclusion is, my own conclusion is, that it is very satisfactory. That appears to be the view of the Military Liaison Committee.

Senator VANDENBERG. So, the conclusion I would draw from your observation is that the Norwegian decision, for instance, was known to the Military Liaison Committee, and no complaint against it was registered?

Mr. LILIENTHAL. I cannot say that, Senator. I would have to check on that particular item, because it was a matter that was treated by staff and not by the Commission. I would have to check that.

Senator VANDENBERG. If it was not, would there not be a lapse at that point? Is that not the type of problem that the law contemplates, the use of at least the military liaison; there is that vice in at least the security factor?

Mr. LILIENTHAL. The law contemplates, as I think you said in the first session 2 years ago, that the Military Liaison Committee's ability to learn what is under consideration and to supply its counsel at every stage would apply to all matters of this character.

It certainly would in the case of the general proposition of the export of radioisotopes. I am sure that there was full knowledge; and, as you see, the Manhattan District itself had a policy on this matter. At that time, at the time of that decision, I believe the former commanding general of the Manhattan District was a member of the Military Liaison Committee.

Senator VANDENBERG. Excuse me, but I did not want to divert you; however, it seemed to me pertinent.

The CHAIRMAN. Is that General Groves who was on the Military Liaison Committee when this first shipment took place?

Mr. LILIENTHAL. I do not remember the time of his tenure. He was a member of the original Military Liaison Committee.

The CHAIRMAN. Yes; I know he was. Do you know when he got out?

Mr. LILIENTHAL. I should remember that, but I do not. My recollection is that he was a member at that time, but I will check that.

(The following information was submitted later for the record:)

General Groves left the Military Liaison Committee on February 29, 1948. The shipment of radioisotopes to Norway, discussed at the June 9, 1949, hearing, took place April 28, 1949.

Senator VANDENBERG. Who are the present members of the Military Liaison Committee, Mr. Lilienthal?

Mr. LILIENTHAL. They are, from the Navy, Admiral Hill, who was a recent replacement of Admiral Parsons; Admiral Hill was replacing Admiral Parsons, who was an original member—and Admiral Ofstie, a naval aviator. Those are the Navy men.

Members from the Army are Major General—from the Department of the Army—Major General Nichols and Colonel Hinds, who was also a member of the original group.

The members from the Air Force are Major General Schlatter, an Air Force officer, Slats Schlatter, and Brigadier General Wilson. The chairman of the committee is William Webster, formerly vice president and general manager of the New England Utility Co., and he is a Special Assistant to the Secretary of Defense.

Senator VANDENBERG. And is it your opinion that they are constantly in adequate contact with the decisions that are being made?

Mr. LILIENTHAL. I would have to leave it to them to say whether it is adequate. They have expressed dissatisfaction at times with ways in which it could be improved. We have analyzed these, and we have

all stated that the best way to improve this liaison is through early staff consideration, while things are being considered, long before they are jelled, and it is my understanding now, and certainly this has been the result of conversations and communications directed to us, that this relationship is more than adequate. That is a rather good illustration of how these two partners in this undertaking should deal with each other.

Senator VANDENBERG. How, for instance, would the question of the shipment of isotopes to Norway come to the attention of this committee, the Military Liaison Committee?

Mr. LILIENTHAL. The reason I am unable to answer the question is that the shipment itself was dealt with by delegation from the General Manager to the individuals in the Division of Research. Whether the Division of Research discusses these applications when they are received or transmits a copy of the application when such application is received, or how that is handled, is a matter of machinery to which someone else will have to testify.

On questions of major policy, as distinguished from the implementation of policy, these are handled chiefly through the head of the Division of Military Application, General McCormack, and his deputies through the Military Liaison Committee, and then, as these matters get farther along, they may well be the subject of a discussion between the two bodies.

For example, we have had under discussion—I mention this as an example, because these are the kinds of things of which the Commission is aware from day to day—we have had a question of the reorganization of the Sandia Laboratory. In the consideration of such a problem as this, this being the engineering end of atomic weapons, the discussions with the Military and the Military Liaison Committee usually precede the discussion with the Commission themselves in order that we come up with as nearly as possible a consensus from the very start, and ranging from that to questions of medicine and biology where the interest of the military may be relatively remote or in civil defense. There is a varying degree of this discussion.

Now, there are different procedures, Senator, in respect to different kinds of subject matters, as to how they are informed; where the subject is obviously one in which they have so large an interest as the Sandia Laboratory, it begins way back before the child idea is born, and goes all the way through.

Senator VANDENBERG. For instance, in a major difference on the question of national security, which arises to the dignity of a split vote in the Commission, would the Commission have the benefit of the opinion of the Military Liaison Committee before it?

Mr. LILIENTHAL. Yes, in a major question, it certainly would.

For example, the question of the custody of atomic weapons: That was a matter discussed over a period of months with the Military Establishment, both at the staff level and between the two bodies themselves.

Senator VANDENBERG. On this vote in which Commissioner Strauss was in the negative, did the Commission know the attitude of the Military Liaison Committee; and, if so, what was it?

Mr. LILIENTHAL. Well, the attitude was clearly not in opposition to the distribution of this, I would certainly know, because, if it were, then it would certainly have come very forceably to our attention,

and so my surmise is, although I would like to check, that there were no objections to it, and that they did have this whole subject in mind.

I also know that the Secretary of Defense was aware of the matter because the Secretary of Defense, Mr. Forrestal, told me that, after the Commission's action, Commissioner Strauss had discussed the matter with him and had presented his views in opposition to it, so I am sure there was full information about what the Commission had done.

I should add, as a postscript to your question about how satisfactory or adequate this relationship has been: It is, I think, partially responsive, at least, to say that the statute providing for the Military Liaison Committee, this section of which I believe you were the architect and the draftsman, provides for an appeal before the military services to the Secretaries, and from them to the President.

There have thus far under that provision been no such appeals. This would be a kind of proof of the pudding, I would think, and certainly, in a general way, although it does not answer the specific question about Norway—I am not seeking to follow that through.

Senator VANDENBERG. I am familiar with the record in respect to appeals, and I think it has its significance because if the Military Liaison Committee were seriously offended by your decisions, I assume they would act under the system provided for such action.

What I was asking was whether the system did work or whether it was clearly perfunctory.

Mr. LILIENTHAL. It is not perfunctory, and has not been from the beginning. Let me give one situation in which there was—one other—when there was disagreement; within my clear recollection, as contrasted to radioisotopes—that was not in the radioisotopes—this was in the declassification of a particular item. I am not mentioning the item, but it was a matter of the declassification of a single piece of information.

Here there were literally months of discussions between the staffs and, as I recall, some three discussions between the two bodies on the wisdom or lack of wisdom from the security point of view, military point of view, of the declassification of this item, and in the end the strong views against its declassification held initially by our colleagues of the Military Liaison Committee changed in the direction—changed, and they concurred in the idea that this, on the whole, was a proper decision.

I mention this because this is not where there are really difficult issues involved. Our respect for their judgment has been such that we have taken a great deal of time on some of these items.

Let me mention another which was even more illuminating as to how perfunctory or nonperfunctory our relation was. This related to an operating matter.

The conditions under which—not the security conditions, but the technical conditions—a certain facility of the Commission engaged in the production of fissionable materials should be operated, was the question. We had the conclusions of the General Advisory Committee and of our contractor, industrial contractor, as well as our own staff in charge of production, that a change in operations should be made, a different level of operations.

This matter was discussed by the Military Liaison Committee members, they being advised that the matter was under advisement. They made trips to the facility. They discussed the matter with engineers and others.

I believe they had a meeting with the General Advisory Committee, explored this matter for a considerable period of time, and finally an agreement was reached that the operating change was not contrary to the interest of the country.

I mention this because the difficulties of carrying on industrial operation under this kind of arrangement are very great, obviously. We are responsible for operations, and we have been criticized by the General Advisory Committee for not having put this change into effect sooner, and in a fairly recent expression on this point, and yet we have been so infiltrated, Senator, with the realization that this law means exactly what it says; that, despite the great pressure of operating decisions, we have taken plenty of time and a considerable risk to ourselves in the sense of the result of our decisions to make sure that the Military Liaison Committee, and thereby the Military Establishment, should have a full and complete opportunity to explore these matters.

There have been times when this has really been quite burdensome, but it is part of the law, and it has great meaning. I do not say that in every instance the procedure set up by the Commission, by which it delegates the administration of its functions—these being very complex and numerous—has always provided months of time for such consideration.

I mention these as illustrations, two illustrations, of the care with which and the nonperfunctory manner in which they have carried out that provision of the act.

Senator VANDENBERG. I just suggest, as a matter of prudence, that when you confront a crisis such as a split vote in your Commission, which is a crisis because it occurs so seldom, that it might be well for the minutes of your meetings to affirmatively indicate the attitude of the Military Liaison Committee on questions of national security.

Mr. LILIENTHAL. I would like to supplement the record, perhaps at this point, because this record will be difficult to read otherwise, as to what the records show. I have a clear recollection, and this is Mr. Volpe's recollection, as he has just indicated to me, that the matter was discussed in this very useful and informal staff relationship, that is, the relationship between our staff and the members of the Military Liaison Committee, and there was no objection. But let me make sure that was the case.

Senator VANDENBERG. I apologize for my interruption.

The CHAIRMAN. I think that is a very useful contribution, Senator.

Before you go on, Mr. Lilienthal, I think the record should show at this point that the Military Liaison Committee has been periodically before the joint committee without the presence of the Commission, and I do not believe that any security is involved in stating that the direct and point-blank question was asked and addressed to the Military Liaison Committee as to their satisfaction or dissatisfaction with the liaison between themselves and the Commission, and without any dissension and with no dissenting vote, the members of the committee who were present expressed their full satisfaction in the way the liaison arrangement had been and was working out.

Mr. LILIENTHAL. Thank you, Senator.

I hope, Senator Vandenberg, I have made it clear—I intended to—that the reference to the views of the Military Liaison Committee as to the export of radioisotopes decision as of August 1947 was the one we were talking about and not the Norway matter.

Senator VANDENBERG. I thought I was talking about the Norway matter. Was that cleared in any way with the military?

Mr. LILIENTHAL. This did not come to the Commission.

Senator VANDENBERG. It was at the staff level; was that it?

Mr. LILIENTHAL. Yes. The Norwegian shipment was pursuant to a policy and procedure set up by the Commission for handling these very numerous applications.

Senator VANDENBERG. So, does that mean the Military Liaison Committee was not informed regarding the Commission action before it was made?

Mr. LILIENTHAL. It is this—I said at the outset, but apparently not as clearly as I should have, that I did not know about that because it did not actually come to the Commission itself, and I would like to check.

Senator VANDENBERG. All right.

Mr. LILIENTHAL. My remarks have reference to the policy of the export of radioisotopes for research and medical therapy.

Senator VANDENBERG. Well, my remarks have to do with the day-to-day operation of the system, because you and I know of some instances in which the Military Liaison Committee has not been acutely active.

Mr. LILIENTHAL. I am sure that in the thousands of actions that are taken, not by the Commission but by its staff, that is probably an understatement.

I would like to read, if I may, Mr. Chairman, the whole of the letter referred to this morning by my colleague, Commissioner Strauss, a letter marked "Restricted," from the Department of State, signed by its Acting Secretary, Robert A. Lovett, dated August 28, 1947:

DEAR MR. LILIENTHAL: I have received your letter of August 27, 1947, addressed to the Secretary—

I should think we really should read the letter itself before the reply is read.

Senator HICKENLOOPER. Portions of that letter have been released by the Commission in its news release of a week or so ago; have they not, Mr. Lilienthal?

Mr. LILIENTHAL. No; I do not think the letter has been.

Senator HICKENLOOPER. Is that in connection with the report to the State Department of the proposal to release these isotopes and the State Department's reply, the Under Secretary's reply?

Mr. LILIENTHAL. I do not know the one to which you are referring.

Senator HICKENLOOPER. There was a portion of the State Department's reply to the Atomic Energy Commission which was released. That is on this subject of approving the isotope distribution, based upon the Commission's representations to the State Department, portions of that letter, being released in a news release from the Commission, I believe about the 24th or the 26th of May. Now, I do not know whether that is the same letter or not.

Mr. LILIENTHAL. The one I am referring to is the one to which Commissioner Strauss referred this morning. Whether or not that is the same one, I don't know.

Senator HICKENLOOPER. Well, my remarks of yesterday were carefully taken from the news release of the Commission itself. That is the letter I was referring to.

Mr. LILIENTHAL. This letter of August 27, 1947, to which, on the following day, we had a reply, was addressed to "Hon. George C. Marshall, Secretary of State, United States Department of State," and is a letter from the Commission which I signed, and it reads as follows:

MY DEAR MR. SECRETARY: The United States Atomic Energy Commission has approved a plan for the foreign distribution of radioisotopes to qualified users. There is inclosed a memorandum setting forth the factors which the Commission has considered in reaching the decision that this action is in the best interest of the United States.

That memorandum I should like to have also made a part of this record. This is marked "Restricted," Senator Hickenlooper.

(The memorandum outlining the distribution scheme referred to above is marked "Exhibit 13" and will be found in the appendix.)

Mr. LILIENTHAL (reading letter):

During the past year radioisotopes have been distributed to a wide variety of institutions within the United States with no restrictions other than those which concern health and the effective use of the materials. Our producing and distributing facilities are now more adequate to meet all national needs. Being assured that the current distribution program is sound and workable and that security has not been prejudiced, the Commission wishes now to take steps to make available certain selected radioisotopes to foreign doctors and scientists for therapy and research.

The most careful consideration has been given to the question as to whether or not the distribution of selected radioisotopes to scientists in other countries will adversely affect the national security. The Commission is of the opinion that the type of radioisotopes involved, in the quantities and under the conditions prescribed, will not contribute to atomic energy research in other countries except to the extent that radioisotopes are tools which can contribute to any nation's general scientific-research program. The view may be taken, therefore, that to this extent their distribution is detrimental to this country's welfare.

There is obviously an effort to weave into the letter some of the considerations adverse to the decision.

Returning to the letter:

It is the Commission's judgment, however, that the advantages the United States will gain from taking steps at this time to make available the use of radioisotopes for humanitarian purposes outweigh this consideration.

There is also inclosed a procedural outline of the plan.

Senator HICKENLOOPER. May I at that point ask if the statement that you just read, where the advantages of the United States would outweigh the consideration of possible detriment to the United States—it does not recognize that there are possibilities of detriment to the United States in the program, and it goes on a matter of balance. Is that what I am to understand from the statement in that letter?

Mr. LILIENTHAL. Well, our advisers have indicated that there was no detrimental effect. This is what I referred to in here, but we wanted to indicate, too, that Commissioner Strauss had been—that we had not been all of one mind in this matter, without going into the fact—without spelling this out, and I may add that we said, when Commissioner Strauss raised the question as to whether he might, appropriately, independently speak to the Acting Secretary of State about his views, of course we said that would be satisfactory, indeed, and I believe he did.

The CHAIRMAN. Mr. Lilienthal, right at that point, have you any indication or evidence as to whether Mr. Lovett talked to the Military Establishment independently, before he wrote this letter?

Mr. LILIENTHAL. My recollection on this is vague and unsatisfactory, and I would have to check.

The CHAIRMAN. It would be very interesting to see whether or not any memorandum of conversations between the Department of State and the National Military Establishment is in existence.

Mr. LILIENTHAL. I think this perspective of time blurs the situation to this extent: that this really was no serious question existing in the mind of the Military Establishment or we would have heard plenty about it from everybody.

I am sure the record will bear this out, but there have been so many things which have happened that I am not clear on it.

Even when there have been questions on the part of one or two members on this now seven-man group, they have not been slow to make their views known; and this, of course, is exactly right.

Continuing with the letter to General Marshall:

Inasmuch as this matter involves questions of foreign policy and relations of the United States with other governments, the Commission requests the concurrence of the Department of State in this action and would appreciate any comments and suggestions you desire to make.

This is the conclusion of the letter.

The reference involves relation with other governments and questions of foreign policy and is a reference to the fact and the practice that followed upon this of consulting with the Department of State whenever there was a question about shipment to a country about which there could be any question. That is the point I was trying to make, about the relevance of the country's being friendly or unfriendly, trustworthy or untrustworthy.

The reply, on the following day, August 28, 1947, was signed by the Acting Secretary, Robert A. Lovett, and reads as follows:

DEAR MR. LILIENTHAL: I have received your letter of August 27, 1947, addressed to the Secretary, in which you state that the United States Atomic Energy Commission has approved a plan for the foreign distribution of radioisotopes to qualified users.

I note that these valuable products of United States atomic energy plants will now be available in the service of mankind and that, to this extent at least, we are able to advance toward the beneficent use of this new force. This initiative should promote harmony and good feeling among nations.

Based on your assurances that this offer on our part does not prejudice our national safety, and in view of the checks and safeguards set up in the distribution scheme as you outline it in the enclosure to your letter, the Department of State sees no objection from the point of view of foreign policy.

Sincerely yours,

ROBERT A. LOVETT,  
*Acting Secretary.*

The distribution scheme ought to be made a part of the record, and it makes it rather clear that these are not secret matters, and that access to all laboratories, including the laboratory of the Military Research Establishment of Norway, is to be made to representatives of this country.

(The memorandum outlining the distribution scheme referred to above is marked "Exhibit 13" and will be found in the appendix.)

Mr. LILIENTHAL. The State Department does have a representative abroad who has access to this and other places where these radioisotopes are used, and other scientists.

Likewise, the results of the research in the Norwegian establishment, as in the case of all other research, whether medical or biological or industrial or basic science—most of it, a good part of it, is basic science—is publishable and not classified.

I should like, if I may, to complete this record and call attention to the views of two of my colleagues, who have since that decision—in fact, just recently in the case of Mr. Waymack; in the early part of this year, in the case of Dr. Bacher—have left the service of the Commission. These are Mr. William W. Waymack, of Des Moines, Iowa, and Dr. Robert F. Bacher.

Their views should be taken together with the views expressed in the memorandum by my colleague, Commissioner Strauss, this morning.

Commissioner Strauss has read from the synopsis or the paraphrase of the minutes up to the point in those minutes of August 19, 1947—this document is marked “Confidential,” and I should like to read—it has now been unclassified, and obviously these matters are, of course, no longer confidential, and they were classified at that time in that fashion. They are now declassified.

Reading from the declassified version:

.Mr. Waymack commented—

Perhaps I should read the first paragraph which was not referred to by Mr. Strauss this morning. It is simply an introductory paragraph:

Mr. Lilienthal called attention to previous discussions of the Commission—these were numerous—

regarding the foreign distribution of radioisotopes, and referred to a staff memorandum on this subject. He expressed the belief that the Commission should reach a decision at the earliest possible date regarding the foreign distribution of radioisotopes.

As you will see, this matter had been under consideration since January of 1947.

Then follows three paragraphs which go into the minutes in full, but which have been paraphrased by Mr. Strauss—four paragraphs by Mr. Strauss—no, five—in which he expresses his view:

Mr. Strauss stated that he was, apparently, the only member who was opposed to such action at this time, and commented that when he realized that fact some weeks ago he had attempted, but without success, to bring his thinking in line with that of other members of the Commission. He felt that the burden of proof is upon those who wished to export radioisotopes. He expressed the belief that, although the report referred to by Mr. Lilienthal covered many points, it did not in his opinion convincingly meet certain basic objections which he felt should be controlling in this matter. He indicated that some of the reasons that had been advanced on behalf of the foreign distribution of radioisotopes were briefly, that the Commission has the legal right to take this action; scientists abroad who are well disposed toward the United States would be ill-disposed toward this country if radioisotopes are not distributed abroad; there is little likelihood that the radioisotopes thus to be shipped abroad will fall into unfriendly hands or be used in research or other activities that will result in a military advantage to unfriendly governments; and we are, by shipping radioisotopes abroad, divulging no knowledge that would not otherwise eventually be discovered by the nationals of other countries.

Mr. Strauss stated that the record did not support the belief that foreign scientists were or are practically all on the side of the democracies in the inter-

national political argument, but that in many cases they worked as zealously for the "right" and the "left" as they did for democracy and that many are now working for possible unfriendly nations. This indicates that, until the satisfactory international control of atomic energy is secured, the United States should take no steps that might help scientists who may work for a possible enemy nation. He expressed doubt that it would be possible to buy the good will of foreign scientists by authorizing the distribution of radioisotopes abroad. The publication of the Smyth report was a gesture, partly motivated by this purpose, which was now apparently forgotten in the current demand for the export of radioisotopes. Good will cannot be permanently bought in this way.

Mr. Strauss further stated that, in connection with the point that our release of radioisotopes will merely make available what those countries will eventually obtain through their own efforts by the use of cyclotrons already existing abroad, he wished to point out that this was the type of reasoning that had also been instrumental in leading to the publication of the Smyth report. He pointed out that cyclotrons produce submicroscopic quantities of radioisotopes and that to obtain amounts comparable to production in our piles thousands of cyclotron-years would be required. He doubted that the Atomic Energy Commission should commit a serious breach of security comparable with that of the publication of the Smyth report until there has been a greater degree of peace and mutual understanding established throughout the world. He also expressed doubt that the proposed restrictions to be placed on the shipment of radioisotopes abroad could effectively present their use for unfriendly purposes or their divergence to unfriendly hands which might endanger our national security.

Mr. Strauss stated that he did not contest the point that the isotopes in question could not be used by other countries to produce atomic weapons, but felt that they would be useful as tools in biological research, metallurgical research, petroleum chemistry, and other areas which are a part of the war-making potential of nations.

Mr. Strauss also stated that although he was not competent to pass on the legal aspects of this problem, he believed that the intent of the provision in the Atomic Energy Act prohibiting the exchange of information with other nations with respect to the use of atomic energy for "industrial purposes" is clear, and that this lesser prohibition must include the greater one of possible military uses. He said, however, that he was content to accept the General Counsel's opinion as to the legality of the proposed action. He also called attention to the fact that during the Senate debate on the confirmation of members of the Commission, the President pro tempore of the Senate took the floor and, in reply to an allegation made earlier in the debate that the Commission would give away secrets to foreign countries, had reminded Members of the Senate that the Commission could not avoid the many requirements of the bill in this matter; that the appointments of the Commissioners ran for only about 1½ years and that there seemed to be no possibility of an international agreement regarding atomic energy within that time. For these reasons Mr. Strauss expressed his belief that the Commission should not approve the foreign distribution of radioisotopes.

Then, Mr. Waymack commented:

The international situation is not good.

I think that is a matter about which there could be no dispute.

The Marshall plan has become the No. 1 key to the policy of the United States. The shipment of radioisotopes abroad would be a small part of that plan. The adoption of a policy of denying anything that could conceivably fall into the hands of potential enemies or their satellites, does not seem reasonable. If this reasoning is applicable to radioisotopes it is also applicable to any action assisting the rebuilding of the nations of the world, and their industrial rehabilitation. The Canadians and British will soon be producing radioisotopes in their own reactors, and will undoubtedly make them available outside their respective countries. The United States should take the leadership in this matter rather than reluctantly follow the actions of Canada or Britain. By denying the foreign distribution of radioisotopes at this time the United States will be giving unfriendly countries a propaganda weapon that might be more hurtful to national security than would be any possible harm in the release of radioisotopes under appropriately safeguarded conditions. Conversely, the unfriendly propaganda accusing the United States of fostering a "plutocratic monopoly" of atomic energy could be offset if radioisotopes were distributed abroad.

Then, Dr. Bacher's views are recorded in the minutes:

Mr. Bacher pointed out that the Canadian pile is now in operation; the United States will want to take advantage of this by having certain materials irradiated in that pile from time to time; and that we will be in a position of asking for something from the Canadians that we are unwilling to give to them even though we have it, unless we authorize the distribution of radioisotopes abroad. He indicated that he concurred with the point made by Mr. Strauss regarding European scientists but expressed the belief that the situation was more complicated than appeared on the surface. There is a struggle going on in Europe which is evident among scientific people as well as those pursuing other occupations. We stand to lose good will in those places where we have had cooperation if we now continue to deny the distribution of radioisotopes to those countries. There seems to be a growing sentiment throughout the world against increasing isolationism in the United States. The continued prohibition against shipment of radioisotopes abroad is considered a symbol of such isolationism. The prohibition against such distribution does not seem to be in keeping with the foreign policy of the United States which is to help as much as feasible those countries needing rehabilitation. The foreign distribution of radioisotopes is relatively a small matter when compared with such major actions as the export of electric generators for use in connection with the Dneiperstroy Dam.

Mr. Strauss responded that there is no legal control and the Atomic Energy Commission has no primary concern pertaining to the export of generators, but added that he felt that the Government agencies that did have jurisdiction should prevent such exports. On the other hand, there is a law, which the Atomic Energy Commission is primarily responsible for executing, that provides for controls with respect to the byproducts of atomic energy. He also pointed out that the Marshall plan, which had not yet become the policy of the United States Government, was designed to encourage the short-run rehabilitation of certain other nations, while shipment of radioisotopes abroad could hardly be expected to produce results of such a character.

The CHAIRMAN. Mr. Lilienthal, there is on the statute books a general export control act under which the Commerce Department can prohibit exports; is that not true?

Mr. LILIENTHAL. That is correct, sir. I am looking forward to the time when the committee will have time to go into that whole policy and the practice of the Commission in that respect.

Senator MILLIKIN. May I ask a question, Mr. Chairman?

The CHAIRMAN. Yes.

Senator MILLIKIN. Mr. Lilienthal, did the Commission ever consider the specific question of exporting isotopes for their use in the metallurgy of weapons?

Mr. LILIENTHAL. Metallurgy of weapons?

Senator MILLIKIN. Yes.

Mr. LILIENTHAL. No; I am sure they did not. There is a reference in the General Advisory Committee's statement to us that radio iodine, in their opinion, may not be used in connection with the study of the production of plutonium.

Senator MILLIKIN. My immediate inquiry is the claim that Norway intends to use or could use these isotopes in connection with metallurgy of weapons, and I am, of course, driving to the point of whether the Commission ever specifically considered that point.

Mr. LILIENTHAL. I should say, so far as I know, never, and I am sure, I am confident I would recall it.

I would like, if I may, to observe, since Norway is again considered, that in Oslo, a source in Oslo representing the Norwegian Government, last night issued a statement, which I have seen only in the press, indicating that the research involved here is not military research, and I should like, before this discussion is concluded, and the chapter is

closed, to have discussed here, Senator, what I believe to be a misapprehension as to the relations of the use of radioisotopes, to wit, radioiron, in basic research, and its application.

I am advised that that is a great one indeed, and is about the relation of a tenpenny nail and the building of a chicken house.

Senator MILLIKIN. Before we get into that, let me ask you, did the Commission at the time that it approved this shipment know that Norway was not going to go into the metallurgy of weapon making?

Mr. LILIENTHAL. As I endeavored to make clear to Senator Vandenberg, the Commission—speaking now of the five Commissioners—did not have before it the question of this particular shipment. It has been considered since that time.

The information is in the hands of the staff, to whom it was delegated, under the Commission's procedure.

Senator MILLIKIN. I am very curious as to why a question of that importance was not passed upon by the Commission, but by the staff.

Mr. LILIENTHAL. Well, Senator, I am afraid we have failed to make our position clear; that the importance attached to it here is not one that was shared by our technical and scientific people, and I think myself, on the basis of their judgment, the use of radioiron in basic research in respect to iron and steel and its interdiffusion is a matter that has been under study, at least, since 1913, and does not represent any critical issue or any difficult issue.

Senator MILLIKIN. The issue is whether we should furnish the isotope for the purpose.

Mr. LILIENTHAL. Yes.

Senator MILLIKIN. That is, I suggest, a critical issue, and is the issue before us.

Mr. LILIENTHAL. Yes, it is; but the background—you asked the question of why the Commission itself did not regard it as a critical issue.

Senator MILLIKIN. We did not have an atomic energy business in 1913, and you did not have the Atomic Energy Act in 1913.

Mr. LILIENTHAL. Well, I would like to have for the Senator immediate information on this subject, so that he could see that the reason why we did not regard it as important, and that will come from technical people. Some of them have said ordinary iron would be just as good for this diffusion problem.

Senator MILLIKIN. Do you not see that that answer is irrelevant? The sole question is whether we are using that which is under the control of this act in any possible way to aid in the development of weapons by other countries, friendly or not, and it has nothing to do with whether it can be done in some other way.

Mr. LILIENTHAL. But this discussion, Senator, I respectfully suggest, cannot be carried on in a vacuum, without these facts, and it is these facts to which I refer as to whether this assists or not.

Senator MILLIKIN. You are throwing in facts that are completely outside of the jurisdiction of your Commission. Let us assume that a friendly or unfriendly country could do this in some other way; let us assume they have been working on it for 50 years: Your question of responsibility is, should you aid the enterprise by letting it get materials which it is contended you have no right to let go of.

Mr. LILIENTHAL. Senator, I simply would like to say—

Senator MILLIKIN. The point, if I may make one further observation, is fully covered, I suggest, by Mr. Strauss' comment that you have no responsibility over sending generators. We have a lot of items in the papers lately about all kinds of stuff going over there. You have no responsibility for that, but you do have responsibility for fissionable materials.

Mr. LILIENTHAL. Yes, Senator. The point is, if I may make it, and I hope it will be later developed by scientific and technical people, that you are assuming, if I may say so, you are assuming what, we believe, will not be borne out by the facts, that this material is being used, or could be used, for weapons.

Senator MILLIKIN. I am not assuming anything. I am waiting for facts, and I do not receive them when I am told about how this thing could be done in other ways, how it could be done with other energies, how it has been the subject of thought since 1913.

I am receiving no help, Mr. Lilienthal; if I have an assumption, I am perfectly willing to abandon it when I get some facts which are relevant.

Mr. LILIENTHAL. That is, Senator, if I may say so, the whole point in my remarks, that the facts, we believe, will make it clear that the conclusion that this assists in weapon production and jet-plane production and so on is not well founded to any extent that is worthy of elevating this matter to a position of importance.

I say these are the facts about how this may be used. The difference between research and basic metallurgy and the production of jet engines and steel and conventional armament is a question of fact. The fact, I hope, will be adduced, and then, I think, we will have reached the question of whether there is really a difference of opinion. I do not believe there is.

Senator MILLIKIN. I hope to goodness that you get at it, Mr. Lilienthal.

Mr. LILIENTHAL. I am not qualified to do it, but I could transfer this chair to others who could; but I would like, before doing that, to complete the reading of these minutes.

The CHAIRMAN. Mr. Lilienthal, it is a quarter of one. Could you complete that in just a few minutes? Some of us who have engagements must leave so that we can attend to them.

Mr. LILIENTHAL. It is not very long. It is slightly over a page of single space.

The CHAIRMAN. When you get through we will recess.

Mr. LILIENTHAL. Yes, sir.

Senator KNOWLAND. Mr. Chairman, just before he continues, because it may help to clear up something in my mind, on the decision which passed the responsibility for enabling the staff to make the decision in regard to this particular Norway shipment; was that done at the time the decision was made on the shipments of isotopes generally or at a later date did the Commission again meet and say that as long as they are limited to this list of countries the staff is free to make such decisions as in their judgment are warranted of the shipment of isotopes, regardless of the purpose for which they are being put? I would just like to clear up that point, whether there was an independent action of the Commission in delegating responsibility to the staff.

Mr. LILIENTHAL. My recollection, Senator, is that at the time the Commission, over this long period of months, finally took its action, that it had before it a staff paper, the procedures of which, recommended therein, were adopted as to how this program should be administered, and that subsequently, I am sure, that was probably modified to some extent; and I would like to get into the record both the procedure and its modification which I do not have in mind.

I do recall at this moment—in the case of some countries, countries that would not receive shipments—this again illustrates the relevance of the kind of country—the Commission itself would have to be reconsulted before action would be taken.

Then, I think in the case of all countries except those where we were already advised of the views of the State Department, the State Department would have to be consulted about the status of that country in respect to foreign policy, and that, if a question were raised at that point, then it would come to the Commission. But where no such questions were involved, the administration of the program will be delegated.

(An outline of procedures for the foreign distribution of radioisotopes established within the Atomic Energy Commission on October 10, 1947, is marked "Exhibit 14" and will be found in the appendix.)

Senator MILLIKIN. Mr. Chairman, may I ask one brief question?

The CHAIRMAN. Yes.

Senator MILLIKIN. Why did you deny the application of Finland?

Mr. LILIENTHAL. Senator, we did not deny it.

Senator MILLIKIN. What happened to it?

Mr. LILIENTHAL. My recollection is that we asked the views of the State Department in respect to Finland. A great deal of discussion went on, and time elapsed, and in the case of the first application, by the time we had made up our minds to make this shipment, the Finns had secured this material from Britain. There were thereafter other shipments to Finland in which the questions have been disposed of by the State Department.

Senator MILLIKIN. From us? We made shipments to Finland?

Mr. LILIENTHAL. That is correct. These are in the monthly reports referred to.

The CHAIRMAN. Mr. Lilienthal, are you sure that any shipment was finally made to Finland? Our staff memorandum on this subject indicates that the original shipment was canceled by the Finns because they got it from the British, but I do not see any notation to the effect that subsequent shipments went forward.

Senator HICKENLOOPER. I put that in the record yesterday. Shipments to Finland, outside of this, there have been three shipments to Finland.

The CHAIRMAN. I beg your pardon. There was 1 millicurie of calcium 145; 1 millicurie of cobalt 160, and 1 millicurie of zinc 65, and then there was one request for a millicurie of another material which was not shipped because that was not on the approved list.

Mr. LILIENTHAL. I do not keep up with these shipments, but I do try to keep up with the procedures, and where questions are raised, I am simply repeating the information as to Finland.

The CHAIRMAN. That was my mistake. There were three.

Senator HICKENLOOPER. On the original shipment, if I may, Mr. Chairman, the original request for this large amount shipment for Finland, did not the Commission authorize the shipment, that is, grant the request of Finland, and then prescribe certain conditions, and when those conditions were made known, the Finns withdrew their application?

Mr. LILIENTHAL. No, I believe not. My recollection, Senator, is that the amounts requested led to a more detailed inquiry as to what they planned to do with it. It became evident that they did not really know too much about the technical use of radiophosphorus and the inquiries were directed toward that intended use, as required by the procedure.

Senator HICKENLOOPER. Do you know whether they obtained the same thing, the same material that they asked for—I do not know about the quantity—whether they have obtained it since from Great Britain?

Mr. LILIENTHAL. My recollection is that they have, but the discussions with them made it clear, too, that for the purpose they had in mind they were asking for more than they needed.

Senator HICKENLOOPER. Yes.

Senator MILLIKIN. Mr. Chairman, I hate to press this, but I would like to ask one more question.

Is it the Commission's contention that these isotopes are useless so far as advancing metallurgy of weapon-making is concerned?

Mr. LILIENTHAL. I would have to ask a technical man that, but our advice is that these isotopes which are released relate to basic research and will not advance the application of the research to the metallurgy of weapons. That is my understanding.

Senator HICKENLOOPER. I do not think the answer is quite responsive. If it relates to basic research and if it establishes under basic research the theories which can be advanced by actual metallurgy and actual industrial processes, we are quibbling about things which have no real distinction in them.

Mr. LILIENTHAL. Senator, I think my difficulty is that the term "useless" is so broad.

Senator MILLIKIN. Take your own term.

Mr. LILIENTHAL. Well, here again I think, in the absence of the facts—

Senator MILLIKIN. Let me put it to you in terms of "useful." Is it the Commission's contention that the isotopes, with specific reference to the Norway situation, would not be useful in advancing the metallurgy of weapon-making?

Mr. LILIENTHAL. I am advised, Senator, and I believe in the soundness of this advice, that these isotopes we are referring to in the Norwegian shipment are, as far as possible, as far as imaginable, is the term, from their usefulness to the production of weapons and improvement of weapons as is possible to imagine.

Senator MILLIKIN. Again, I think, Mr. Lilienthal, you are drawing a distinction between research and final production.

Mr. LILIENTHAL. Of course.

Senator MILLIKIN. I am regarding them as all in one causative chain. Now, are we both talking about the same thing? Is it your contention that the research may not lead to production or has no necessary relationship to production?

Mr. LILIENTHAL. It has no necessary relation to production.

Senator MILLIKIN. But could it be useful later on in production?

Mr. LILIENTHAL. But no more so than a microscope or anything else.

Senator MILLIKIN. All right. That brings us right back to that point that we are not considering the microscope, and you have no responsibility for the microscope.

Mr. LILIENTHAL. Senator, I am sure that when you have heard from scientists on the relation between research use of these isotopes and application, and what a broad and completely illogical gap there may be, that you will be of the same mind that I am that there is no relationship worthy again of the term.

Senator MILLIKIN. Let me ask you again, Mr. Lilienthal, is there an insurmountable gap?

Mr. LILIENTHAL. There is nothing insurmountable in the physical world.

Senator MILLIKIN. Is it a gap which can be crossed if there is a desire to cross it?

Mr. LILIENTHAL. Senator, these are hypotheses that one does not use in ordinary life, and to ask for absolutes in a world such as we live in, I think, is really unrealistic. There is a relation between everything, and I would be—

Senator MILLIKIN. I understand, do not give me a lecture on that. I understand.

Mr. LILIENTHAL. This is so abstract that I do not see how we could avoid abstractions.

Senator MILLIKIN. Mr. Lilienthal, are you basing your claim that the research may not lead to production?

Mr. LILIENTHAL. The research is so remote, as I have been advised, as not to be within the realm of probability in which we live, and on that the facts will make it very clear.

Since we are talking about abstractions, unfortunately, rather than in a context of facts, a good deal of what I say is abstract.

When we get the facts, I think you will see more clearly why I do not think there is a relationship worthy of that name.

Senator MILLIKIN. I am trying hard to figure the facts when you produce them, and that is why I am asking the questions, and I assume that you will produce facts to show that there is an exceedingly improbable relationship of whatever might be developed in the research to the later possible production of weapons, is that correct?

Mr. LILIENTHAL. That is what I am trying to say.

Senator MILLIKIN. Yes.

The CHAIRMAN. Now, Mr. Lilienthal, I think that I will have to ask the committee, unless the committee should think otherwise, that when the clock says 1 o'clock, hereafter, we are going to recess, no matter where we are at the moment, because otherwise it disarranges our whole day.

Mr. LILIENTHAL. I will continue, this is not very long, but I would like to get it all into the record.

The CHAIRMAN. This is in no sense blaming you, because you have been answering questions.

I am just saying that we have to adopt a different policy, different from sitting here until 1:30.

Mr. LILIENTHAL. Yes.

Continuing with these extensive minutes on our meeting of August 19, 1947, which was at Bohemian Grove, Mr. Pike pointed out—

Mr. COLE. Where was that?

Mr. LILIENTHAL. In the redwoods of California, where the Commission was holding a meeting with its Research Director, Bohemian Grove.

Mr. COLE. I misunderstood you. I thought you said Cocoanut Grove, Los Angeles.

Mr. LILIENTHAL. I thought, perhaps, that you thought I had said "Bohemia," which would be even worse.

(Laughter.)

Mr. LILIENTHAL (reading) :

Mr. Pike pointed out that the proposal before the Commission placed certain restrictions on the foreign distribution of radioisotopes by providing that foreign governments whose research workers request radioisotopes must agree: to make progress reports to the Commission periodically on the results of their work with the radioisotopes and to permit publication of reports regarding such work; to insure that the radioisotopes are used for the purpose stated in the requests, which must be approved by the Commission prior to shipment, in the same manner as domestic requests; and, to permit qualified scientists of any nationality to visit institutions where the materials will be used, and to obtain information freely with respect to the purposes, methods, and results of such use in accordance with well-established scientific tradition. He—

that is Mr. Pike—

expressed the belief that these provisions would amply protect the interests of the United States, and would prevent the misuse or divergence of the isotopes involved. He also pointed out that all radioisotopes are not involved in the proposal. The proposed foreign distribution does not include materials applicable to the development of atomic energy for military or industrial purposes. No naturally radioactive materials and no isotopes of any elements of higher atomic number than element 83 (bismuth) are included.

This is the final paragraph :

Mr. Lilienthal referred to the materials and points included in the staff report on this subject, and expressed the belief that the matter had been well and carefully weighed in that report with the final conclusion that it is to the best interests of the United States Government to authorize the foreign distribution of radioisotopes at this time. He referred to the conditions that must be met by foreign governments and the recipients of radioisotopes before the Commission would authorize shipments abroad and expressed the belief that these furnished adequate safeguards against the abuse or misuse of the materials thus made available outside the United States. Mr. Lilienthal also stated that scientific knowledge would be greatly advanced by making radioisotopes available to foreign scientists. Certain "road-blocks" in the treatment of cancer, for example, might be broken by making it possible for foreign scientists to take part in the attack on the disease. Even knowing that the United States is taking some risk in connection with its policy of encouraging the rehabilitation of Europe that may result in the strengthening of potential enemies it is, nevertheless, a chance that must be taken for the building of an enduring peace. Although there may be upsets in Europe, nevertheless, the Marshall plan is designed to strengthen what can be friendly and peaceful countries. The foreign distribution of radioisotopes becomes a small part of this broad policy. Mr. Lilienthal expressed some doubts regarding the validity of the argument that it would be possible to win friends by releasing radioisotopes abroad, and stated that any action in this matter should rest more importantly on the fact that this is the best way of fostering the advancement of science and knowledge.

After further discussion—  
that is an understatement—

it was agreed by a vote of 4 to 1 (Mr. Strauss voting in the negative) that the Commission's recommendation and reasons for favoring the foreign distribution of radioisotopes would be forwarded to the Department of State for consideration by that agency, and that at the same time the reasons that have been advanced against such action would be presented for the Department's consideration. It was similarly agreed that if the Department of State should approve the recommendations of the Commission, the foreign distribution of the radioisotopes listed in the staff report would be authorized.

This is followed by the certification of the Secretary and approved by the Commission, the minutes themselves approved by the Commission December 10, 1947.

The CHAIRMAN. Now, Mr. Lilienthal, I have received a short note from Mr. Strauss which, I think, I should read into the record. He says:

DEAR SENATOR McMAHON: In order that there may be no inference in the record that I withheld information from the committee in giving only my views this morning rather than those of my colleagues and even having to paraphrase my own remarks as they appear in the minutes in question, I should like to make it clear that the minutes in question were classified as recently as last night, and that I did not have the prerogative to declassify them. It must have been declassified this morning.

That is signed "Lewis Strauss."

Now, tomorrow morning we will meet here at 10:30 for further proceedings. The committee will meet in executive session to try to obtain the settlement of the troublesome matters at 3:30 this afternoon.

Senator HICKENLOOPER. Mr. Chairman, I may say that, in advance, the decision of the committee on the matter of my presentation of the security files will have a very vital effect on my ability to proceed tomorrow if the committee expects me to proceed.

Mr. LILIENTHAL. Mr. Chairman, in case it does not become feasible for Senator Hickenlooper to proceed tomorrow, may we proceed with that part of the affirmative presentation of the accomplishments of the Commission which we requested, in asking for this investigation? That is, in the event that Senator Hickenlooper is not prepared, so that we may get witnesses ready and put them on in that regard with respect to an affirmative presentation?

The CHAIRMAN. That is a decision which will have to be made by the full committee. I personally am anxious that we hold daily sessions and get along with this business just as quickly as we can, because I am conscious of the fact that the longer this investigation will run, the longer you are, of course, going to find it impossible to pursue your regular work. I shall take it up in the executive meeting today, and we will advise you. But until further notice, we will have a meeting here at 10:30 tomorrow morning.

(Whereupon, at 1:30 p. m., the joint committee adjourned, to reconvene at 10:30 a. m., Friday, June 10, 1949.)

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# INVESTIGATION INTO THE UNITED STATES ATOMIC ENERGY PROJECT

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## HEARING

BEFORE THE

## JOINT COMMITTEE ON ATOMIC ENERGY CONGRESS OF THE UNITED STATES

EIGHTY-FIRST CONGRESS

FIRST SESSION

ON

## INVESTIGATION INTO THE UNITED STATES ATOMIC ENERGY PROJECT

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### PART 7

JUNE 13, 1949

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# INVESTIGATION INTO THE UNITED STATES ATOMIC ENERGY PROJECT

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MONDAY, JUNE 13, 1949

CONGRESS OF THE UNITED STATES,  
JOINT COMMITTEE ON ATOMIC ENERGY,  
*Washington, D. C.*

The joint committee met, pursuant to adjournment and subsequent postponement, at 10:35 a. m., in the Caucus Room, Senate Office Building, Washington, D. C., Senator Brien McMahon (chairman) presiding.

Present: Senator McMahon (chairman), Representative Durham (vice chairman); Senators Connally, Tydings, Vandenberg, Millikin, Knowland, and Hickenlooper; Representatives Holifield, Jackson, Cole, Elston, and Hinshaw.

Also present: David E. Lilienthal, Chairman; Sumner T. Pike, Commissioner; Lewis L. Strauss, Commissioner; Gordon E. Dean, Commissioner; Henry D. Smyth, Commissioner; Dr. J. Robert Oppenheimer, Chairman, General Advisory Committee; Carroll L. Wilson, General Manager; Dr. Walter F. Colby, Director of Intelligence; David B. Langmuir, Executive Secretary, Program Council; Joseph Volpe, Jr., General Counsel; Everett Hollis and Bennett Boskey, of the Office of the General Counsel; Dr. Kenneth S. Pitzer, Director, Dr. Ralph Johnson, Associate Director, and Dr. Spofford English, Division of Research; Dr. Paul B. Pearson, Division of Biology and Medicine; Fletcher C. Waller, Director, Division of Organization and Personnel; Morse Salisbury, Director, Rodney Southwick, and Shelby Thompson, Division of Public and Technical Information Service; Francis Hammack, Acting Director, and Edward Brosman, Division of Security; Frances Henderson, Assistant to the Chairman, all of the United States Atomic Energy Commission.

The CHAIRMAN. The committee will come to order.

Dr. Oppenheimer. Good morning, Doctor.

Dr. OPPENHEIMER. Good morning.

The CHAIRMAN. Doctor, before you start, I want to make a comment on an action the joint committee took the other day relative to closed hearings of personnel security cases. I did not get you in that chair to take part in this discussion. This is simply my own announcement.

I want to make it perfectly clear that there is not a member who voted in the minority who, in my opinion, is for full and open hearings on the personnel security cases. If there is anyone who is of such a mind, why, they can make it known for the record now.

The choice was between a part of an open hearing and a full closed hearing, not a full open hearing at all. I want to make that perfectly

definite for the record. Not even the proponents of these charges have at any time asked this committee to hear these personnel cases, all of them, wholly in open session.

Mr. JACKSON. Mr. Chairman?

The CHAIRMAN. Mr. Jackson?

Mr. JACKSON. I am glad the chairman has made the announcement that he has made this morning in connection with the personnel security cases.

I think that in order for the record to be clear on this matter, the committee should meet in executive session this afternoon, and I propose to reiterate my previous announcement in public in these hearings to the effect that these matters either ought to be all in public or all in executive session.

The CHAIRMAN. You mean by that the security cases?

Mr. JACKSON. The security cases, yes; and that that matter should be disposed of by appropriate means, if we do have an executive session this afternoon.

The CHAIRMAN. I believe the reasons that motivate every member of the committee to be unwilling to proceed on total open hearings and the total files is primarily because of the irreparable injury that would be done to our investigating agency.

Mr. JACKSON. Mr. Chairman, no one wants to do any harm to the great work of the FBI, but, on the other hand, if we are confronted with a situation here of charges being made in public and no opportunity to reply in public, I think that is important.

At the same time, I am sure every member of this committee wants to do his part in seeing to it that the investigative work of the FBI is not jeopardized.

I would be the last to propound or to offer any motion that would result in that end.

The CHAIRMAN. I am sure of that.

Mr. JACKSON. Yes.

**STATEMENT OF DR. J. ROBERT OPPENHEIMER, DIRECTOR, INSTITUTE FOR ADVANCED STUDY, PRINCETON, N. J.; CHAIRMAN, GENERAL ADVISORY COMMITTEE TO THE ATOMIC ENERGY COMMISSION**

The CHAIRMAN. Now, Doctor, we have had some discussion here about radioisotopes and the export of them. You are chairman of the General Advisory Committee?

Dr. OPPENHEIMER. I am, sir.

The CHAIRMAN. You were director of the Los Alamos Laboratory during the war?

Dr. OPPENHEIMER. I was.

The CHAIRMAN. Doctor, I am familiar with your history and your background, but I think it would be well if you were to state for the record what that is.

Dr. OPPENHEIMER. My present job is director of the Institute for Advanced Study, which is in Princeton, N. J.

Before the war, I held joint appointments in physics at the California Institute of Technology, Pasadena, and at the University of California in Berkeley.

My first full-time official employment on the atomic bomb project came in the spring of 1942 when I was put in charge of the development of the bomb task then assigned to the Metallurgical Laboratory in Chicago.

About 6 months later, General Groves and I started talking about Los Alamos, and early in 1943 I was formally appointed director.

I resigned 2 months after the war was over, and have since served in an advisory capacity only, the principal one at present, the one I guess in which I am here today, is as chairman of the statutory General Advisory Committee. Is that enough?

The CHAIRMAN. Now, you are at Princeton?

Dr. OPPENHEIMER. I am at Princeton now.

The CHAIRMAN. You are still connected with the project—working in nuclear physics, however, are you not, as well as being chairman of the General Advisory Committee?

Dr. OPPENHEIMER. We are working at the Institute not entirely, but largely on basic problems whose connection with practical aspects of atomic energy is not too clear, but which we hope and really know will in one way or another be useful in the future.

The CHAIRMAN. Now, doctor, we have been talking about radio-isotopes. We have been talking about their export, and we have been talking about the policy. First, we talked about what the law meant. I would not expect any interpretation of that from you. We can get that from the lawyers, but we have been talking about the wisdom or the lack of it in exporting these shipments. Our talk has become more concentrated now on the Norway shipment with which, I presume, you are familiar.

Doctor, will you go ahead and tell the committee what your thoughts are on this policy.

Dr. OPPENHEIMER. I will be glad to try to do so.

The General Advisory Committee has been, I would say, less equivocal on the subject of the limited export of isotopes than on almost anything else that has been referred to it.

It at least twice has considered the problem. Each time it has come up with a firm and unanimous answer. The records of our deliberations are in your hands; some are public, and they are all available to you.

I think it important at this point to emphasize that in our first formal discussion of the foreign distribution of isotopes we told the commission that we regarded their program as somewhat too conservative; that we hoped that the problem of the export of certain fission products and of stable isotopes could be considered at a later date, but we were very glad to see that something was being done.

Since we have been so unequivocal, I believe it right to try to give you the background that was in my mind, and I believe, in the minds of the General Advisory Committee, in making these deliberations. Let me say first that you have every reason to want to ask me questions and to expect candid answers, and you are not here for a lecture. If I am talking about things that you already know or that are irrelevant, I hope you will cut me off.

What I would propose to do, since so many of the affirmative arguments have been given, is to take up the argument that the present policy involves some kind of danger; specifically that it involves danger of assisting other nations in the development of atomic energy,

and that it involves the danger of assisting other nations in other military developments. These are two points I want to speak to.

Before I can do that, I think I may briefly outline the history of isotopes, what they are, how they are used, and in what way their export is circumscribed. If you have no objection, I will do that.

We are all, of course, composed of isotopes. They were discovered in the early part of the century by the English physicist, Aston. Shortly thereafter it was recognized that some isotopes, very heavy materials, were radioactive. This meant that at more or less at random, but on a fixed over-all schedule, they would undergo a change which signaled itself by the emission of a radiation which was easy to detect.

Taking advantage of that, the Hungarian chemist, Hevesy, who now works in Scandinavia, showed that one can use radioactive isotopes as tracers. This is the principal use with which we are now concerned.

The way a tracer works is that: Two materials which are isotopic with each other have essentially the same chemical behavior. If it is sulfur you are dealing with, all isotopes of sulfur will follow the chemistry of sulfur. If the material is radioactive, at a certain stage, having followed the history of sulfur, it will suddenly do something quite new; it will explode; it will disintegrate, and if you have the right kind of detecting equipment you can find out where it was at that time. In this way the very, very complex problems of chemical systems, of biological systems, of crystals, of metallurgical systems, can be explored. This is not a unique instrument, but it is an important one.

The radioactive isotopes increased very much in importance with the discovery in France early in the thirties that you could make ordinary materials radioactive, that you could get radioactive carbon, radioactive sulfur, radioactive oxygen; of course, few people are interested in the basic behavior of radium in the human body, but many people are interested in the behavior of carbon or oxygen.

The decade before the war saw innumerable examples, both of the discovery and of the application of isotopes. Much of this work was done in this country; some was done abroad.

I remember about 10 years ago, the distinguished Director of the Radiation Laboratory in Berkeley had to give a public lecture, and he wanted to use me as a guinea pig. He got me out on the platform, and he got me to put my hand around a Geiger counter, which is one of the instruments for detecting radioactivity, and he asked me to drink a bit of water in which a part of the salt had radioactive sodium in it.

For the first half minute all was quiet, but about 50 seconds after I drank it there was a great clattering of the Geiger counter. This was supposed to show that at least in one complex physiochemical system, the salt, the sodium ion had diffused from my mouth through my blood stream to the tip of my finger, and the time scale for this was 50 seconds. That is a prototype of one of the uses.

(Discussion off the record.)

Dr. OPPENHEIMER. The atomic energy project made a great change in the isotope situation, and in the following way: In the first place new heavy isotopes were discovered, the most famous being plutonium.

In the second place, the vast and otherwise often inaccessible array

of radioactive materials from the fission process itself became available.

It is important for me to emphasize that the export program of the Commission does not include any of the heavy materials specific to the fission program. It does not include the fission products specific to the fission program.

The CHAIRMAN. Fission what?

Dr. OPPENHEIMER. The fission program, atomic energy program.

The CHAIRMAN. Oh.

Dr. OPPENHEIMER. It includes only those materials made by neutron bombardment, I believe all of which were well-known before the war, and which can be made by a variety of methods.

The great contribution of the United States atomic energy program to this work is that the quantities available and the cost have been changed. The quantities are enormously greater, the cost very much smaller.

The specific purposes for which the General Advisory Committee recommended the export of isotopes were for basic research, not only in medicine and in biology, but also in physics, in chemistry, in metallurgy. Basic research means research directed toward finding out about the nature of the world rather than research specifically directed toward achieving a practical goal. If you want to find out how strong nuclear forces are, that is basic research. If you want to design a reactor, which will propel a certain kind of craft, that is not a basic research; that is applied.

These are loosely used words, but that is what we had in mind.

The second purpose is for diagnosis. If human metabolism or animal metabolism is disturbed by disease, the way in which the body used certain things, iodine, for example, will be altered.

If you follow radioactive iodine, you may be able to find out what kind of an illness a man has.

The third purpose is therapy. The therapy is on a very limited scale. For years people have been looking for diseases that radioactive materials would cure, and I think two have been found: Certain thyroid disorders and polycythemia vera. On a world-wide scale, this means quite a number of human lives.

This is background of information which the General Advisory Committee had as to the history of isotopes.

Let me turn to the special problems of the use in atomic energy, and the use in other military applications, and the extent to which the use of isotopes abroad could be controlled by us and could be favorable to us.

I need to say, first, that all the isotopes here considered are isotopes which would exist and which would be useful if there were no uranium, if the fission process were impossible, if the number of neutrons emitted were too small to sustain a chain reaction, or if the Government of the United States had not allocated a nickel to the atomic energy program.

On the use of these isotopes, and I leave out plutonium and fission products, because there are other factors which are involved in the development of atomic energy, I can testify as follows: At Los Alamos we never made use of these materials. I cannot speak with the same sharpness about the metallurgical laboratory in Chicago, and the radiation laboratory in California, but no use of these materials suffi-

ciently interesting or important to come to my attention was made. I know of no such use, and it was certainly ancillary.

Senator HICKENLOOPER. Dr. Oppenheimer, what were you interested in at Los Alamos?

Dr. OPPENHEIMER. In making bombs, sir.

Senator HICKENLOOPER. Were you interested in high-speed steel for engines?

Dr. OPPENHEIMER. We will come to that later. We were interested in steel. You will soon get me to the point where secrecy does stop my answer.

Senator HICKENLOOPER. But your former interest was making a bomb?

Dr. OPPENHEIMER. Our exclusive interest was making a bomb, but you have no idea how many angles that can have. We will come back to the engines.

Senator HICKENLOOPER. All right.

Dr. OPPENHEIMER. The next point that I would like to make is that since the war I can recollect no application of these exportable isotopes to the atomic energy program of sufficient importance so that it came to the attention of the General Advisory Committee.

No one can force me to say that you cannot use these isotopes for atomic energy. You can use a shovel for atomic energy; in fact, you do. You can use a bottle of beer for atomic energy. In fact, you do. But to get some perspective, the fact is that during the war and after the war these materials have played no significant part, and in my own knowledge, no part at all. That is not true of all isotopes. Plutonium is a good one; that played a big part. It is true of the group of isotopes falling under the Commission's export policy.

Now, you have asked about other military applications. Here I am less knowledgeable, but the General Advisory Committee is collectively a very knowledgeable group, and we have had this in mind.

The statements that I made about the possibility of using a shovel for military purposes also apply here.

However, the principal characteristic of military use is that you do the work in secret, and one of the conditions for the use of these isotopes is that it be open and published, and subject to visit.

Going beyond that, I have had a search made to see what use we have made of these exportable isotopes in secret military research. We have made about 6,000 shipments of isotopes. I would argue that the defense effort and the research defense effort in the United States is of another order of magnitude of bigness than any efforts that are going on in western Europe, and I thought that we would probably find some cases where the National Military Establishment had requested for secret application to armament, jet engines, bacteriological warfare, or what have you, these exportable isotopes.

To my astonishment the staff of the Commission has come up with an answer that they have no recorded case. This seems to me a very strong argument.

There are few, if any, situations in which this country, with its \$15-billion-a-year armament program, has found it possible to use these isotopes effectively in furthering our enormous defense establishment.

The next point that I would like to make is that it is, of course, not within our power to deny these materials to Europeans. They are available, not in every country, but in the collective area of western

Europe, from the British piles, and perhaps to a small extent from the French reactor, from cyclotrons which are spotted around, and from other accelerators. They are costly and they are a nuisance, but they are available.

Why, then, should we provide them at all? Well, I would say that that if there were a genuine military need, let us say, for radioiron or radiosulfur, that would be the need that would first be filled in a country which was concerned with military armament. What we are doing is making material available for the basic things which are not of high priority, and which contribute to general learning.

We are in a very good position, if discoveries are made in Europe, to profit by them. We are in a better position than the Europeans are because of our advanced technology, our good organization, of all the reasons which you know so well, in facing the problem of the rehabilitation of Europe.

The atomic bomb itself is based on fundamental published findings of European scientists, but it is not the Europeans who have the atomic bomb; it is the United States.

I am not saying that such discoveries will be made with these isotopes, but discoveries bearing on human health, bearing on the properties of materials, very likely will be.

These things were discovered in Europe; they were applied in Europe; they are available in Europe, and the positive arguments for making them available have been largely laid before you, and I do not want to repeat them. They lie in fostering science; they lie in making cordial effective relations with the scientists and technical people in western Europe; they lie in assisting the recovery of western Europe; they lie in doing the decent thing.

I am now going to speak as an individual and not on behalf of the General Advisory Committee. If you were to ask me the basic affirmative reason for distributing isotopes abroad, I would put it in these terms: There are many objectives of the United States foreign policy, that appear from the pronouncements of the Congress and the President and of the Secretary of State. One of them is that in the event of war we should be in a stronger position, and our enemy in a weak position. One of them is that we should have good trade relations. One of them is that we should enjoy the respect of as many of the people in the world as possible. But the two paramount objectives, as they emerge from public pronouncements, are the maintenance and extension of the basic freedoms to which this country is dedicated and on which it is built, and the preservation of peace.

I believe that the shipping abroad of isotopes is one of those many cases where it is right to reckon with the possibility that in these high objectives we will not fail.

Senator TYDINGS. Doctor, might I ask a question while this lull is on here so that I can clear up a little of my own thinking?

Dr. OPPENHEIMER. Suppose you do.

Senator TYDINGS. Suppose that any of these isotopes that have been shipped abroad have been shipped directly, let us say, to Russia, a great country and a potentially rich country. Could it have taken those isotopes and used them in any manner, shape, or form so as to accelerate its discovery of atomic fission, as we know it in this country from the atomic bomb, or in aiding its military potential?

Dr. OPPENHEIMER. Under the conditions of export, the conditions of export are that the work must be open, must be published, and must be accessible to qualified scientists, irrespective of nationality.

Senator TYDINGS. Let me put it to you this way: Suppose that Russia got some of these without complying with the open characteristics—

Dr. OPPENHEIMER. Right.

Senator TYDINGS (continuing). That you have in mind. To what extent, if any at all, would Russia then have improved its military potentialities actually or from the standpoint of possibilities?

Dr. OPPENHEIMER. Well, I have answered that the best I know how. We have not made very extensive use of these materials, either for the military applications of atomic energy or for any other military applications. I am not willing to grant that the Russians are so much smarter than we are, but, of course, I do not know. It is an iron curtain, and not iron 59 either.

Senator TYDINGS. Your answer, I take it, would be that even though we had shipped directly these isotopes to Russia, the inference is that Russia could not have employed them to advance the knowledge—

Dr. OPPENHEIMER. I would like to put in the word "substantially" just to protect the balance of the thing, but essentially that is right.

Senator TYDINGS. There would be a degree then to which your qualification—it would be a minor degree, but there would be a degree of aid?

Dr. OPPENHEIMER. Let me put it this way: I know of no way in which they could.

Senator TYDINGS. What is that?

Dr. OPPENHEIMER. I know of no way in which this would help them, but I do not know anything about Russia.

Senator TYDINGS. Thank you.

The CHAIRMAN. Doctor, you may feel as though you have more or less covered the Norwegian shipment in your general statement, but inasmuch as that was concretely before us and was the subject of rather extensive examination, would you please proceed to comment on this specifically?

Dr. OPPENHEIMER. I will. I learned of it really only as a result of its coming to public attention, and my knowledge of it is limited.

Senator HICKENLOOPER. Then, the matter had never been specifically submitted to the General Advisory Committee?

Dr. OPPENHEIMER. No; no specific shipment of isotopes has been.

The CHAIRMAN. Except the classification, Doctor. You say no specific shipment, that is true; but it is also true that you not only passed upon the general policy but you also laid down the general categories which should not be shipped.

Dr. OPPENHEIMER. No, that is not so. They were presented to us by the Commission. In many cases we understood the reason for the dividing line. In any case we approved of the Commission's dividing line with the suggestion that it could later be liberalized in certain directions.

The CHAIRMAN. Have you found an indication in your examination of the classifications that have been shipped to criticize those classifications or to criticize any particular shipment?

Dr. OPPENHEIMER. No, we have not; and I believe that the most we would say is that there are probably some materials which could safely

be shipped, and which are not included, for one reason or another, in the shipping list that the Commission puts out.

As to the Norwegian matter, my understanding is the following: It was shipped to a national defense establishment, and this is the most damaging thing that could be said about it. This national defense establishment appears to have two functions: On the one hand it does military research. I do not know on what, and I do not know whether it is secret or not.

On the other hand, it is a contracting agency for the industries of Norway. The problem for which this shipment of radioiron was desired was the study of the diffusion of iron into low-iron alloys. This is a basic problem in metallurgy which is being studied on an open basis in several centers, Stevens Institute, Carnegie Institute, and one other place in this country, open and publishable.

The reason why the industry had an interest in the matter was in order to improve the performance of turbines for the generation of water power, not atomic energy, but water power.

The work is of interest. Dr. Smith, who is the metallurgist on the General Advisory Committee, expressed great interest in it and said that as a job of work it fell within the intent of the General Advisory Committee's recommendations.

The defense establishment seems to be a complex affair, not too unlike our own Navy. Much of the basic work in physics in this country is done by the Navy, and I would see no objection under those conditions to a foreign government sending to a naval contractor equipment for the study, let us say, of cosmic rays. In fact, that goes on.

I realize that the fact that it was a defense establishment, when one knows no more about it than that, raises the thought that it was in violation of the terms of the AEC agreement.

Senator MILLIKIN. Mr. Chairman, may I ask a question?

The CHAIRMAN. Senator Millikin?

Senator MILLIKIN. Assuming, just assuming, that it was for military purposes, in getting up the classifications, was it contemplated that any isotopes should be sent abroad in aid of military purposes?

Dr. OPPENHEIMER. It was not.

Senator HICKENLOOPER. Mr. Chairman.

The CHAIRMAN. Senator Hickenlooper?

Dr. OPPENHEIMER. Let me say another word: It was contemplated that they would be sent abroad only for basic research. No one can tell whether from basic research something of military value will emerge, but this country is an awfully good country to take advantage of those things.

Senator MILLIKIN. Dr. Oppenheimer, basic research does not operate in complete isolation, does it? I mean, if something were turned up in basic research that could be useful for a military purpose, it is reasonable to assume that it would finally evenuate that way, would it not?

Dr. OPPENHEIMER. Yes, but there is a long chain. The shortest chain and the longest and most dramatic—

Senator MILLIKIN. There is a long chain between the chicken salad and the gleam in the eye of the rooster, but they all have relation with each other.

Dr. OPPENHEIMER. You could not be more right, Senator.

[Laughter.]

Senator HICKENLOOPER. Mr. Chairman.

The CHAIRMAN. Senator Hickenlooper?

Senator HICKENLOOPER. I merely want to point out in his statement of understanding as to what use it could be put to, the application for the shipment was that this was to be used to trace the flow of molecules of iron in steel at high temperatures.

Now, as I say, you understand that they are seeking information on turbines or something of that kind?

Dr. OPPENHEIMER. I have seen a dispatch which says that. I do not know whether this information was in the hands of the Commission at the time the shipment was made.

Senator HICKENLOOPER. But it is your understanding that their primary purpose here is searching for information leading to better turbines for the Norwegians?

Dr. OPPENHEIMER. Yes.

Senator HICKENLOOPER. Would you consider the building of turbines and better steel for turbines building for industrial purposes?

Dr. OPPENHEIMER. I would think, looking at Norway, that it was a very important industry for Norway.

Senator HICKENLOOPER. And that, therefore, that information would be for industrial purposes, would it not, industrial information?

Dr. OPPENHEIMER. I see what you are driving at. May I—

Senator HICKENLOOPER. I do not care whether you see it or not. I am asking you a question.

Dr. OPPENHEIMER. This is a basic research whose results will be valuable to industry.

Senator HICKENLOOPER. Yes.

Dr. OPPENHEIMER. But I would like, if I may, to take this controversial piece of the Atomic Energy Act and say a word or two about it. May I do so?

The CHAIRMAN. Yes.

Dr. OPPENHEIMER. The Atomic Energy Act says, and you are the people who drafted it, so you know what it means, that we should not transmit information abroad for industrial purposes until safeguards have been provided.

Now, I know that at the time the act was written you had been exposed to a barrage of testimony from characters like me, and the upshot of this testimony was the following: That you could not have industrial power from atomic energy without danger of great military resources. You maybe could not have it cheaply anyway, but as soon as you set up an atomic energy power program you had an arsenal of atomic bombs. That is what I said and that is what everybody said.

It seems to me that the interpretation which the laity have made of this provision of the act is that if industrial power ever became a reality you wished to be advised of it, and in the meantime let us not help any other country to get industrial power because if we do we will at the same time help it get atomic weapons; I regard this as a very prudent provision. It is certainly not possible to take the definition of "atomic energy" and the prohibition against industry—helping other nations industrially, literally; it is certainly not possible to do that, Mr. Senator, because everything we do in this is contrary to it.

The CHAIRMAN. Everything we do is what?

Dr. OPPENHEIMER. Contrary to it.

The CHAIRMAN. What do you mean by that?

Dr. OPPENHEIMER. Atomic energy is defined—shall I look for it—the definitions must be some place.

Mr. HINSHAW. Page 21 of the act.

Dr. OPPENHEIMER. Thank you. [Reading:]

The term “atomic energy” shall be construed to mean all forms of energy released in the course of or as a result of nuclear fission or nuclear transformation.

That is the definition of “atomic energy,” and the prohibition on export—where will I find that?

Mr. HINSHAW. On page 13.

Mr. DURHAM. You agree with that, do you not, Doctor?

The CHAIRMAN. Is that a good definition?

Dr. OPPENHEIMER. Well, let me take it a little further, and you can judge. [Reading:]

There shall be no exchange of information with other nations with respect to the use of atomic energy for industrial purposes.

Now, coal is atomic energy by this definition; oil is atomic energy by this definition; people are atomic energy by this definition, and surely one must do better than that if one wants to have a sensible export policy.

Senator HICKENLOOPER. But atomic energy is specifically defined in this act. It has a restricted meaning.

Dr. OPPENHEIMER. I just read the definition.

Senator HICKENLOOPER. But people certainly would not be construed as coming under that definition of atomic energy.

Dr. OPPENHEIMER. I would not wish to construe it that way, but you regard the shipment of isotopes for researches, the benefits of which may be the improvement of industry abroad, as precisely a marginal case which does not correspond to the very real dangers of helping a foreign nation to develop an atomic power industry and have in its backyard the makings of large numbers of atomic bombs. That is a real danger.

Senator HICKENLOOPER. Doctor, may I ask you, these isotopes which have been shipped abroad have been made in our own atomic piles, have they not?

Dr. OPPENHEIMER. To the best of my knowledge, yes, sir.

Senator HICKENLOOPER. I believe that it has been reliably testified here before by people who have had charge of it that that is the case. These isotopes, would you say that they are the result of nuclear fission? Would you say that with respect to these isotopes that have been shipped abroad, that come from our piles?

Dr. OPPENHEIMER. The indirect result of nuclear fission, yes.

Senator HICKENLOOPER. Would you say they are the result of nuclear transformation if they come out of our piles?

Dr. OPPENHEIMER. Whether they come out of piles or not, they are the result of nuclear transformation.

Senator HICKENLOOPER. I know you are not a lawyer, and I do not intend to argue the legal point, but those terms are specifically used in defining atomic energy, so that the law says what atomic energy is, and those things that come as a result of nuclear fission, as the result of nuclear transformation, therefore, regardless of what anybody says, are defined by law as being atomic energy.

Dr. OPPENHEIMER. But oil is a result of nuclear transmutation.

**Senator MILLIKIN.** Doctor, the difference is that the Atomic Energy Commission has the responsibility for this particular type of energy and does not have responsibility for oil, nor for irradiated man nor for any of the other things.

**Dr. OPPENHEIMER.** An unirradiated man is just as much, you see—[laughter]—it is, of course, for the Congress to determine what the intent of this provision is. My opinion is that if the determination were made that isotopes should not be shipped abroad, the Congress would be making a profound mistake; that the action would be re-sented, and that it would be unintelligent.

The legal point I will not debate because I am no lawyer, but I do know that this provision in the act has a very real purpose, and that is to prevent the accumulation of plutonium and fissionable uranium in foreign hands, and that is something that we ought to stick to.

**Senator HICKENLOOPER.** But, Doctor, I will call your attention to the fact that Congress has also determined that we will not furnish information to other nations on how to make atomic weapons. There are those in this country, as has been amply demonstrated by public statements at various places, who believe that that is a bad policy, too, and that we should give that information out, so we are not talking about necessarily what you believe the policy should be; we are not talking about what you believe the safeguards should be.

The point at issue here is what the Congress has determined and has decided, and what the policy as written by the act may be.

Now, it is entirely possible that your philosophy of shipping these abroad may be right. I have not raised objection at this moment to the over-all policy as originally set out, but if your policy should be correct, as I interpret it, from a moral standpoint, then I suggest that perhaps the Congress might consider changing the law to clarify it. But I would suggest—

**Dr. OPPENHEIMER.** I may say that the General Advisory Committee does not inquire as a routine thing as to whether proposed action is legal or not, but in this case we were informed that it did not appear to be in conflict with the law. That is not a matter we pass on. We pass only on whether it makes sense.

I am told by someone who is a lawyer that I am supposed to discuss the relation between two provisions. The two provisions are the ones prohibiting the exchange of information with other nations with respect to the use of atomic energy for industrial purposes, and the dissemination of "scientific and technical information relating to atomic energy should be permitted and encouraged so as to provide that free interchange of ideas and criticisms which is essential to scientific progress."

With the very strict interpretation of one, which you believe is the correct one, I will express some bewilderment as to how this Commission is to carry out these two objectives simultaneously.

**Senator HICKENLOOPER.** I think that is a matter for legal interpretation, as I also expected you to discuss the provision on page 9, although that is also a legal interpretation—you will find in parentheses the figure "2" under the term "distribution," an authorization from the Commission to distribute byproduct materials, but also, for your thinking, because it will come up sooner or later, also for your thinking, I will say that in my judgment this applies only to the distribution of byproduct materials within the United States; and I

will call your attention to the fact that farther down in that section it says:

The Commission shall not distribute any byproduct materials to any applicant—and shall recall any distributed materials from any applicant if certain conditions are not made.

I submit that the very important legal question involved there is that it must apply only to domestic distribution because only within the jurisdiction of the United States can we have any authority to recall and compel the return of isotopes.

Foreign nations, we can recall all we want to, but if they do not want to return, we have no power to do so. I think that is very—

Dr. OPPENHEIMER. In the drafting of the act was it explicitly decided by the committee that drafted the act—and most of you are still here—that all export of isotopes should be prohibited? I did not know this.

Senator HICKENLOOPER. I think the record makes it amply clear that the Congress, on passing this act, thought that no information nor aid whatsoever would go abroad until this troublesome problem of weapons and the safeguarding against the use of weapons in warfare had been reliably settled.

Dr. OPPENHEIMER. How then can one understand that you instruct the Commission to permit the dissemination of scientific and technical information relating to atomic energy?

Senator HICKENLOOPER. I think that can be done within the jurisdiction of the United States where we can control and retain control and retain supervision over—

Dr. OPPENHEIMER. Well, you see—

Senator HICKENLOOPER (continuing). That matter.

Dr. OPPENHEIMER (continuing). That goes beyond, so far beyond, any policy ever envisaged by the Manhattan District or the Commission that it would call for very thorough discussion. That means there will be no publication at all in unclassified form. That is going a long way.

Senator MILLIKIN. Doctor, I suggest that there is one overriding imperative in this act that is not technical, that is not legal, that controls every provision of the act, and that is as follows, in the very preamble, where it says:

Accordingly, it is hereby declared to be the policy of the people of the United States that, subject at all times to the paramount objective of assuring the common defense and security—

Dr. OPPENHEIMER. Right.

Senator MILLIKIN. Every consideration that has been mentioned here is subject to that overriding imperative.

Dr. OPPENHEIMER. It is with that in mind that the General Advisory Committee has made its many recommendations.

Senator MILLIKIN. And the doctor has stated that it did not contemplate that these isotopes would be used for military purposes abroad?

Dr. OPPENHEIMER. Pardon me.

Senator MILLIKIN. You have already testified that it was not contemplated in setting up classifications—

Dr. OPPENHEIMER. No.

Senator MILLIKIN (continuing). That isotopes would be sent abroad to aid military developments?

Dr. OPPENHEIMER. Absolutely right.

The CHAIRMAN. And the ones that have been sent abroad are the ones that we have not found it possible to use for our own military establishment?

Dr. OPPENHEIMER. That we have not in fact used for secret work.

The CHAIRMAN. Senator Vandenberg?

Senator VANDENBERG. Well, Dr. Oppenheimer, you are not only an expert in science, in nuclear physics, a field in which you have certainly rendered your country incomparable service, but you are also an expert in connection with the problems that are raised when we were writing this law, between those who wanted civilian control and those who wanted military control.

The civilian control wanted, and I think I ought to immediately say that I am one of those who unequivocally stands for continuing civilian over-all control——

Dr. OPPENHEIMER. You are right.

Senator VANDENBERG (continuing). But, Dr. Oppenheimer, you will recall that we composed that difference by the creation of a Military Liaison Committee which was supposed to be sort of a persistent and relentless watchdog in connection with security matters.

Will you give me your conception of what the responsibility of the Military Liaison Committee is? Perhaps that is too broad a question. Let me narrow it. When the Atomic Energy Commission confronts for the first time a shipment of isotopes abroad to a military establishment, would you not think it was elementary prudence, if not anything else, to ask for an affirmative advice of the Military Liaison Committee before it was done?

Dr. OPPENHEIMER. I am tempted to say "Yes," but to answer a question like that, I would have to——

Senator VANDENBERG. But you do not yield to your temptation.

Dr. OPPENHEIMER (continuing). Know more about the detailed working relations between the Military Liaison Committee and the Commission. My knowledge of these relations is that they are very good, but there is an understanding, as they get to be within any two organizations as to matters in which it is important for the two to consult, and as to matters in which the Military Liaison Committee is willing to waive its scrutiny.

Certainly, the main functions of the Military Liaison Committee are not the negative ones of guarding secrets, and so on, but the main functions are to be sure that the Atomic Energy Commission knows what it needs to do to increase the military strength of this country; what the priorities are, what the importance is, and that the services are prepared to take advantage of every new development and every improvement which takes place in the Commission laboratory.

It is this affirmative, purely military function, which is the principal function of the Military Liaison Committee, and I would think that in the light of the enormous number of problems that arise in this area, that you would have to go directly to the Commission or the Military Liaison Committee to see whether the referral of a specific case of isotope shipments should or should not have been made.

My temptation is to say "Yes" to you because it sounds like common sense.

Senator VANDENBERG. Well, if your overriding interest was not scientific, against which I do not complain, do you not think you would very definitely yield to the temptation to say yes, without reservation?

Dr. OPPENHEIMER. That proposes a hypothetical problem, rather difficult for me to grapple with.

Senator VANDENBERG. I think your answer is entirely satisfactory to me.

Senator MILLIKIN. The Doctor is also an expert in semantics. [Laughter.]

The CHAIRMAN. Are there any further questions?

Senator KNOWLAND. I have a question, Mr. Chairman.

The CHAIRMAN. Senator Knowland?

Senator KNOWLAND. Doctor, the other day we had some testimony before us which was testimony, as I recall it, which went to the point that in the event we had not shipped these isotopes abroad, they could be secured in other ways, and mention was made of the French pile and the British pile.

Leaving aside for the moment the desirability or lack of it in shipping either in the broad field or in the specific military usage, if that is possible, in that field, I would like you to clarify the point as to whether, as a matter of fact, the French pile, keeping to that for the moment, concentrated on that, would have been in a position to have supplied substantial quantities of radioisotopes of this nature?

Dr. OPPENHEIMER. My knowledge of the French pile is meager. I was there at Chatillon in September, and it had not yet been put into operation.

I believe that the answer is the following: It does not have a capacity comparable to the Oak Ridge, or the Harwell piles of the British.

If concentrated on any one specific objective it could probably meet—that is, it could have given the Norwegians several millicuries of iron, but it could not have done that at the same time as it did other things, as we do.

Senator KNOWLAND. Just for the record, Mr. Chairman, I would like to read at this point from the fourth semiannual report of the Atomic Energy Commission, page 10, wherein it relates to wartime development. It says:

But the cost and scarcity of isotopes would long have prevented their use in most laboratories had it not been for the wartime development of the nuclear reactor or atomic pile. These can manufacture radioisotopes in hitherto undreamed of quantities. For example, the Oak Ridge pile in a period of a few weeks has produced more than 200 millicuries of carbon 14, millions of times more than the amounts previously available. The operating cost was about \$10,000. Theoretically it would take 1,000 cyclotrons to equal this output, and the operating cost would be well over \$100,000,000.

I merely wish to ask this additional question: As I understood, you said that so far as you know, Norway, in this specific instance, or any other country, was not using radioisotopes for secret military purposes.

I would like to ask whether in the over-all picture of national defense and the defense of a country and its ability to either defend itself or if engaged in war to conduct a successful war, if defense in its broader term does not mean more than merely secret military development? It means the adequate hydroelectric resources, perhaps; it means adequate industrial resources; it means new types of weapons, to be sure, and new types of metals that go into weapons.

Now, in that broader—

Senator HICKENLOOPER. I suggest for the record—this is very important—that the reporter is not able to get the assenting nods of Dr. Oppenheimer's head. I merely suggest for the sake of the record that we get a verbal "yes," if we can, to these various categories of the question.

Dr. OPPENHEIMER. The nods indicate that I understand.

Senator HICKENLOOPER. But the nods—I see. [Laughter.]

Senator KNOWLAND. I will try to specify and give the doctor a chance to go over it.

Is it not true, Doctor, that the over-all national defense of a country rests on more than secret military development alone?

Dr. OPPENHEIMER. Of course it does, and in the case of this country, whose military strength is the prime military factor in the world today, it is far more true than in any other.

My own rating of the importance of isotopes in this broad sense is that they are far less important than electronic devices, but far more important than, let us say, vitamins, somewhere in between.

[Laughter.]

Senator KNOWLAND. Now, taking the question that was raised in the application by Norway—and again I want to reiterate that no one on this committee complains of Norway, because she is a fine country, has an able record for freedom; she is a North Atlantic Pact nation, and there is nothing meant in criticism there—but assume for the moment that any country, by the use of research with radioisotopes, could discover a better way of making steel that would stand high temperatures, which ultimately, as Senator Millikin points out, could be translated into the building of a better type of jet engine. Would not that knowledge be of tremendous value in the military defense of any nation?

Dr. OPPENHEIMER. From what I know of the situation, such a discovery would be of very slight use to the Norwegians; of enormous use to us, and of intermediate use to the British, because the ability to use basic information is largely a question of the vigor of your technology.

History again and again shows that we have no monopoly on ideas, but we do better with them than most other countries.

Senator KNOWLAND. All I am trying to develop, Doctor, at this point is, assume for the moment that a country with a substantial industrial background far brighter than Norway—let us take Russia as an example—if she were able to discover a better way of producing steel that could withstand high temperatures, would that be of value to her in her over-all national defense, in your judgment?

Dr. OPPENHEIMER. I think it was obvious that it would be of some value, but my understanding of the situation in Russia is that even when the basic facts are known, they have, and I think we have cause to be grateful, some difficulty in making practical application of them.

The CHAIRMAN. Mr. Holifield?

Mr. HOLIFIELD. Dr. Oppenheimer, the General Advisory Committee is composed of nine members appointed by the President, I believe?

Dr. OPPENHEIMER. That is correct, sir.

Mr. HOLIFIELD. At this time, Mr. Chairman, I would like to have these nine members' names put into the record, and then I will pursue the question.

(The General Advisory Committee referred to consists of the following members:)

Dr. J. Robert Oppenheimer, director, Institute for Advanced Study, Princeton, N. J., Chairman.

Dr. James B. Conant, president, Harvard University, Cambridge, Mass.

Dr. Lee A. DuBridge, president, California Institute of Technology, Pasadena, Calif.

Dr. Enrico Fermi, professor of physics, Institute for Nuclear Studies, University of Chicago, Chicago, Ill.

Dr. I. I. Rabi, chairman, department of physics, Columbia University, New York, N. Y.

Hartley Rowe, vice president and chief engineer, United Fruit Co., Boston, Mass.

Dr. Glenn T. Seaborg, professor of chemistry, University of California, Berkeley, Calif.

Dr. Cyril S. Smith, director, Institute for the Study of Metals, University of Chicago, Chicago, Ill.

Oliver E. Buckley, president, Bell Telephone Co., New York, N. Y.

The CHAIRMAN. I do not know what the subject of Mr. Holifield's question is, so let me put this question to you, Doctor:

Senator Knowland said if the information could be developed that would be helpful to the making of jet engines, whether that would become of value to a greater country like Russia. Now, under the terms of these shipments, the Norwegians are honor-bound to make the knowledge that they secure available to everybody which, of course, includes us?

Dr. OPPENHEIMER. Yes.

The CHAIRMAN. So that if they do get something of value, presumably we would know it as quickly as anybody.

Dr. OPPENHEIMER. That is exactly the point, and be in a far better position in 999 cases out of a thousand, to make real use of it.

The CHAIRMAN. Mr. Holifield?

Mr. HOLIFIELD. Dr. Oppenheimer, I wanted to ask you to what extent has the Atomic Energy Commission availed itself of the services of the General Advisory Committee?

Dr. OPPENHEIMER. Rather completely. We meet 2 or 3 days every 2 months or so. We get a good many communications from the Commission in between.

I would say that there were few, if any, cases where we wished the Commission had asked our advice, and they did not. In many fields we have a very great sense of responsibility because, whether the Commission would have followed the policies it has or not otherwise, I do not know, but its policies coincide with the recommendations of this committee.

Mr. HOLIFIELD. The Atomic Energy Commission has followed the recommendations which the General Advisory Committee has given them?

Dr. OPPENHEIMER. Yes.

Mr. HOLIFIELD. Your General Advisory Committee is, of course, completely independent of the Commission. Its members are appointed for varying terms of years by the President?

Dr. OPPENHEIMER. That is right, and they do not see eye to eye on many questions, so that we have a bit of breadth and debate.

Mr. HOLIFIELD. I see.

Now, have there been any important recommendations which your General Advisory Committee has made which the Commission has been diametrically opposed to?

Dr. OPPENHEIMER. I testified on this, I think, 2 months ago, and I think I testified "No," and I think the committee agreed with me.

We have often contradicted ourselves, but fortunately the time lag between the adoption of a recommendation and actual action is long enough so that these contradictions in what we have said have not been serious.

Mr. HOLIFIELD. In the evaluation of the work of the Atomic Energy Commission, has your General Advisory Committee considered that they have made progress and substantial accomplishment?

Dr. OPPENHEIMER. It is, of course, not our statutory job to evaluate the Atomic Energy Commission.

However, we met about a week ago, and we knew that the Commission was under criticism, and we felt that it was likely that one or another member of the committee would be called on to testify, and a statement was drafted at that time, which constitutes a kind of evaluation, and it was drafted with the idea that it could be presented by any member of the committee who was asked the question you just asked.

I would be glad to read it or have it read into the record. It is not very long, and it is a statement which was drafted by two members of the committee, but unanimously concurred in by every member of the committee, not only as a statement of what they believed, but as a statement that we would like to make to you.

May I read it?

Mr. HOLIFIELD. Proceed, please.

Dr. OPPENHEIMER. The General Advisory Committee, in accordance with its statutory obligations, has followed the scientific and technical activities of the Atomic Energy Commission with considerable care since January 1947. We have seen at first hand the grave difficulties which the Commission faced in assuming responsibility for an extremely complex enterprise which had been disrupted by the ending of the war and by a year of uncertainty pending the establishment of the Atomic Energy Commission.

When the Commission took over, the future of the whole enterprise was uncertain, the continuity of production of fissionable materials was far from assured, the design and development of improved weapons was nearly stagnant. In each of these respects, the picture has radically changed. Better weapons have been developed and tested, the production of materials has been substantially increased and assured, and a sound and forward-looking program has been established.

There have been occasions on which the Advisory Committee has criticized the Commission and offered suggestions for the improvement of its program, which suggestions have largely been followed. In all of our examinations of the Commission's activities we have seen a frank recognition of the problems of management inherent in any new undertaking and a steady progress in their solution. The improvement which has been achieved during the Commission's administration appears to us to offer clear proof of competence and devotion to duty by the Commission.

I make this statement available to you for your records.

Senator VANDENBERG. May I ask a question at that point?

Dr. Oppenheimer, is that presumed to include an evaluation of security and the problems related to it?

Dr. OPPENHEIMER. It says that it is based on our knowledge of the scientific and technical aspects of the work.

Senator VANDENBERG. That is what I understood.

Dr. OPPENHEIMER. Some parts of security are scientific and technical; for instance, declassification, the sending of isotopes abroad; these aspects are included. Personnel security is something that we have no first-hand knowledge of. Guarding is something that we have no first-hand knowledge of, and any statement that we make refers, (A) to the things that we see at first-hand and, (B) to the over-all impression we get by knowing the projects. They cannot be a specific indorsement of the nonscientific and nontechnical things.

The sense of this statement is that if a management were bad the progress could not have been good.

Senator VANDENBERG. But your committee pays little or no attention to the problem of security, as such; your discussions are essentially in the field of science.

Dr. OPPENHEIMER. We talk about declassification policy; we talk about things touching security, but personnel security, guarding, these are matters which we have either not touched at all or very, very little.

Senator VANDENBERG. Thank you.

The CHAIRMAN. In other words, your concern is directed primarily to security by achievement rather than security by concealment.

Dr. OPPENHEIMER. We also have to worry about security by concealment, but the sense of what we wanted to say was that the job was in good shape as a positive job, and that this showed that there was pretty good management.

Mr. HOLIFIELD. On those points, where scientific secrecy is necessary, such as the declassification of documents and the shipment of isotopes and such other related matters as do come under your scrutiny, are you in a position to say that the Atomic Energy Commission has followed your advice?

Dr. OPPENHEIMER. It has been a little bit more conservative than we would have been, but otherwise it has followed our advice.

Mr. HOLIFIELD. If they have erred, they have erred on the conservative side rather than going beyond your—

Dr. OPPENHEIMER. I am not sure we are right, but comparing the recommendations of the committee with the actions of the Commission, their actions have always lain within our recommendations.

Mr. HOLIFIELD. Now, many of the members of this committee, I am sure, feel that we owe a duty to the American people to carry to them an over-all true evaluation of this program.

In your opinion, is it necessary to reveal secret data or secret methods or secret projects in order to get that evaluation over to the people?

Dr. OPPENHEIMER. Let me answer that by an analogy. I was once a member of a group of which Mr. Lilienthal was chairman, which wrote a report on the international control of atomic energy.

In the preface to that we said that we had had access to a great deal of secret information which could not be revealed, and that this information had been important to us in arriving at our conclusions.

Nevertheless, we thought that the conclusions could stand without revealing the secret information.

I think a similar situation obtains here.

Mr. HOLIFIELD. In other words, conclusions as to the——

Dr. OPPENHEIMER. And evidence, too.

Mr. HOLIFIELD. And accomplishment of the atomic energy program can be made available on substantially authoritative grounds to the American people without resorting to secret information in order to either support it or detract from it?

Dr. OPPENHEIMER. I believe that there is enough in the public domain or that could and should be in the public domain to make an inquiry sound.

I think there is a lot that is not in the public domain, and that will limit the exhaustiveness of any public inquiry.

Mr. HOLIFIELD. Thank you, Doctor.

The CHAIRMAN. Mr. Cole?

Mr. COLE. Doctor, what was the recommendation of the General Advisory Committee with respect to the Commission's granting of scholarships, fellowships, to avowed Communists?

Dr. OPPENHEIMER. We made no recommendation.

Mr. COLE. Was the proposal of the commission with respect to fellowships submitted to the General Advisory Committee?

Dr. OPPENHEIMER. The initial proposal long ago?

Mr. COLE. Yes.

Dr. OPPENHEIMER. It was, and we commented on it favorably. That is all in your records.

Mr. COLE. What is your own opinion with respect to granting fellowships to avowed Communists?

Dr. OPPENHEIMER. I stated that—well, I stated my general opinions in a letter to the chairman, which was read into the record. I think if the problem were as straightforward as picking among two equally qualified people, one who is an avowed Communist and one who is not, it would be a very easy problem.

The problem is, how much trouble you take to find out whether a man is a Communist, and what do you do in the course of this, and there I have rather strong views, that a fellowship program which brings with it the investigative machinery that we use for secret things had better be dropped. It will do more harm than good.

Mr. COLE. You feel that the withholding of fellowships to avowed Communists is an invasion of academic freedom?

Dr. OPPENHEIMER. No.

Mr. COLE. Going back to isotopes, I would like to have your interpretation of the recommendation of the General Advisory Committee which is quoted to us as being as follows:

The conditions under which these materials will be sold at cost to an individual scientific laboratory are such as to insure that the sole purpose for which they will be used is for research or medical treatment.

Now, is it your opinion that that research to which reference is made in the recommendation is only research related to or in connection with medical treatment?

Dr. OPPENHEIMER. That was not our intention. In other places we said, "basic research."

Mr. COLE. Well, that partially answers my next question. What kind of research was intended when we used that expression?

Dr. OPPENHEIMER. Research directed at the discovery of the nature of the world of nature and man, and not research directed at the solu-

tion of a practical problem. There is no hard line, but there is such a great difference between development and engineering on the one side, and science on the other, that I think it is a pretty clear-cut thing.

Mr. COLE. Then, it is the recommendation of the committee that isotopes may be shipped for basic research even though that research—

Dr. OPPENHEIMER. That was our belief.

Mr. COLE. May have some relationship to eventual practical use?

Dr. OPPENHEIMER. Well, there is, I believe, no research in the world, of which anyone can guarantee that it will never have any relationship to eventual practical use.

It is awfully easy to tell in specific cases whether a man is busy developing a gadget and wants to improve a piece of it, or whether a man is curious about how things work, and is pursuing that curiosity.

There are borderline cases, and no words will ever cut that border absolutely clean.

Mr. COLE. That prompts me to make my final inquiry and to ask my final question: I am wondering how difficult it would be for the General Advisory Committee to enumerate the particular isotopes for which shipment abroad the committee recommends, or is the field of isotopes so completely variable and innumerable that it would be impossible to identify them and to list them?

Dr. OPPENHEIMER. I think that even the General Advisory Committee would assume a rather conservative use. You would not ship isotopes if you saw any danger, and you would not ship any isotopes unless you had a pretty good feeling they would be useful.

I believe we could extend the Commission's list. I know of no way in which we need to cut it back, but this is an undertaking which one member of the General Advisory Committee, Dr. Seaborg, who is one of the authors of this [indicating a pamphlet]—this is what is known about isotopes—could perhaps do better than the committee, as a whole. A committee is a bad agency to do any really useful work, as you know. [Laughter.]

Mr. COLE. The trouble with your statement that the committee is satisfied with permitting the shipment of isotopes except those which might have a dangerous use is that when you have to rely upon somebody's determination of what is dangerous and what is not dangerous.

Dr. OPPENHEIMER. Sure.

Mr. COLE. What I am wondering is if it is not possible for the General Advisory Committee to enumerate the isotopes which, in the opinion of the General Advisory Committee, are not dangerous.

Dr. OPPENHEIMER. I believe we could do that. My impression is that Dr. Pitzer, who is Director of Research, and Dr. Aebersold, who is in charge of the isotopes program, are probably better persons to do it than the General Advisory Committee. They are our colleagues who are scientists, and they have been living with these things for years.

I believe you would not get as good a job out of the General Advisory Committee, but there is no reason in principle why we should not take a day off and do it.

Mr. COLE. I should like to emphasize or make certain that I understand your statement. There have been no instances in which the

Commission has failed to observe the recommendations of the General Advisory Committee?

Dr. OPPENHEIMER. That is too broad a statement. I think I need to qualify it by saying that there are none sufficiently prominent so that any member of the General Advisory Committee remember it in the field that we are supposed to advise on.

Mr. COLE. Thank you.

The CHAIRMAN. Mr. Hinshaw?

Mr. HINSHAW. Mr. Chairman, before asking two or three questions of Dr. Oppenheimer, I should like to acknowledge, as I am sure the committee does, that the law, as agreed to and as enacted, is probably, and I might say no doubt is, an imperfect instrument in many, many respects, but assuming that the law is a law, the questions I would like to ask are as follows:

First, are radioactive isotopes included within the definition of atomic energy as contained in the act in section 18 (a), in your opinion?

Dr. OPPENHEIMER. The law was written by other people, and I do not know the answer to that question.

Mr. HINSHAW. Well, the law is in section 18 (a), and I thought, perhaps, having read it that you might be able to——

Dr. OPPENHEIMER. Let me say, if I take those words strictly, I include every source of energy except tidal power. If you say that does not make common sense, then I have got to ask you what is common sense?

Oil is made as a result of the absorption of sunlight which is generated by the reaction of nuclei in the sun. If you want me to take the law strictly, you have got a very broad kind of definition. If you want to define atomic energy in a practical way, I will understand your definition, but do not ask me to make it.

Mr. HINSHAW. Mr. Chairman, I would assume that the committee in drafting the act, and I was not a member of the committee at that time, called upon competent scientific personnel in the drafting of section 18 (a). I do not know whether Dr. Oppenheimer was one of those who was called upon to help draft that section or not.

Dr. OPPENHEIMER. I was not.

Mr. HINSHAW. But in all events, would your answer to the question in its strictest sense then include the radioactive isotope as coming under and within the definition as contained in section 18 (a)?

Dr. OPPENHEIMER. If I were to define atomic energy for the purposes of this act, I would exclude radioactive isotopes from the definition.

Mr. HINSHAW. Well, I acknowledge that we, perhaps, should amend the act accordingly, but I just asked a question.

Dr. OPPENHEIMER. I would also exclude oil and human beings and coal.

Mr. HINSHAW. Section 18 (a)——

The CHAIRMAN. Everything?

Dr. OPPENHEIMER. Well, tidal power, you may be able to get by.

The CHAIRMAN. Tidal power?

Dr. OPPENHEIMER. Yes, I am not sure.

The CHAIRMAN. The movement of the ocean?

Dr. OPPENHEIMER. Of the tides; yes, sir. It is not known whether that results from nuclear transmutation.

The CHAIRMAN. Is that the only exception?

Dr. OPPENHEIMER. It is the only exception I know of.

Mr. HINSHAW. Section 18 (a), if I may be privileged to read it again, is very short, and reads as follows:

The term "atomic energy" shall be construed to mean all forms of energy released in the course of or as a result of nuclear fission or nuclear transformation.

Now, that term applies directly to energy and does not apply to matter, as such, as I understand it, and its energy relations; therefore, under the terms of that definition, would radioactive isotopes constitute a form of energy released in the course of or as a result of nuclear fission or nuclear transformation?

Dr. OPPENHEIMER. An isotope is not energy. It is a source of energy, just as oil is not energy but a source of energy. I am not a lawyer, and the advice I give the committee on these matters will be of no use. I do not mind chatting with you about them, but I advise you against taking my remarks seriously. [Laughter.]

Mr. HINSHAW. Well, I am sure the committee always takes the doctor's remarks seriously, as he is considered to be one of the outstanding authorities on the subject.

My second question follows by virtue of the fact that under the Commission's Fourth Semiannual Report, there begins on page 14 a long dissertation under the general heading "Distribution of isotopes."

On page 28 there begins a section on industrial utilization which runs for two pages in the Fourth Semiannual Report.

Now, the question is, does the shipment of radioactive isotopes to a foreign military establishment constitute in your judgment a transmission of information with respect to the use of atomic energy for industrial purposes?

Dr. OPPENHEIMER. I have already testified that in my opinion the intent of the law should have been different than to exclude these, but what the intent of the law is you cannot get by asking me.

Mr. HINSHAW. Mr. Chairman, I submit that it is very difficult indeed to find out what the law means when we would like very much to know.

Dr. OPPENHEIMER. I think the law needs to provide that we should not encourage or help development in foreign countries which will lead to the accumulation of large numbers of atomic weapons. That is a big point. Let us keep our eyes on that ball.

The CHAIRMAN. And that the intent of the act in that respect as far as you know has not been violated, has it, Doctor?

Dr. OPPENHEIMER. It certainly has not.

Mr. DURHAM. Well, there is a possibility, Doctor, that we may be struggling with this problem beyond this element; we may be struggling with it in all of the elements, a good part of it.

Dr. OPPENHEIMER. I regard the isotope problem which I have talked about this morning as really very slightly affecting security, and for that reason it is one of the few areas in which we are free to act the way we would like to act, generously, imaginatively and decently; in the things that involve security we are inhibited from doing that and, our friends abroad understand that.

Mr. HINSHAW. Mr. Chairman, in conclusion, I submit that perhaps the law should be amended, but that it is very difficult in the meantime to find out what a proper interpretation of the law is in respect to the subject of the shipment of isotopes for industrial purposes.

The CHAIRMAN. Mr. Jackson?

Mr. JACKSON. Mr. Chairman, I would like to ask a couple of questions, I think, which may be slightly repetitious and with respect to which there may be a slight reiteration, but I want to get to the heart of this problem.

The committee has been discussing isotopes in public hearings.

I think the American public would like to know whether the conduct of the Commission in connection with the dissemination of isotopes abroad, as related in the hearings this morning, jeopardize the security of this country.

Dr. OPPENHEIMER. I believe that it was in the interest of the security of this country, and I will spell that out. I believe that for a country of the size and wealth of Norway, to establish its own atomic energy program is both a discouraging process and a temptation. I believe that if we took an absolutely rigid attitude with regard to noncooperation in places where security was not involved, we would be encouraging all agencies abroad to make themselves totally independent of us.

They would have trouble doing that, but it certainly would not be in the interest of the security of the United States for us to follow that line.

Mr. JACKSON. I am glad, Dr. Oppenheimer, that you mentioned the place of Norway because it has played a rather prominent role in the discussion of the exportation of isotopes.

You feel, then, that the exchange of information, of technical information, that may come from the export of isotopes to Norway, may ultimately benefit the United States?

Dr. OPPENHEIMER. Oh, I have no doubt of it.

Mr. JACKSON. You have no doubt of it.

Do you know of the scientific personnel in Norway? Do you know something about them?

Dr. OPPENHEIMER. I know some. A number of Norwegian mathematicians and physicists have visited the Institute in Princeton. They are excellent workers. I do not know the people involved in this iron 59 job.

Mr. JACKSON. Getting away from legal semantics, Dr. Oppenheimer, and to again get to the heart of the Atomic Energy Act, do you feel that possibly the real purpose of the restrictive provisions of the act, dealing with exportation of certain matters, were for the purpose, the overriding purpose of protecting the secret of the bomb and to prevent a potential enemy or other countries, other foreign countries, from getting information that would result in the accumulation or the development of atomic bombs?

Dr. OPPENHEIMER. That is just about it. I do not see why the United States should take actions whose effect will be to stimulate atomic energy for military purposes abroad.

Mr. JACKSON. Dr. Oppenheimer, I am sure there is not any man living who can possibly assure the people of this country from a technical standpoint like you could at this time. In connection with this isotopic problem, as far as exportation is concerned, can you assure the people of this country that we are not jeopardizing our security in the way the program has been handled up to this time?

Dr. OPPENHEIMER. I certainly can.

Mr. JACKSON. And, Dr. Oppenheimer, some mention was made of the fact that in connection with the isotopic research, that it might result in certain improvements in materials that could be used for war purposes. Is it not true that we are engaged in the United States in open research that is available to other countries, that likewise could be used for—

Dr. OPPENHEIMER. Of course.

Mr. JACKSON (continuing). Military purposes?

Dr. OPPENHEIMER. There are three open users of iron 59 for studying the diffusion of iron in alloys. All of this work will be published.

Mr. JACKSON. And that situation is comparable to the isotopic problem we are discussing here?

Dr. OPPENHEIMER. It is that. It is the same isotope as in Norway.

Mr. JACKSON. Dr. Oppenheimer, you were the wartime Director of the Los Alamos Laboratory?

Dr. OPPENHEIMER. Yes; I was.

Mr. JACKSON. I wonder if you would care to comment on the present caliber of the laboratory at Los Alamos as compared with the situation that you had to face possibly under the Manhattan project? What improvements, if any, have been made, and what progress has been made?

Dr. OPPENHEIMER. I will not testify against myself. During the war we had the best laboratory in the world there. But I think that it is generally regarded by my colleagues that Los Alamos is the best Federal laboratory and the best laboratory working on a military job that there is in the country. And I feel, with all the confidence in the world, that it is a very good laboratory. Its morale is good; its product is good; it has learned a number of things; and it has the courage to try out a number of new things and it is air-borne.

This being air-borne is the result of many things, but it is very largely a result of the understanding, the encouragement, the babying if you want, that the Commission has given it. The laboratory could have gone to pieces. It has not. Its director is a fine fellow.

Mr. JACKSON. I know that you did a fine job in the laboratory during the war. We have been throwing words around here so much this morning that possibly my intent was not clear.

But what I want to get from you is whether or not you could say that we were making real progress at Los Alamos, and are you satisfied with the progress, if any, that has occurred since the Atomic Energy Commission has taken over?

Dr. OPPENHEIMER. I am very much satisfied. Quite a number of very important improvements in atomic weapon design and atomic weapon manufacture have been worked out. The present program of the laboratory is to carry this further and to get into some new and more difficult things.

It is a sound program; it is soundly conceived; and it is going forward full steam ahead. It is not a wartime effort. It is not the kind of 100 percent, everybody-in thing that we had in the war; but we would not expect that. And it is a very, very good laboratory.

Mr. JACKSON. Considering all the factors, then, that exist today, you feel that every reasonable and prudent effort is being made to protect the security of our country?

Dr. OPPENHEIMER. Every possible effort.

Mr. JACKSON. One or two other matters, Dr. Oppenheimer. Mr. Lilienthal has testified from time to time in connection with security problems that security involves more than guards, fences, and personnel clearances.

I wonder if you would care to comment, if you might—if you feel free to do so—on the security program very briefly of the Commission.

Dr. OPPENHEIMER. I think the Commission has had a very, very difficult time reconciling the provisions of the act and the needs for reliability on the part of its personnel with the kind of freedom and spontaneity which is required if real progress is to be made.

My feeling is that the Commission has sweated blood over that one and come up with about as good an answer as it is possible to get. I do not think anybody can be happy at the fine-tooth combing that has to be given to every man that has to work on the atomic energy program. But one understands why it is; and as long as it is restricted to those places where there are some secrets to be kept, people will stand for it.

I think the Commission has balanced very carefully, in the few cases I know about, the requirements of security and the requirements of progress and of humanity. It has not been easy.

Mr. JACKSON. Considering the problem of a secrecy, in the first instance, being foreign to our democratic way of life, and the conflicts that arise in the field of science: Do you feel that they have struck a balance that, as its ultimate result, will provide for real security for our country?

Dr. OPPENHEIMER. I think they can go further toward making information public which is now secret. But I think that since that is an irreversible step, they have been very prudent and very good in handling it. I do not think they have gone far enough.

Mr. JACKSON. Has the General Advisory Committee made a statement in connection with the shipment of isotopes?

Dr. OPPENHEIMER. Oh, yes. Your records are full of statements.

Mr. JACKSON. I mean recently?

Dr. OPPENHEIMER. Recently it simply said that it agreed with itself.

Mr. JACKSON. Including the Norwegian shipment?

Dr. OPPENHEIMER. It did not say anything about Norway, largely because the detailed evidence of what that case was, was not available to us. But the most qualified member of our committee, the metallurgist, expressed the opinion that it did fall within the intent of the Commission's work.

Mr. JACKSON. One last question, Dr. Oppenheimer. Considering the knowledge and information that you have of the over-all program of the Commission, and bearing in mind the work that you have done in connection with the Manhattan project, are you satisfied as a whole with the program of the Atomic Energy Commission and with its management?

Dr. OPPENHEIMER. I certainly am. As a member of the General Advisory Committee, it is my job not to be satisfied. Here it is my duty, and my pleasure, to be satisfied.

Mr. HOLIFIELD. Will the gentleman yield?

Mr. JACKSON. Yes.

Mr. HOLIFIELD. Dr. Oppenheimer, in regard to the shipment to Norway of these isotopes, is it not true that the atomic energy project and

the scientists of this country owe a great deal to a Norwegian scientist by the name of Neils Bohr and some of his associates?

Mr. JACKSON. He is Danish.

Mr. HOLIFIELD. My Norwegian colleague is very zealous.

Dr. OPPENHEIMER. Even the disputes to which this committee has been host are trivial compared to those as to the relative merits of the Danes and the Norwegians. If I could keep out of those, I would appreciate it.

Mr. HOLIFIELD. I will grant you to keep out of them. But there is a well-developed scientific group in Norway.

Dr. OPPENHEIMER. That is quite true. Hillaraes was one of their most well-known people at the Princeton Institute last year.

Mr. HOLIFIELD. They cooperated with this country freely and frankly without reservation as far as you know?

Dr. OPPENHEIMER. As far as I know; yes, sir.

Mr. HOLIFIELD. Thank you.

Senator KNOWLAND. Mr. Chairman, I have a few questions to pick up matters in relation to the committee other than the scientific end—leaving aside security—which you have already made abundantly clear.

What I would like to ask, being familiar with the law as to its drafting, of course as you gain experience under a law, regardless of what it is, you perhaps can find ways of improving it, has the Commission, for instance, ever considered in the set-up of the Commission and the General Manager, where the General Manager is appointed by the President directly and confirmed, rather than being directly responsible to the Commission which might otherwise appoint him and hold him responsible to them—has the General Advisory Committee given any thought from an organization chart point of view where the existing law might be improved?

Dr. OPPENHEIMER. On this point we have certainly not. Occasionally, when you follow a technical point, you ask the question: Why are things not going better? And sometimes this refers to organization. This is usually organization on a lower level, and the question you have raised is not one that we have discussed.

Senator KNOWLAND. It has not come up before?

Dr. OPPENHEIMER. My impression is that the individual members of the General Advisory Committee have very different views—separately different views—on how the Atomic Energy Act should have been written.

Senator KNOWLAND. Secondly I should like to ask: You are familiar with the testimony before the committee regarding the loss of some material at Argonne, which they believe they have found substantially all of, perhaps with the exception of 4 grams, I believe.

Could you, from your expert knowledge, tell the committee—assuming just for the moment that the 4 grams did get into hands where they should not be—how valuable the loss of that amount of material, or the gain of that amount of material, might be to a country that was embarking on a program that you were working with a few years ago?

Dr. OPPENHEIMER. It doesn't seem to me decisive. But in order to judge it, I need to know what country had it. At Los Alamos we were very glad to get the first samples of material. But that was because

our mission was to interpose no day's delay between the arrival of the material and the readiness of the bomb.

If we had had another month or so, I don't think we would have been affected. That is the thing which makes these even small samples valuable, a very tight—tight by weeks and months—time schedule. I do not think it would affect the time schedule by any appreciable time, whether we did or did not have it.

Also, 4 grams is not a precisely critical amount; and my understanding is that it was not even isotopically pure. The general feeling I have is that even if the evidence before us is misleading, and material had been abstracted, it would not be something to ring the bell about.

Senator KNOWLAND. My recollection is that the report of the Canadian Royal Commission has amply shown, I believe, that two milligrams was the amount which had been—

Dr. OPPENHEIMER. You see, that is, on the one hand, material which does not exist in nature and which is pretty hard to make by cyclotron bombardment. On the other hand, it was 4 years ago.

Finally, the point there was not how valuable this would be to the enemy, but what a terrible thing it was that it had been given to them.

Senator KNOWLAND. There are both phases of it.

Dr. OPPENHEIMER. We were certainly, at Los Alamos, very glad to get our first plutonium. Uranium-235 was never such a thing. Plutonium was a new substance. We had the feeling—perhaps wrong—that 100,000 lives, maybe more, might depend on whether this thing was ready August 1, September 1, October 1.

Senator KNOWLAND. In other words, as I understand your testimony, it would be of value but not decisive.

Dr. OPPENHEIMER. That is right.

The CHAIRMAN. Senator Hickenlooper?

Senator HICKENLOOPER. Dr. Oppenheimer, the production of weapons and the application of materials, for instance, at Los Alamos is not done by the Commission, is it? It is done by a contractor—the University of California?

Dr. OPPENHEIMER. It is also not done by the contractor. It is done by some fellows. The contractor during the war years was an extremely helpful and able contractor, but was really distinguished primarily by his absence. Since then the university has been allowed to take a somewhat more active part.

But the Commission is dealing with technical people who are paid and protected by the University of California, but who are not normal employees of the University of California, who are not doing a normal thing for the University of California to be doing.

And the policies under which the laboratory is run, the technical directives for the laboratory, the employment policies, the conditions of work, are not determined by the contractor. They are determined by the Commission.

Senator HICKENLOOPER. You mean to say that the University of California does not have a contractual responsibility for the completion of those activities out there?

Dr. OPPENHEIMER. I do not know. During the war the University of California never saw the directives and had no idea what the directives said.

Senator HICKENLOOPER. We are talking about now.

Dr. OPPENHEIMER. I do not know the answer to that question. But my guess is that the directives are agreed to by the laboratory staff and the Commission, that they are written out, and that the role of the contractor is very minor.

Senator HICKENLOOPER. And that the laboratory staff is paid by the University of California. Is that correct?

Dr. OPPENHEIMER. It is paid through the university.

Senator HICKENLOOPER. Reimbursed by the Commission.

I again want to clarify the issue that at least I raised the other day. The issues are not any criticism of the country of Norway, in any way, shape, or form. I did not raise the issue of any criticism of the general isotope programs announced. I state no position either for or against the general isotope program.

The criticism I raised was the opening wedge, as I believe it, of the furnishing of isotopes to a foreign power over whom we have no ultimate control. We may have argumentative influences on our side, but once the isotope is gone, we have no legal control over it; we have nothing but the so-called good faith to go on in any of these countries, after the isotope gets out of our hands.

The criticism was raised that this could be the opening wedge in a policy for the furnishing of isotopes which could supply information which would operate in war potential, whether it is atomic bomb making or high-speed steel or high heat-resistant steel for jets, or any other thing which could be used in war.

Now, that was the sole issue that I raised, and I still do not raise objection or agreement to the general program of isotope distribution for humanitarian purposes.

Dr. OPPENHEIMER. You merely say it is illegal.

Senator HICKENLOOPER. No. I say it is more than illegal. I take the position that when we furnish isotopes that are the tools for the discovery of new laws or new uses or new applications of things such as steel in a military institute, or other things, that we are embarking on a program which I believe is outside the purview of the law, and which is inimical to our national defense because of the lack of control we have over the use of those things.

The CHAIRMAN. May I interject a question?

Senator HICKENLOOPER. Surely.

The CHAIRMAN. Assuming your state of mind to be as you have related it here, would it be possible to serve the proposition of the dissemination of these radioisotopes for medical and biological research abroad, as you have indicated that you would like to do, without coming within the prohibition of the law as you understand it?

Senator HICKENLOOPER. I have repeatedly said that I am neither approving or opposing, at this time, the question of the over-all isotope policy. I may reach that point at a later date when our definitions are better.

But I do not care to get into that particular phase because it is getting afield from the specific thing that I wanted to raise.

May I ask you, Dr. Oppenheimer: Do you know Dr. Shoupp, head of the nucleonics department of Westinghouse Laboratory?

Dr. OPPENHEIMER. I know him, but he is not a close friend of mine.

Senator HICKENLOOPER. It was reported here—I have not seen the clipping myself—that he a few days ago, or in the immediate past, stated in effect—the statement is in the hearings of June 9—

Dr. OPPENHEIMER. I have seen the statement.

Senator HICKENLOOPER. That isotopes are helpful and are being used for heat-resistant steel at high-temperature investigations and for gas turbines, jet engines; and I believe it has come out that isotopes are valuable in research in biology; and I believe it has been stated that isotopes can be used in connection with the mutations of bacteriological forms in that study.

Dr. OPPENHEIMER. I was unable to make head or tail of that statement. I may be wrong, but I was told that there is not a single case where exportable isotopes are being used for military secret research.

Senator HICKENLOOPER. How would you know?

Dr. OPPENHEIMER. From the records of the Commission.

Senator HICKENLOOPER. How would the Commission know, except from the statements that are being made by the users?

Dr. OPPENHEIMER. I am not talking about abroad. I am talking about America. And Dr. Shoupp notwithstanding, Westinghouse proposes to publish the results of its research. This is "scuttlebutt" and should not be in testimony; but I am told that Dr. Shoupp regrets the misinterpretation of what he said.

Senator HICKENLOOPER. I do not know about that.

Dr. OPPENHEIMER. I do not know either. It is hearsay.

Senator HICKENLOOPER. We do not export all of the isotopes that we produce, do we?

Dr. OPPENHEIMER. No.

Senator HICKENLOOPER. Why don't we?

Dr. OPPENHEIMER. The reason we do not export plutonium is that its properties are of interest in the manufacture of atomic weapons.

Senator HICKENLOOPER. It furnishes information?

Dr. OPPENHEIMER. It furnishes information about a highly secret undertaking. If we will take the isotopes separately, I may be able to give you the answer; I may not. I do not know the reason why certain ones are not exported.

Some radioactive isotopes have been used at Los Alamos, but both the nature of the isotopes and the quantities have no relation at all to what is being shipped abroad.

Senator HICKENLOOPER. Doctor, may I ask you this. You are perfectly at liberty to answer it or not, as your judgment dictates.

Have we made, in our atomic energy program, the progress and the accomplishment in the production of atomic weapons that we would have made had the Commission vigorously accepted the program and the recommendations in general of the General Advisory Committee?

Dr. OPPENHEIMER. I think the answer to that question is "Yes."

Senator HICKENLOOPER. Has your General Advisory Committee ever, as a committee, been critical of the administrative procedures and the administrative actions of the Commission?

Dr. OPPENHEIMER. Not as a committee, sir; no.

Senator HICKENLOOPER. Have you ever communicated, either as an individual or as chairman of the committee, substantial criticism of the Commission?

Dr. OPPENHEIMER. I have; and the Commission has responded, I believe, wholly to that criticism. Do you wish me to describe this?

Senator HICKENLOOPER. Not necessarily. I do not want you to describe anything—

Dr. OPPENHEIMER. It is a perfectly well-defined point. We felt that some of the activities of the Commission would prosper more if the lines of authority were functional rather than regional; and I so advised the Commission and stated that this was the individual opinion of a number of members of the General Advisory Committee.

Subsequent to that—but I think not entirely as a result of it—the Commission in fact adopted a more functional organization. That is the only case that I can remember.

Senator HICKENLOOPER. That is all I have at this time.

The CHAIRMAN. Mr. Jackson, do you have another question?

Mr. JACKSON. I would like to see if we can clarify the issues on this. What phase of the program related to isotopes was the Commission being criticized for?

As I understand it, the shipments of isotopes started in 1947. That has been known for a long time, and maybe the statute of limitations will start running, as far as any mismanagement of that phase.

Am I to understand that the criticism was directed solely to the shipment to Norway, or is to go to the whole program of the dissemination of isotopes?

Senator HICKENLOOPER. Do you want me to answer that?

Mr. JACKSON. Yes.

Senator HICKENLOOPER. I have repeatedly said it is the principal shipment to Norway that is illustrative. I have nothing against Norway; no one has anything against Norway. They are our allies and our friends.

But it is the principle of opening the gates, if you please. It is the camel getting its head under the tent and the shipment of isotopes which can be used and which, if this policy is continued, undoubtedly will be used for industrial investigation which in turn can be used in various parts of the world inimical to our own national defense.

It is a question of having it carried step by step to further release of information in a policy which I think should not at this time, without a change in the law, at least, and good consideration, be adopted.

Mr. JACKSON. The shipments prior to the Norwegian shipments, then, are satisfactory?

Senator HICKENLOOPER. I have said repeatedly that I am not raising that question at this time.

Dr. OPPENHEIMER. I think there is a general point. The attempt to maintain a monopoly of atomic weapons is a holding operation. It is an important holding operation. It is not an operation that can go on indefinitely.

The British have powerful reactors; the French have a weak reactor; and presumably will have a powerful one.

We have a great interest in not overstimulating the development of atomic energy abroad. If we try to act as though 1950 were 1945, we will be defeating the very security we are trying to achieve.

It is not that it would not be desirable to hold this monopoly; it is that it is not possible.

Senator HICKENLOOPER. But, Doctor, we have talked a great deal about building atomic weapons abroad. This does not necessarily go to the building of atomic weapons. It goes to industrial potentials which can kill people just as well as atomic weapons can kill people and which can defeat a nation in war if they have a superabundance

of them or better equipment, just the same as atomic weapons can kill people in war.

And this is that point and not the fabrication of atomic weapons that I believe is one of the vital and important points involved in this particular new policy.

At least, I consider it a new policy.

Mr. JACKSON. Mr. Chairman, I have one last question.

The CHAIRMAN. All right, Mr. Jackson.

Mr. JACKSON. Mr. Chairman, I believe there have been some statements made here to the effect that when you ship isotopes abroad, we have no control over them; that there is always a possibility that instead of being used for medical research, they might be used for research in basic metals and so on.

I would like to ask this question: If that is true, how can we carry on any phase of the isotopic program if we do not have faith in the countries that we make these agreements with?

Senator HICKENLOOPER. Mr. Chairman, I would answer that: If we could control the situation with absolute assurance, the same argument could be used in favor of giving away the entire scientific methods and details and techniques of making atomic bombs.

Mr. JACKSON. I do not think it applies at all, Mr. Chairman, for the simple reason that Dr. Oppenheimer has testified that the materials that are being shipped do not have anything to do with the bomb, that their purposes are for basic research. As long as the fissionable products are not exported there is no danger. Is that correct, Dr. Oppenheimer?

Dr. OPPENHEIMER. That is about it.

Mr. HINSHAW. Mr. Chairman?

The CHAIRMAN. Mr. Hinshaw, may I interject a question?

Mr. HINSHAW. Certainly.

The CHAIRMAN. As I understand it, doctor, the basic proposition you advance is that the radioisotope is not the source of atomic energy as we have heretofore considered it. Is not that the basic proposition?

Dr. OPPENHEIMER. On the legal side, I think that atomic energy should be so defined. On the substantive side, I think the procedure of making materials for basic studies abroad contributes to the security of this country in innumerable ways, and that the record of our own use of these materials shows how insignificant and illusory the dangers are.

The CHAIRMAN. Radioisotopes, it is claimed, are useful for industrial purposes. It is atomic energy for industrial purposes that we intended to prohibit by law.

Dr. OPPENHEIMER. I think this mean kilowatts.

The CHAIRMAN. Now, radioisotopes, not being atomic energy, as it is scientifically defined, are not connected with the prohibition that is contained in the statute against the dissemination of information with respect to the use of atomic energy for industrial purposes; am I correct about that?

Dr. OPPENHEIMER. That is an interpretation of the law which strikes me as sound common sense. I do not know what more I can say. Atomic energy is not a scientific phrase.

The CHAIRMAN. As the author of the act, that was my interpretation.

Dr. OPPENHEIMER. Good.

The CHAIRMAN. Mr. Hinshaw?

Mr. HINSHAW. Doctor, for the purposes of our information, in science what is the definition of 1 millicurie?

Dr. OPPENHEIMER. It is one one-thousandth of a curie. And a curie is defined as a rate of disintegration. It is the rate of disintegration of one gram of radium. It is the number of nuclear events occurring per unit of time. A millicurie is one one-thousandth of a number of nuclear disintegrations occurring when you have a gram of radium.

Mr. DURHAM. What part of a grain, Doctor?

Dr. OPPENHEIMER. A gram. A gram is a thousandth of a kilogram, about one four-hundredths of a pound.

Mr. HINSHAW. May I ask, then: Quantitatively, can one point out what I millicurie of carbon 14 is in terms of weight of carbon 14?

Dr. OPPENHEIMER. I can figure it out, but it will take a little while.

Mr. HINSHAW. I wouldn't ask you to do that here. But on page 10 of the Commission's Fourth Semiannual Report, as read by Senator Knowland, it refers to the fact that—

In the Oak Ridge pile more than 200 millicuries of carbon 14 were produced; millions of times more than the amounts previously available. The operating cost was about \$10,000—

which, as I figure, would be about \$50 per millicurie.

Dr. OPPENHEIMER. The answer is roughly one one-thousandth of a gram, a millicurie.

Mr. HINSHAW. A ten-thousandth of a gram?

Dr. OPPENHEIMER. Roughly.

Mr. HINSHAW. Then it says:

Theoretically it would take 1,000 cyclotrons to equal this output. The operating cost would be well over \$100,000,000—

which I figure to be \$500,000 per millicurie. That is a very expensive little item.

Dr. OPPENHEIMER. It certainly is. It was discovered just before the war. The normal carbon isotope that was used in research was carbon 11, which is cheap to make, but it lasts a very short time. And in studying the growth of plants, where processes are slow, and the natural times of the orders of days, it was very hard to make progress.

The discovery of carbon 14 is one of the great events in the history of biochemistry and biology. And it does not take much because you do not detect the material by weighing it; you detect it by the radiation it emits. And that is a very sensitive way of detecting material.

Mr. HINSHAW. I take it it would be worth about \$5,000,000,000 a gram at the amounts you produce it.

Senator HICKENLOOPER. Mr. Chairman, I would like to ask Dr. Oppenheimer: These comparisons, when people say "A milligram is so little you can hardly see it," in dealing with this particular nuclear science submicroscopic amounts have been very, very important to many of these things, have they not? And very, very small amounts, almost unseeable smears, have been very important, and give very important answers?

Dr. OPPENHEIMER. In precisely the sense in which I spoke to Senator Knowland. If you have a rising production and you want to be ready on A-day and not have any loose ends, then you have got to take advantage of the first time you get a little smudge of something.

If you do not care whether you are ready in February or in April, I do not think the small amounts have any great consequence.

Senator HICKENLOOPER. But in determining rates of decay, for use in bombardments that give you certain answers, infinitesimal amounts almost are very important in those researches, are they not? You do not have to have a pile as big as a teacup.

Dr. OPPENHEIMER. Let me testify that infinitesimal amounts of some of these materials got us so thoroughly confused that we might have been better off if we had not had them. You get information, but what you get is not always right.

Senator HICKENLOOPER. You started some of the original studies, when this enterprise began as an enterprise, with very, very small amounts, and you had to run cyclotrons for a long period of time to develop even 1 millicurie or less.

Dr. OPPENHEIMER. That is absolutely right. I want to emphasize the importance of this was in meeting a deadline, rather than in accomplishing a successful project.

Senator KNOWLAND. Doctor, if a person, or country X, did not have the bomb, they might consider that they were trying to meet a deadline and therefore might put top priority on getting their hands on a very small amount. Is that not correct?

Dr. OPPENHEIMER. It is certainly conceivable.

The CHAIRMAN. Doctor, we do not want to keep you unduly, but I want to ask you a question about the morale of the scientists associated with the atomic energy program, compared to what it was in the past. Is it good, better, or worse? What is your estimate of that?

Dr. OPPENHEIMER. I think the first years of the Commission's administration were in many places a period of great solidification of morale. The laboratory that is closest to me is Los Alamos, and it has certainly changed from the laboratory that was insecure and rather hesitating in its technical work, to a forward-looking, vigorous establishment.

The morale of the scientists engaged in making weapons of war is always going to be an unstable thing. We know that. We do the best we can.

A fair, considerate administration is one indispensable thing, and it is my belief—I would like to testify to this—that one of the real reasons for the success of the project is that the Atomic Energy Commission, the Commissioners under the Chairman of the Commission, have understood that the program was only so good as the morale of the men that were doing the work.

The CHAIRMAN. One final question, Doctor. Are you satisfied with our weapon progress since the end of the war?

Dr. OPPENHEIMER. It is my business not to be satisfied, but I am. It is my business to try to find points where it should be criticized. But it is far better than I thought it would be.

The CHAIRMAN. Senator Hickenlooper?

Senator HICKENLOOPER. Doctor, you spoke a while ago about new weapons being tested. Is it not a fact that the new weapons that have been tested were weapons the basic design of which had been developed under the Manhattan District, and that this was merely going forward and improving those basic designs?

Dr. OPPENHEIMER. Some features of the weapons tested were features which I asked General Groves to let me incorporate in the

bomb that did not go to Japan because the war was over. Other features were features which we did not then know how to realize, though we knew very well that we ought to try.

The realization of these is a technical achievement which is not trivial. The present work of the Los Alamos Laboratory is on a series of things, all of which were somewhere in the air, surely, but which looked very hard to do and very tough to the wartime Los Alamos Laboratory.

I think this is just the way it ought to be. They have cleaned up things left over from the past, and they have found new things to do; and this is the root of progress.

Senator HICKENLOOPER. One other question about the morale, the scientific morale.

After the bomb dropped on Hiroshima, and the war was coming to an end, there was a period there of very substantial doubt when no one knew what the future of the atomic energy program would be.

Dr. OPPENHEIMER. Of course.

Senator HICKENLOOPER. In fact, no one knew what we were going to do about it at all.

Dr. OPPENHEIMER. Right.

Senator HICKENLOOPER. So in the last phase of the Army operation people were merely marking time; is that not true? Because they did not know what the plan for the future was. And it was not until the Atomic Energy Act was passed and the policy of this country was written into law, and they knew that a civilian group was going to be appointed to take it over, that anybody could really rely upon what the policy of the country would be.

Dr. OPPENHEIMER. That is right.

Senator HICKENLOOPER. Now, then, during that period of time, and up until the time that the Commission took over, there was still a marking of time until the policies to implement the law had been put into effect by a new Commission.

Dr. OPPENHEIMER. Right.

Senator HICKENLOOPER. So that to that extent is it not that the main extent to which the so-called morale was a little shaky, the uncertainty and the period—

Dr. OPPENHEIMER. That is one of the factors. I think that it can be put awfully simply: When the war was over most scientists hoped, as did most Americans, that we would not have a cold war next, but that we would have peace. And that year, during which the Commission was being established and the law written, was also the year in which it was becoming clear that we were not going to have peace, and that we were going to have to have a lot of talented young American scientists working on atomic energy problems for destructive purposes.

I do not believe that you could have expected a very flourishing performance between the summer of 1945 and the fall of 1947. And it was not the intention of the General Advisory Committee, nor mine, to reflect on the administration of the project then, but only to indicate that what the Commission inherited was a tough cookie.

Senator MILLIKIN. Mr. Chairman?

The CHAIRMAN. Senator Millikin?

Senator MILLIKIN. Dr. Oppenheimer, scientists are willing to adjust themselves to the security necessities of these situations, are they not?

Dr. OPPENHEIMER. Many are. I think some prefer, if they can, to work on other things.

Senator MILLIKIN. I remember very well when we were having our hearings, many of the scientists were willing to make a world-wide dissemination of the whole subject, in theory and in practice. That gave me the impression that scientists were probably not as conscious of the security angles or not as appreciative of the security angles as the rest of us were. But aside from that, there is an overriding security interest in this subject established by law.

I come back to my simple question: Are the scientists willing to adjust themselves to the necessities of that until we get this world fixed up for peace?

Dr. OPPENHEIMER. I can not really speak for all scientists. I think there are a lot who are. There are many who are not, and who keep out of the atomic energy business. There are some who are not today ready and who may be willing to do it in the future. But I think all of them would address to you the plea that you proceed with the business of getting the world fixed up for peace.

Senator MILLIKIN. I quite agree, and of course that is our main objective.

Dr. OPPENHEIMER. Of course.

Senator MILLIKIN. But until we have that, doctor, that overriding security provision will continue to exist, and I respectfully suggest scientists must adjust themselves or they should not be permitted to take part in the program.

Dr. OPPENHEIMER. I fully agree, and so do all of us.

The CHAIRMAN. Doctor, I have only one observation to make on Senator Millikin's remarks. To my recollection there was no scientist of reputation in 1945, or during the progress of the hearings in 1946, who took the attitude that there should then and there be world-wide distribution, and dissemination, of the knowledge and information about atomic energy. It is true that there were a few crackpots. We always have those in every profession. But as for the men whose testimony I now review in my mind—Bethe, Smyth, Seaborg, and yourself, and I think reference to the hearings will develop many others that I do not recall—I think it is important that the people of the United States understand that this responsible, most valuable element of our community did not take that position. Am I correct?

Dr. OPPENHEIMER. I am glad you said that, Senator. I think that scientists are no different than any other people. They want a world in which they can be free. And that is what we all want.

Senator MILLIKIN. Mr. Chairman?

The CHAIRMAN. Senator Millikin?

Senator MILLIKIN. I recall very well I had a pet question that I asked every witness when we were conducting those hearings, as to whether they favored doing what they wanted to do prior to the time that we got the world—my phrase—"postured for peace."

It was very, very difficult to get an affirmative answer to many of those questions.

The CHAIRMAN. Senator, only a reference to the hearings—your recollection may be, probably is, a good deal better than mine—but my recollection of the hearings disclosed that scientists participated before us in a discussion as to the technical means and methods by

which effective international control of atomic energy could be accomplished.

The scientists participated in the formation of our international policy. Dr. Oppenheimer was a member of that committee. He was also assisted by other members of the scientific fraternity in the formulation of those proposals. And I do not think we want to lose sight of the fact that these men of science probably appreciated more than we could the terrible problem that had been raised, and their belief that atomic energy must be effectively controlled if there is ever to be permanent peace in the world. Do you agree with that statement?

Dr. OPPENHEIMER. I certainly do.

Senator MILLIKIN. Mr. Chairman, I quite agree that they thought it should be controlled, but I think that some of the views as to who should participate in the control were quite naive.

The CHAIRMAN. Senator, it is useless, of course, to pursue this debate, because a reference to the hearings will disclose what the facts are. But at least I can say with assurance about the witness who is before us that never for one moment—and I guess I know him about as well as any Member of Congress—has he ever deviated in the slightest degree from the proposition that effective international control of atomic energy along the lines which we have made a basic policy of this Government was necessary, was just, and was right.

Dr. OPPENHEIMER. That is right.

Senator MILLIKIN. Mr. Chairman, I had raised no question about Dr. Oppenheimer.

The CHAIRMAN. I was just using his name. I said a representative and a most outstanding representative of the scientific community, in order to differentiate between what might be termed a blanket denomination of the attitude of the scientists and the one I recall.

Mr. HOLIFIELD. Mr. Chairman?

The CHAIRMAN. Mr. Holifield?

Mr. HOLIFIELD. Dr. Oppenheimer, I would like to pursue a short line of questioning which would draw the line between the origination of a program or a new scientific procedure or a new project development. The responsibility for that origination is in the scientists' hands, in the laboratories, and in the technical people's hands, is it not?

Dr. OPPENHEIMER. Very largely. It works both ways.

You cannot start to work on an idea before you have had it.

Mr. HOLIFIELD. That is true.

The point that I am trying to get at is that under wartime conditions the project was originated, the designs for procedure and so forth were set up, by scientists. The Army was placed there in the capacity of a management group, and as a security group, to carry out projects in designs which had originated in the scientists' laboratory. Is that a true statement?

Dr. OPPENHEIMER. It underestimates the contribution of the Army. The Army found and got contractors and helped contractors to build plants.

Mr. HOLIFIELD. That is true.

Dr. OPPENHEIMER. The Army built communities; the Army did a lot of things without which the job could not have been done.

Mr. HOLIFIELD. That is true.

Dr. OPPENHEIMER. The Army did not invent atomic bombs.

Mr. HOLIFIELD. In peacetime, the Commission, the Atomic Energy Commission, is responsible for the management of this tremendous project; but it does not originate any scientific developments or procedures, any more than the Army did. It is responsive to your General Advisory Committee and to suggestions made by leading scientists and laboratory heads, and so forth, as to development of projects, is it not?

Dr. OPPENHEIMER. That is a little of an oversimplification. The Commission has had on it an eminent and practical physicist, Dr. Bacher. It now has on it an equally eminent and practical physicist, Dr. Smyth. They are not foreclosed from making suggestions. And in Dr. Bacher's period of office he often did. The staff of the Commission includes many excellent and famous scientists. They are not kept from originating things.

But the Commission, as a corporate entity, of course, is unlikely to make a scientific discovery.

Mr. HOLIFIELD. I will accept that qualification because, of course, I did not mean to preclude any scientific suggestion, particularly from a scientific member of the Commission.

There is a dual responsibility for administering the program and for maintenance of security. And when I speak of security, I am speaking of all that goes along with the word "security" in this development, the establishment of the guards, the clearances, and the limitation of shipment of isotopes, and so forth.

Has it ever occurred to you, or to your committee, that the responsibility for management should be separated on the part of the Commission from the security by management? In other words, here we have the Commission responsible for management of the projects, and here we have a different entity responsible for security.

The reason I bring that question up is this: I do not know whether it is possible or not that they can be divorced; but I can foresee in the future accidents happening whereby fissionable material is lost, strayed, or stolen. And in each case, this is a highly inflammable thing from the standpoint of public opinion. A few grams goes down into the sewer and immediately somebody thinks it is on a fast boat to Russia; so immediately the whole question of atomic energy is called into question, the efficiency of it, because of some mistake made, or some deliberate violations of security.

It seems to me that if security could be separated from business management, that we would have at least a divorcement of throwing the whole atomic energy program into a turmoil, taking the time of the Commission for days and days and weeks on end, away from the work of managing this project, and place that security angle strictly on a security group.

Now, has the General Advisory Board ever considered the possibility or the practicability of divorcing those two items?

Dr. OPPENHEIMER. The straight answer to your question is: No, we have not considered it. It strikes me as a rather dangerous idea because the art of management in a job like this is to retain security and still keep alive, that is, to do some positive things, to get some work done.

The danger of two organizations, one of which says no and the other of which says yes, is that they are in constant deadlock. The best security is that of the grave. And the cure for the disease which

you have brought up, namely, a morbid preoccupation with the commission's stewardship of security, seems to me to lie in a far better perspective on all of our parts as to what security is, what it can achieve, how important the alleged lapses are, a perspective in the light of which I would predict that most of the preoccupations of the past years will appear to have been addressed to the wrong problem.

Mr. HOLIFIELD. That is the point that I wanted to develop, whether there was a possibility or not. You tell us that there is not a possibility, a practical possibility, of divorcing security from business management.

Dr. OPPENHEIMER. There is a practical possibility, but I think things would be worse.

Mr. HOLIFIELD. You think it would bring about such conflict of authority in the handling of documents—

Dr. OPPENHEIMER. The best personnel security is to hire no one. There is then no possibility that any dangerous person will be hired. But you cannot run a program that way.

The best guarding is simply to lock everything up and not let anyone in. But you cannot run a plant that way. These conflicts are always bound to come at you.

Mr. HOLIFIELD. Then it is the considered judgment of men like yourself that this must proceed on the present basis. As you say we must have an understanding of what is security and what is not security, and what is a calculated risk and what is not a calculated risk?

Dr. OPPENHEIMER. And what it can achieve.

The CHAIRMAN. Doctor, as I understand it, you are to depart for the west coast on a business trip?

Dr. OPPENHEIMER. I am going to teach summer school at the University of California.

The CHAIRMAN. How long will you be gone?

Dr. OPPENHEIMER. Probably a period of 10 weeks. It is not a business trip; it is actually to teach school.

The CHAIRMAN. That is business.

Dr. OPPENHEIMER. I need hardly say that the matters before you are of such moment that if in any way I can be of help to you I regard it as an obvious duty.

The CHAIRMAN. Thank you very much. There is one field that I wish to explore with you in executive session that to me is extremely important. I will try to make it at your convenience, but certainly before this investigation concludes.

If there are no further questions, I will recess this meeting. We will meet this afternoon in executive session at 3 o'clock in the usual meeting room.

I cannot let you go, doctor, without extending my own personal thanks for your intelligent testimony that you have given here today.

Dr. OPPENHEIMER. Thank you.

(Thereupon, at 12:55 p. m., the joint committee adjourned, to reconvene at 3 p. m. in executive session.)

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# INVESTIGATION INTO THE UNITED STATES ATOMIC ENERGY PROJECT

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## HEARING

BEFORE THE

## JOINT COMMITTEE ON ATOMIC ENERGY CONGRESS OF THE UNITED STATES

EIGHTY-FIRST CONGRESS

FIRST SESSION

ON

## INVESTIGATION INTO THE UNITED STATES ATOMIC ENERGY PROJECT

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PART 8

JUNE 15, 1949

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# INVESTIGATION INTO THE UNITED STATES ATOMIC ENERGY PROJECT

WEDNESDAY, JUNE 15, 1949

CONGRESS OF THE UNITED STATES,  
JOINT COMMITTEE ON ATOMIC ENERGY,  
*Washington, D. C.*

The joint committee met, pursuant to call, at 10:36 a. m., in the Caucus Room, Senate Office Building, Washington, D. C., Senator Brien McMahon (chairman) presiding.

Present: Senator McMahon (chairman), Representative Durham (vice chairman); Senators Tydings, Vandenberg, Knowland, and Hickenlooper; Representatives Holifield, Price, Jackson, and Elston.

Also present: Senator Edward J. Thyne, and Senator Arthur V. Watkins.

David E. Lilienthal, Chairman; Lewis L. Strauss, Commissioner; Gordon E. Dean, Commissioner; Henry D. Smyth, Commissioner; Carroll L. Wilson, General Manager; Carleton Shugg, Deputy General Manager; Joseph Volpe, Jr., General Counsel; Everett Hollis and Bennett Boskey, Office of the General Counsel; Walter J. Williams, Director, Division of Production; Morse Salisbury, Director, and Rodney Southwick, Division of Public and Technical Information Service; C. F. Townsend, Division of Information; Edward Brosnan, Division of Security; Frances Henderson, Assistant to the Chairman; Fred C. Schlemmer, Manager, Don B. Sturgis, W. P. Cornelius, Lloyd D. Bergeson, and William Waugh, Office of Hanford Operations, all of the United States Atomic Energy Commission.

G. R. Prout, vice president and general manager, Nucleonics Department, H. A. Winne, vice president in charge of engineering, R. W. Neblett, assistant general manager, Nucleonics Department, and Forrest D. Baker, comptroller, Nucleonics Department (Hanford Works), all of the General Electric Co.

The CHAIRMAN. The committee will come to order.

Mr. Lilienthal and members of the Commission, you may come forward.

**STATEMENT OF DAVID E. LILIENTHAL, CHAIRMAN, ACCOMPANIED BY CARLETON SHUGG, DEPUTY GENERAL MANAGER, AND JOSEPH VOLPE, JR., GENERAL COUNSEL, UNITED STATES ATOMIC ENERGY COMMISSION; H. A. WINNE, VICE PRESIDENT IN CHARGE OF ENGINEERING; F. E. BAKER, COMPTROLLER; AND G. R. PROUT, VICE PRESIDENT, NUCLEONICS DEPARTMENT, GENERAL ELECTRIC CO.**

The CHAIRMAN. Gentlemen, we have before us this morning for an open hearing the matter of the construction at Hanford of facilities there, which started at an estimated cost of \$6,250,000 and has ended

up costing in the neighborhood of \$25,000,000. That matter has been the subject of some brief discussion in an executive session of the committee and has been the subject of study by the Commission staff and its chairman for the past 2 months.

I think I should say for the record that Dr. Winne, vice president of the General Electric Co., who is here with us this morning; Mr. Milton, another vice president, and I had a conference on this subject about 6 weeks ago. Would that be about right?

Mr. WINNE. Perhaps more nearly 4 weeks. I am not exactly sure.

The CHAIRMAN. I know you were sick at the time, so your recollection of it would be better than mine.

At any rate, this is the matter which Senator Hickenlooper had advised the committee he wishes to inquire into today in open session. Senator Hickenlooper, if you are ready you may proceed.

Senator HICKENLOOPER. Mr. Chairman, in view of the fact that the matter this morning, I believe, has a direct bearing on matters of mismanagement and in order to make the record chronologically understandable, I would like to put in for the record this morning certain observations that have been made by official groups of the Government from time to time in the past regarding their observations of the business operations of the Commission.

I would like to first read from the House Report of the Appropriations Committee on the Supplemental Independent Offices Bill for 1949. That is of the Eightieth Congress, pages 2, 3, and 4 of that report, their conclusions as a result of their hearings at that time. I am quoting from their report:

The committee is not satisfied with its relations to date with the Atomic Energy Commission. The committee is fully aware of the vital importance, particularly under present world conditions, of the work of the Commission and of the technical aspects connected with it and is desirous of making every provision for its adequate support.

However, the Commission's refusal to furnish the committee with information and appraisals of its various budgeted items, based on technical information, which can be available only to the Commission because of the scientific and secret character of the work involved, leaves much to be desired in establishing the confidence which the committee must have if it is to continue to supply these large grants of funds under conditions of secrecy which prevent full disclosure of details involved.

As a matter of fact, there is some feeling among the members of the committee that the Commission has taken advantage of its strategic position in modern military defense to avoid facing the practical realities on less important and subsidiary elements of the budget. The impression left with the committee is one of general extravagance.

That is the end of that quote, and there is a citation then of some appropriation figures which are given.

Senator TYDINGS. What was that taken from?

Senator HICKENLOOPER. From the Appropriations Committee report of the House of the Eightieth Congress, second session.

The committee report continues:

The committee specifically recommends the reduction of \$6,400,000 in the item "Administrative expenses." Such a reduction will leave a total of \$26,473,213 available, which is slightly above the amount provided in 1948.

Careful check by the committee of the administrative structure of the Commission, as compared with other agencies of the Government, leads to the conclusion that the Commission has indulged itself lavishly in this regard. The Commission is exempt from many requirements imposed on other agencies of the Government, and the Commission's work is simplified on that account.

The Congress in allowing a single item budget, with few limitations and restrictions, has conferred upon the Commission a degree of authority and autonomy which normally does not obtain and which should be so administered by the Commission as to assure a stewardship above reproach. The establishment of a lavish administrative structure does not impress the committee as comporting with the appropriate use of these broad authorities.

A reduction of \$2,700,000 in town operations is recommended. A scrutiny of the information submitted to the committee indicates that the Commission has not achieved any real comparability between the three communities operated either in their accounting or financial reporting, and that it has not apparently achieved any satisfactory common denominator for the various types of expenses involved to regulate the actual outlays of the three communities.

By comparison with the statistics compiled by the Department of Commerce relating to comparable per capita costs for 200 cities from 25,000 to 50,000 population, the costs of the three communities are very much out of line.

Then, Mr. Chairman, I will read from the report of the Independent Offices Appropriation Subcommittee of the House of Representatives Appropriation Committee of the Eighty-first Congress, which has just been released. The committee in granting appropriations for the Atomic Energy Commission for the fiscal year 1950 on page 7 of its report has this to say:

In connection with the above reductions it should first be noted that the committee has recommended substantially no cut in funds for program 300-Weapons and program 400-Reactor development which is about one-third of the total AEC program. These two programs dealing with projects which might be described as our first line of defense are regarded as of the utmost importance to our national security, and the committee does not feel justified in effecting economies in this field of atomic development. The net result of the recommendation of the committee as to these two programs, due to the decrease in the cost of materials, supplies, and equipment since this estimate was prepared last fall, is to provide funds and authorizations about 15 percent in excess of that contemplated in the estimates.

That is the end of that quotation from page 7 at that point.

I call attention to the fact that in approximately one-third of the Commission funds, which is the 300-Weapons and 400-Reactor development, the Appropriations Committee has definitely said that they will in no way skimp on the item of national defense.

The total of those two items in cash and contract authorization for the Atomic Energy Commission recommended in this bill is \$309,500,000, and that represents, as the committee says, approximately one-third of the program. So that there is somewhere in the neighborhood of, let us say, 35 to 40 millions of dollars represented by shrinkage in material costs that have been left in this recommendation and gives a very substantial and sizable cushion. Indeed, according to the Appropriations Committee of the House, which will not cramp the Commission in any way in the weapons or the national security end of the thing.

Continuing reading this next paragraph from this same report, the committee says—referring to the reductions made by the committee in other programs:

\* \* \* it is believed that sufficient funds and authorizations have been allowed to permit continuation and obtain satisfactory progress in the several fields in which the Commission is operating. However, there is no intention to cripple any activity of this important agency, and the committee feels that if the Commission practices the economy it should in its industrial operations, town management program, and its Washington office, that additional substantial savings can be made in these programs.

In recommending a reduction of \$3,535,017 in cash and \$3,271,172 in contract authorization for the community program 700, the committee is of the opinion that the Commission should give every consideration to the reduction of expenses at the three major plants, Oak Ridge, Tenn., Los Alamos, N. Mex., and Hanford, Wash. The cost of town operations, including the number of employees hired by the contractor at each of these points, is excessive, and the Commission should require substantial reductions in new contracts to be negotiated this spring or give serious consideration to taking over operation by the Government. Likewise, the committee is of the opinion that housing construction costs should be reduced and that the Commission should not proceed with new construction until a reasonable rental structure is established. Present rentals paid by employees in the several towns are appreciably below the amount which should be paid if the Government is to get a fair return on its investment.

I read from the bottom of page 8 of the same report:

During hearings on the bill it was disclosed that in the fiscal year 1950 the Commission proposed to pay to the various universities in this country, in the form of fellowships and contracts for research, a total of \$23,378,000. The committee believes that this sum is excessive and recommends that a substantial reduction be effected in the allocation of funds for this portion of the program.

On page 9, I continue reading a sentence with respect to the accounting for the assets and the liabilities of the Commission, and the Appropriations Committee says this:

The Commission is urged to increase its efforts so that a fully adequate system of accounts may be in effect at the earliest possible date. It should accomplish this within the fiscal year 1950.

I continue reading the next paragraph on page 9:

Last year, the committee experienced considerable difficulty in reviewing the budget estimates of the Commission because of the inadequate and confused functional break-downs used. The facts and figures presented to the committee were of little or no value in enabling it to reach a logical conclusion. While the presentation was substantially improved this year, there still exists a serious deficiency in that the budget was not established on a cost basis and therefore cannot be reconciled with the figures developed under the accrual system of accounting now being installed by AEC with the approval of the Comptroller General. It is imperative that budget estimates in the future be integrated with accounting results and procedures.

Now, Mr. Chairman, I put those in the record at this time because in the near future I expect to discuss these matters, and I put them in so that any canvass of this situation can later be made and so that information as to my intention along those lines can be made known.

Mr. LILIENTHAL. May I ask whether the Senator plans to put the whole report in, because there are some pleasant remarks in this last report, which I have not heard this morning. I would suppose the whole report ought to go in.

Senator HICKENLOOPER. I assume the whole report would go in the record. Those are the particular matters I want to discuss, and the connotation of the report here that I have, at least, has eliminated those pleasant matters. I do not find any particularly happy reference to the Atomic Energy Commission in this report, but I am happy to have the entire report put in, and we can discuss it at a later date.

The CHAIRMAN. It will all go in.

Senator HICKENLOOPER. This section, Mr. Chairman, is contained in the entire report of the committee, which has other departments. I am only referring to that with reference to the Atomic Energy Commission.

The CHAIRMAN. Is that the Eightieth or Eighty-first Congress?

Senator HICKENLOOPER. This is the Eighty-first.

(The document referred to above is as follows:)

[Rept. No. 425, 81st Cong., 1st sess.]

INDEPENDENT OFFICES APPROPRIATION BILL, 1950

ATOMIC ENERGY COMMISSION

The bill includes a total of cash and contract authorization for the fiscal year 1950 amounting to \$1,090,120,397. This sum is \$76,879,603 less than the budget estimates which totaled \$1,167,000,000. The following tables give a detailed summarization of the amounts proposed in the budget estimates, the amounts recommended in the bill, and the reductions in the estimates.

It is the understanding of the committee that diversions may be made from one program to another to meet emergencies or essential changes in program which may develop since committee hearings on the bill.

The tables referred to above are as follows:

*Cash requirements of the Atomic Energy Commission for fiscal year 1950 (exclusive of amount for liquidating prior year contract authorization)*

Program	Budget estimate	Committee recommendation	Reduction
200 Source and fissionable materials.....	\$126,717,006	\$107,709,455	\$19,007,551
300 Weapons.....	109,533,076	109,000,000	533,076
400 Reactor development.....	52,921,460	52,500,000	421,460
500 Physical research.....	13,129,383	11,159,976	1,969,407
600 Biology and medicine.....	11,452,353	9,734,500	1,717,853
700 Community program.....	23,566,772	20,031,755	3,535,017
800 Administrative services.....	27,675,228	23,523,944	4,151,284
Transfer to Public Health Service.....	4,722	3,250	1,472
Total (exclusive of amount for liquidating prior year contract authorization).....	365,000,000	333,662,880	31,337,120

*Contract authorization of the Atomic Energy Commission for the fiscal year 1950*

Program	Budget estimate	Committee recommendation	Reduction
200 Source and fissionable materials.....	\$172,098,155	\$146,283,432	\$25,814,723
300 Weapons.....	100,675,799	100,000,000	675,799
400 Reactor development.....	67,277,580	67,000,000	277,580
500 Physical research.....	42,190,758	35,862,144	6,328,614
600 Biology and medicine.....	21,412,182	18,200,355	3,211,827
700 Community program.....	21,807,814	18,536,642	3,271,172
800 Administrative services.....	1,537,712	1,307,055	230,657
Total contract authorization recommended for fiscal year 1950.....	427,000,000	387,189,628	39,810,372

*Recapitulation of cash and contract authorization for fiscal year 1950*

	Budget estimate	Committee recommendation	Reduction
Cash for liquidating prior year contract authorization.....	\$375,000,000	\$375,000,000	-----
Cash for fiscal year 1950 (exclusive of amount for liquidating prior year contract authorization).....	365,000,000	333,662,880	-\$31,337,120
Total amount available for expenditure in fiscal year 1950.....	740,000,000	708,662,880	-31,337,120
Less reappropriation of unobligated balance of prior year appropriations.....	-----	5,732,111	-5,732,111
Recommended appropriation for fiscal year 1950.....	740,000,000	<sup>1</sup> 702,930,769	-37,069,231
Contract authorization for fiscal year 1950.....	427,000,000	387,189,628	-39,810,372
Total cash and contract authorization, 1950.....	1,167,000,000	<sup>1</sup> 1,090,120,397	-76,879,603

<sup>1</sup> And reappropriation of unobligated balance of \$5,732,111.

In connection with the above reductions it should first be noted that the committee has recommended substantially no cut in funds for program 300-Weapons and program 400-Reactor development which is about one-third of the total AEC program. These two programs dealing with projects which might be described as our first line of defense are regarded as of the utmost importance to our national security and the committee does not feel justified in effecting economies in this field of atomic development. The net result of the recommendation of the committee as to these two programs due to the decrease in the cost of materials, supplies, and equipment since this estimate was prepared last fall is to provide funds and authorizations about 15 percent in excess of that contemplated in the estimates.

Referring to the reductions made by the committee in other programs it is believed that sufficient funds and authorizations have been allowed to permit continuation and obtain satisfactory progress in the several fields in which the Commission is operating. However, there is no intention to cripple any activity of this important agency and the committee feels that if the Commission practices the economy it should in its industrial operations, town-management program and its Washington office, that additional substantial savings can be made in these programs.

In recommending a reduction of \$3,535,017 in cash and \$3,271,172 in contract authorization for the community program 700, the committee is of the opinion that the Commission should give every consideration to the reduction of expenses at the three major plants, Oak Ridge, Tenn., Los Alamos, N. Mex., and Hanford, Wash. The cost of town operations including the number of employees hired by the contractor at each of these points is excessive and the Commission should require substantial reductions in new contracts to be negotiated this spring, or give serious consideration to taking over operation by the Government. Likewise, the committee is of the opinion that housing construction costs should be reduced and that the Commission should not proceed with new construction until a reasonable rental structure is established. Present rentals paid by employees in the several towns are appreciably below the amount which should be paid if the Government is to get a fair return on its investment.

The committee has recommended a reduction of \$4,151,284 in cash and \$230,657 in contract authorization in connection with program 800—Administrative services. The total employment proposed for this work in the next fiscal year is 4,633.4 man-years, which is 18.3 man-years in excess of the number authorized for the current fiscal year. In addition to the Washington staff, administrative personnel are located at Oak Ridge, New York, Chicago, Santa Fe, and Hanford. The committee appreciates the fact that many of these offices have been established only recently and that there has been little time to reorganize and cut down on unnecessary personnel, but it feels that in the light of present year operations and with the earnest effort of officials administering the atomic energy program, readjustments can and should be made to permit efficient operation within the amount allowed by the committee.

One of the most important discussions during the hearings centered around the inquiry into the device used by the Commission in connection with its program for the production of fissionable materials. It is the understanding of the committee that this procedure applies to other parts of the atomic energy program. The device referred to consists of a procedure whereby the Government supplies the contractor with monthly advances of funds for the operations which he is conducting. The contractor supplies no funds and consequently assumes no risks in his operations under these circumstances. In effect, he is operating on a cost-plus basis which is the most expensive method of operating. Likewise, the committee wishes to call attention to the fact that under these conditions, a strike called at any of these plants is, in effect, a strike against the Government of the United States, such employees being paid entirely from Government funds. The committee calls this situation to the attention of the appropriate legislative committee and to the members of the Atomic Energy Commission with the recommendation that steps be taken to correct this undesirable situation.

During hearings on the bill it was disclosed that in the fiscal year 1950 the Commission proposed to pay to the various universities in this country, in the form of fellowships and contracts for research, a total of \$23,378,000. The committee believes that this sum is excessive and recommends that a substantial reduction be effected in the allocation of funds for this portion of the program.

Another matter which came to the attention of the committee during the course of the hearings was the inequity which exists in the State of New Mexico, where

the State collects a sales tax from employees of the Commission located in the State, such tax being collected for the support of schools throughout the State. No part of this tax is apportioned to schools operated for the benefit of the children of employees of the Commission. The committee recommends that appropriate steps be taken to secure an understanding with State officials, and, if necessary, the State legislature, to secure a fair distribution of these funds.

As a part of the joint program for improving accounting in the Federal Government the General Accounting Office has been working with AEC in the development of accounting standards and procedures suited to the special needs of the industrial-type programs carried on by the Commission through contractors. The committee is glad to note the efforts of AEC in its development of accounting for assets, liabilities, income, and expense on the accrual principle, and the provision for development of functional costs. The Commission is urged to increase its efforts so that a fully adequate system of accounts may be in effect at the earliest possible date. It should accomplish this within the fiscal year 1950.

Last year, the committee experienced considerable difficulty in reviewing the budget estimates of the Commission because of the inadequate and confused functional break-downs used. The facts and figures presented to the committee were of little or no value in enabling it to reach a logical conclusion. While the presentation was substantially improved this year, there still exists a serious deficiency in that the budget was not established on a cost basis and therefore cannot be reconciled with the figures developed under the accrual system of accounting now being installed by AEC with the approval of the Comptroller General. It is imperative that budget estimates in the future be integrated with accounting results and procedures.

In submitting a recommendation to the committee in connection with the reappropriation of unobligated balances the Commission suggested that language be added to the bill authorizing the merger of the 1950 appropriation with the obligated balances of prior appropriations which, in effect, would provide a single account for all funds available to the Commission after June 30, 1949. While the committee is impressed with the value of this procedure from an accounting standpoint, it is not ready to go along with the Commission in recommending the proposal at this time. The committee is reinforced in its stand by the fact that one of the Government agencies directly concerned has not approved the plan. Also, the committee is not inclined at this time to favor the granting of a one-fund continuing appropriation for administration and operating purposes. It is believed that no other Government agency operating on a large scale has this unlimited authority as to administrative and operating expenses. The committee will be glad to consider such a proposal in connection with the 1951 estimates, provided administrative and operating expenses are separated from construction funds, and provided also that all agencies of the executive branch concerned are in agreement on the program.

\* \* \* \* \*

Mr. HOLIFIELD. Mr. Chairman?

The CHAIRMAN. Mr. Holifield?

Mr. HOLIFIELD. What is the procedure? I arrived late.

The CHAIRMAN. As I understand it, the Senator was giving notice to the Commission of some matters he intends to examine into in the near future, and those matters are contained in the report of the Subcommittee on Appropriations of the House.

Mr. HOLIFIELD. Does the Senator wish to continue on uninterrupted to the end of his presentation?

Senator HICKENLOOPER. I had merely read these items into the record, saying that at a later date I expect to go into them, and it is a matter of informing the Commission of the general field of inquiry.

The CHAIRMAN. So that the Commission might know what it would be called upon to meet in the future.

Mr. LILIENTHAL. May I ask a question or two about that phase of the hearing?

The CHAIRMAN. Yes.

Mr. LILIENTHAL. The references Senator Hickenlooper has made involve a number of rather broad questions on which we had hoped

to be heard in that phase of the hearings this summer in which, let us say, the Commission's presentation is to be heard.

We would prefer it if at the time these matters are brought up in the form of charges that the Commission's response be as broad as the charges and include, for example, such matters as the simplicity of the operation referred to. We would like to spend quite a lot of time indicating—I think it would be very illuminating—how unsimple are the operations under conditions required by law, and a rather extensive report on town operations, because here a great many changes have been made and made in the direction of economy and efficiency.

Instead of deferring those until, say, sometime in August, if we could cover these at the time these charges are made——

The CHAIRMAN. Sometime when, Mr. Lilienthal?

Mr. LILIENTHAL. I said August. I was assuming this would take quite a long time.

The CHAIRMAN. I have more speedy ambitions.

Mr. LILIENTHAL. I cannot say I am disappointed, Senator.

The CHAIRMAN. Of course, there is no intention of limiting your right to answer this, Mr. Lilienthal.

Mr. LILIENTHAL. That is what I had in mind.

The CHAIRMAN. There will be none at any stage of the proceedings.

Mr. LILIENTHAL. My purpose in raising the question was in order to make this presentation and make it in a constructive and orderly way and people will be required from various parts of the country; and as much notice as we can get will be helpful in getting them here without undue loss of their time, which is being paid for out of public funds.

Senator VANDENBERG. You are not notifying us of a prospective filibuster, are you, Mr. Lilienthal?

Mr. DURHAM. Mr. Chairman?

The CHAIRMAN. Mr. Durham?

Mr. DURHAM. I would like to know if the Chairman is prepared to answer this inquiry this morning.

Mr. LILIENTHAL. On some of the comments made it may be fairly important to do so right away, because one relates to an appropriation for the weapons program of this country, and the statement that has been made might lead to some confusion.

Mr. DURHAM. That is the part I am concerned about.

Mr. PRICE. I would like to ask the Chairman, if I may, whether he has been before this joint committee since this action of the subcommittee in the House.

Mr. LILIENTHAL. There have been discussions with the committee, and my recollection is the chairman of the joint committee has appeared before the Appropriations Committee on one of the serious and profound misapprehensions, serious misapprehensions.

The CHAIRMAN. I have not made a formal appearance, but I discussed the matter with individual members of the committee, and I have addressed a communication to the committee protesting against a certain cut in the budget in the sum of, I believe, some twenty-odd million dollars, having to do with source and fissionable materials. You are familiar with that particular item?

Mr. LILIENTHAL. Yes.

The CHAIRMAN. I think we all agree the cut in the House was due to a misapprehension as to what the item was really for. I think

that will be straightened out. I hope it will, and that that amount of the budget will be restored.

Mr. LILIENTHAL. I think the Senate Appropriations Subcommittee is fully aware of the facts, but the statements that have been made by Senator Hickenlooper this morning will not clarify public thinking on this subject without some further statement, which I should make perhaps now or sometime later in the day, comparable to those that have been made in open hearing to Senator O'Mahoney's subcommittee of the Senate.

The CHAIRMAN. You are referring particularly to that item I just mentioned?

Mr. LILIENTHAL. Yes; the action referred to. The House thought that they were providing no cut in weapons program, when actually this was not the case.

Mr. DURHAM. Mr. Chairman?

The CHAIRMAN. Mr. Durham?

Mr. DURHAM. I would like for Chairman Lilienthal to clear this matter up presently. I feel it is important to the country, and I do not want the country to be misinformed on this.

Senator HICKENLOOPER. Mr. Chairman, if I may just make it clear, I was merely reading from an official report of two different Congresses, the Appropriations Subcommittee of the House, reading their printed conclusions, which have been made public and which are in existence; and I was doing it on the theory that I expect to go into those matters at a later time, and I was attempting to give notice of the subject matter that I would eventually go into.

I am not here this morning prepared to argue either side of that matter at this moment. That is, I had not intended to do that this morning, and I merely intended to give notice as to the general area which would be examined.

Mr. PRICE. Mr. Chairman, since the matter has been brought up, I can see no harm in Mr. Lilienthal making comments on the remarks that have been read into the record.

Senator HICKENLOOPER. I have no objection. It was not done for that purpose.

The CHAIRMAN. I rather think, Senator, if you could make known to the committee and the Commission privately the matters that are supposed to come up, we will obviate the possibility, in the way of giving notice, of making certain allegations or at least what the country might consider to be allegations 1 day in advance of their answer being heard.

I think it is very important, and I know you want to be fair in this thing; it is very important that we try to answer things as they are brought up and not answer them 2 or 3 days later; so that we can get a decent connected situation where the charges and the answers will be made as contemporaneously as possible.

Perhaps, Mr. Lilienthal, since Senator Hickenlooper has no objection, you would like to make some comment.

Mr. LILIENTHAL. I should very much like to because a misapprehension about whether the Commission will have funds adequate to carry out the weapons program we are required to carry out or has less than that amount is a matter, of course, of very great public concern.

Mr. Carleton Shugg, the Deputy General Manager of the Commission, presented this matter to the Subcommittee on Independent Offices of the Senate Appropriations Committee the other day, and I think, perhaps, he is the best-qualified man to make it.

But just let me say this couple of sentences in regard to what the problem is.

The purpose of the House Appropriations Committee was not to reduce the funds available for the production of weapons. The effect, however, was to take some \$45,000,000—is that correct, Mr. Shugg?

Mr. SHUGG. Yes, sir.

Mr. LILIENTHAL (continuing). From that item in the Commission's appropriation presentation, which is entitled "Source and fissionable materials." Source and fissionable materials include, of course, the procurement of uranium ore throughout the world and the processes of preparing feed for these great plants at Hanford and Oak Ridge, and the further process of actually producing fissionable material that goes into the weapons.

These are not items on the open market. These are not items that would be subject to the hoped for reduction in prices for materials; nor can the cost of operations of these plants be expected to be reduced because of the special character of the materials and of the plants.

Therefore, what we have is the correct amount of money for a part of the weapons program and a \$45,000,000 reduction in that part of the appropriation attributable to filling these weapons so they are atomic weapons. Otherwise, they are quite harmless. This is not the purpose.

Senator HICKENLOOPER. Where does the \$45,000,000 occur? There is a \$19,000,000 reduction in source and fissionable material.

Mr. LILIENTHAL. Perhaps Mr. Shugg should pick up at that point.

Senator HICKENLOOPER. Here is a contract reduction from \$172,000,000 down to \$146,000,000 for source and fissionable materials purchases, which is a reduction of contract authorization for 45; is that it?

Mr. SHUGG. \$45,000,000 is the sum of the two cuts made, \$19,000,000 in the cash and \$25,800,000 in contract authorization. That action of the House on the source and fissionable material program is a flat 15-percent cut. It was similar to the action taken on all of the programs except for weapons and reactor development. All programs were simply cut in their cash and in their contract authorization by 15 percent.

So the first and most important point is that the total cut in source and fissionable materials, all of which is pointed toward weapons, is \$44.8 million.

The second point, sir, in the House report is the hope that because the weapons program proper was not cut any more than to round off the figures, it was the hope that we would be able to do 15 percent more due to the general decrease in cost of materials and supplies, and it is only fair to state very definitely that the type of material and supplies and equipment that we have to get for our weapons is not of the type that is dropping with the general markets. We will not be able to produce more because there was no substantial cut in weapons.

And it is also, I think, sir; worth pointing out that in our budget request for fiscal 1950 as compared to fiscal 1949, that on all the programs which are by inference nonvital, in the House report, we

asked for \$23,000,000 less than in 1949. On our communities alone our total request is \$32,000,000 below 1949, which is at least some progress.

Now, the programs on which we asked for an increase in fiscal 1950 over 1949 are the three programs which are vital, as soon as one has made the correction of realizing that source and fissionable materials are just as much a part of weapons and reactor development as are those two titles themselves.

Mr. HOLFIELD. Mr. Chairman, I think the record should show at that point that the vice chairman, Mr. Durham, questioned this cut on the floor of the House and was assured by the chairman of the subcommittee of the House Appropriations Committee that the cut did not refer to weapons developments and it was the opinion of the House Appropriations Committee that they were not doing what they were actually doing.

The net result is that if you do not have fissionable material procurement and production, you have no atomic bombs.

Mr. SHUGG. That is very right, sir.

Mr. LILIENTHAL. There is one other matter, and this can be elaborated on to whatever extent the committee desires, but there is one other matter touched on by Senator Hickenlooper this morning that perhaps should be, at least in a brief way, referred to; and that is the assertions in respect to extravagance and excessive costs in the operations of these towns and the rent level—that is to say, the rentals charged employees of the Commission or its contractors at these various large towns and their relation to costs.

We will have to supply these figures in detail, but the Commission has been at work from the beginning trying to bring down the costs of the operations in these towns and to bring up the rents. There was a subcommittee appointed by this joint committee, of which Vice Chairman Durham was chairman, and they held hearings on the rent situation at Oak Ridge, and I am sure it is clear in that record and in public knowledge that the rent commission has directed an increase, has authorized an increase in rents, and the management has put such an increase into effect.

The criticisms made by the subcommittee—and we were very glad to have the subcommittee's frank views about it—were not that the increase in rentals was unjustified, as I recall it, but that the public in these communities had not been advised in the way that would make it more palatable to them. Having seen tenants and having been one who had rents increased, I think there is quite a public relations job, but, nevertheless, the point is well taken. But so far as the rental situation is concerned, steps have been taken, and rather vigorous steps have been taken, to increase the rental in all the communities, particularly Hanford and Oak Ridge.

As to reduction in force and the operation of these towns with fewer individuals and at less cost, the figures at Oak Ridge are quite remarkable. The committee has been informed about them—a reduction, a very substantial reduction, running into a good many hundreds of people, operating the same facilities.

There are also figures on the Hanford and Los Alamos situations, and, perhaps, Mr. Shugg can put those into the record at this point.

Mr. SHUGG. Mr. Chairman, may I speak briefly to one other very important statement in regard to the House understanding?

When it says that the total of weapons and reactor development is about one-third of the total AEC program, that is quite a ways out. The total of source and fissionable materials, which again is all necessary for weapons, the total of that program and weapons and reactor development is 79 percent of the total budget request, leaving 21 percent to cover all other programs—research, biology, medicine, the towns, administrative.

Senator HICKENLOOPER. I think, Mr. Chairman, it might be stated that the House report refers to a total of \$309,500,000 for the two items, weapons and reactor development, in cash and contract authorizations, and that the total committee recommendations were somewhere around a billion in cash and contract authorizations, and I presume that is where they get their figure of one-third.

Mr. SHUGG. May I say again there, Mr. Chairman, that the \$1 billion, the figures that over \$1 billion are only obtained by adding to our new obligational authority for the coming fiscal year, the cash to liquidate prior years' obligations, which is not available in itself, however, for new obligations.

Our total request for new obligational authority was \$792,000,000.

Senator HICKENLOOPER. Would you say, Mr. Shugg, that the House report is in substantial error, then?

Mr. SHUGG. In regard to the percent of our program, Senator, which is necessary for weapons and reactor development—

Senator HICKENLOOPER. Would you say that the House Appropriations Committee just did not understand what it was doing when it made up this report?

Mr. SHUGG. We may not have made that source and fissionable-materials program properly clear to them, Senator. Of course, in those hearings a great deal of the detailed questioning is on matters which are more familiar to the members.

The CHAIRMAN. All right.

Now, gentlemen, you will have an opportunity to go into these matters at more length and more detail later, but I presume that we are now ready to take up the Hanford project.

Senator HICKENLOOPER. Mr. Chairman, this morning I want to refer to a matter which I think is quite astounding. The official report to the Commission on this matter is marked "Secret," consisting of some 46 typewritten pages in the main report and an appendix called appendix B which consists of a photostat and 14 other pages. The report, as I say, is marked "Secret" on every page. I would like to have the record show that on the last executive meeting of the committee, I brought this report to the meeting and submitted the report to the committee there and that the Commission was present.

I stated that I did not want to have, and did not have, the authority to declassify documents that had been classified and that in my opinion this report almost in its entirety, with the exception of a few phrases and references, did not contain classified information, but that that was my own personal incompetent opinion. I am not a classifier of documents.

Therefore, I asked the committee, and the chairman suggested we should discuss the matter with the Commission. That was discussed, and, as I understand it, it was universally agreed that matters in this report, with the exception of specific reference to processes or purposes, could be used. I merely want that clarified at the outset.

I have prepared an outline of this report, which has eliminated reference to purposes and techniques, and on that basis I would like to proceed, Mr. Chairman.

The CHAIRMAN. You may proceed, Senator.

Senator HICKENLOOPER. Mr. Chairman, this is a report made by a board appointed by the Commission on March 12, 1949, to examine into the unusual circumstances surrounding a construction project at Hanford, Wash., known as the 234-235 Facilities. This board, appointed by the Commission itself, consisted of Walter J. Williams, Director of the Production Division of the Commission; Mr. Paul M. Green, Controller of the Commission; Mr. Adrian S. Fisher, General Counsel of the Commission; so that the board examining this project was a creature of the Commission itself and the members were employees or officials of the Commission.

The history of this project is this: In 1947 the desirability of this project was noted by the Commission and by its officials. There is an original letter—this letter that I am referring to is a letter of Mr. Carroll Wilson—of May 6, 1947, directed to Dr. Winne, of the General Electric Co., and there is a statement in the file that the need for this particular project has been noted by the Commission prior to that time, some considerable time, but that goes back far enough.

In the report on page 2 is a statement of the board:

This project has recently become a cause of concern because of the substantial overrun in cost in this construction.

Now, after the preliminary examination of this proposed project and on December 3, 1947, after Commission consideration, and authorization for the entire cost of the work, based upon estimates in the amount of \$6,255,000 was issued and construction completion was then set for April 1, 1949.

Apparently, work proceeded with the planning—I shan't burden the Committee with a detailed reading of the report, but apparently work proceeded with the planning, and on February 9, 1948, there was a revised estimate made by the General Electric Co. to the Atomic Energy Commission area manager at Hanford, which revised the estimates from \$6,255,000 to \$10,432,900.

Mr. JACKSON. What was the date of that?

Senator HICKENLOOPER. That was on February 9, 1948.

On March 12, 1948, there was an estimate that was increased by the Hanford AEC to \$11,933,900. I can give the page number of these, if desired.

This amount or this estimate by the Hanford AEC management was transmitted to Washington as a part of the Hanford AEC budget, and the statement in the report is that it was simply lumped into the AEC budget and put through on the appropriation.

During the week of June 28, 1948, a General Electric spokesman commented during a meeting with the AEC that he believed the project would cost 13 to 15 million dollars. That is page 9 of the report.

On July 6, 1948, the AEC Manager requested an accurate cost estimate. On July 12, General Electric submitted a net estimate of \$8,230,959, representing a reduction of \$1,120,000 caused as the result of the elimination then of one portion of the work and substitution of another portion. That is found on page 10 of the report.

The report states that there was no review of this estimate by the Hanford AEC or the basis upon which it was prepared. That is found on page 12 of the report.

In August 1948, also shown on page 12 of the report, the project estimate was transmitted to Washington and included in the AEC classified budget at \$8,924,000. On page 25 of the report is a statement to the effect that there were no inventory controls set up in this project, which I mention at this time out of order so far as the page is concerned because it is referring back to the loose practices that have gone on.

On November 23, 1948, the Hanford AEC authorized the expenditure of \$8,760,324. That is on page 14 of the report.

Then, in January 1949, and this is found on page 31 of the report, General Electric estimates for the completion of the entire project then jumped to \$25,219,000, showing that the costs already incurred through March 6, 1949, had been \$16,549,338, and that the estimate to complete what is called phase 2 of a three-phase operation was an additional amount of \$2,717,843, or a total amount at that time to complete this project which had started out as a \$6,000,000 project, through phase 2 of the project, of \$19,267,181.

Again referring back to this matter, and on page 33 of the report is a statement by the Commission's own reviewing board that went out last spring, and the statement is flatly made that lack of planning, mistakes in changing decisions, and similar factors all added to the cost.

As an illustration, the board gives on page 33, beginning at the bottom of page 33, the fact that a ventilating system when ready for installation was found not to fit. The design had been changed after the steel had been ordered.

The steel in the roof was spliced to raise the roof, and it was found that still the ventilating system would not fit even with the spliced alterations to the building, and so a new building was constructed to house this ventilating system that had originally been planned for the one building, adding to the cost.

Now, on page 35 of the report is a very significant thing, going to the point that I would like to try to make. It is a reference to the changing personnel, and the shifting responsibility at Hanford, and I will read as follows from page 35. All of this is from the Commission's own board that it set up, and I quote:

Until September 1, 1947, Lt. Col. F. J. Clark was Area Manager at Richland. Then for a short period Mr. Shaw was acting General Manager. Mr. Shugg took over on September 2, 1947, and was in charge until September 1, 1948; then Mr. Shaw was again acting manager until Mr. Schlemmer arrived to take over September 15, 1948.

It says:

The General Electric had as a project manager a Mr. D. H. Lauder until February 1948. He was followed by Mr. R. C. Muir, who left in December 1948. He was followed by Mr. G. R. Prout.

Still quoting from the report:

Mr. Walter J. Williams, as Manager of Field Operations, was in responsible charge of all Commission installations until September 15, 1947; and as Director of Production was responsible for construction until March 15, 1948. Mr. Roger Warner was responsible for construction from March 15, 1948, to September 15, 1948. Then as Director of Production, Mr. Williams was again given responsibility for construction on September 15, 1948.

I continue reading from the next paragraph of the report :

It is recognized that in a new organization a large number of personnel changes are natural and inevitable. Nevertheless, it should be borne in mind that these shifts in responsible positions did have an upsetting effect.

Senator TYDINGS. Senator Hickenlooper, may I ask why you are looking at this? You say this is the Commission's own report. Have you developed who prepared the report?

Senator HICKENLOOPER. I announced the board that prepared the report.

Senator TYDINGS. It must have been one individual who wrote it up, I suppose.

Senator HICKENLOOPER. No. Mr. Williams, whom I am referring to here, is one of the members of the board that went out to look this thing up last spring.

Senator TYDINGS. It is primarily his report, then?

Senator HICKENLOOPER. I will read the names again that composed this board that the Commission appointed this spring to go out and investigate. Mr. Walter Williams, Director of Production of the Commission; Mr. Paul M. Green, Controller for the Commission; Mr. Adrian S. Fisher, General Counsel of the Commission, constituted a board appointed by the Commission to go out and investigate this matter, and this is the report of that board, signed by all three members.

Senator TYDINGS. I was under the impression that it was a Commission report rather than the board that was appointed to report to the Commission.

Senator HICKENLOOPER. A report of the board to the Commission.

Senator TYDINGS. That is right.

Senator HICKENLOOPER. But the Commission appointed the board out of its own members, which gives an especial emphasis to the criticisms that this board reported to the Commission, which was its employer.

Senator TYDINGS. I just wanted to get it straightened out in my own mind.

Senator HICKENLOOPER. Now, on page 40 of the report, it is stated by this board as follows:

There is also a question as to the responsibility of the AEC for its acceptance of the July 9 estimate. At this time there were many indications which should have served as a danger signal. A budget estimate of \$10,430,900, exclusive of overhead and distributive items, had been submitted in February. Mr. Streide had indicated the view that the project might run from 13 to 15 million dollars, and the agreed changes—

elimination of one particular installation—

had accounted for a reduction of a little over a million, yet it does not appear that any AEC representative reviewed this estimate or even the methods of compiling it.

In the view of the board, any review by the AEC of the basis on which this estimate was prepared would have indicated that it was not reliable no matter how heavily endorsed by the General Electric Co.

Yet it does not appear to have been clearly understood in the AEC and Hanford the extent to which this estimate or the manner in which it was prepared should be reviewed by the AEC or precisely whose responsibility it was in the AEC to review the estimate.

In part the Hanford office appears to have been influenced by the Commission-wide policy, which is opposed to any detailed supervision of the contractors' work. This policy, however, should not have prevented the AEC officials from

satisfying themselves as to the adequacy of the General Electric Co.'s organization and procedures for estimating costs.

In the opinion of the board, moreover, there were enough danger signals to indicate that the July 9 estimate was unreliable, so that the Hanford office of the AEC should have conducted a somewhat more specific review of its accuracy.

I read the next paragraph:

Responsibility for these matters is on Mr. Shugg, who is Manager of the Hanford Operations Office. As previously indicated, responsibility in the AEC in Washington for over-all supervision of the construction was on Mr. Williams—who is one of the authors of this report—

until March 15, 1948; Mr. Warner until September 15, 1948; and then Mr. Williams.

On page 42 of the report—excuse me a moment, there is one reference here. I read further from the paragraph on recommendations on page 41 of this report:

The board agrees that the estimating has been faulty and should be improved. On the other hand, the board does not believe that a mistake in estimating of this kind can properly be attributed to the apparent inability of the company to hire one or two estimators. It can be attributed only to a lack of real capacity on the part of the company at Hanford to handle construction projects on this magnitude or a lack of concern for costs or both.

Senator HICKENLOOPER. On page 42 of the report there is a statement as follows:

There seems to have been no clear understanding either in the General Electric Co. or in the Atomic Energy Commission as to whose responsibility it was to follow the costs. As a result, responsibility for failure to use what cost reports were available rests with the top Hanford management of the General Electric Co. and the Atomic Energy Commission.

I read further:

The responsibility for getting out these reports and the transfers of responsibility during the life of this project have already been described in part two of this report. The over-all responsibility in the AEC in Washington for cost reports is in Mr. Green, the Controller—

and Mr. Green is one of the men who wrote this report.

The CHAIRMAN. They do not seem to have been easy on themselves, Senator.

Senator HICKENLOOPER. I compliment these men in making a highly critical report in which they themselves have been involved.

Mr. PRICE. They were appointed by the Commission, too, Senator.

Senator HICKENLOOPER. As I say, I compliment them on making a highly critical report which involved themselves, and I believe that they deserve commendation for what seems to be quite a factual approach to this matter.

The CHAIRMAN. For frankness and not diligence, I take it.

Senator HICKENLOOPER. Diligence will come in a little bit later. I want to be sure that I get this right.

On page 45 of the report, these men say:

Some of the AEC representatives at Hanford appear in some degree at least to have condoned this attitude of the design and construction division of the General Electric Co. It apparently was known by some AEC representatives in the fall of 1948 that the project would exceed the \$8,760,324 figure, although not to the extent later developed, but nothing was done about it.

Then, this statement is made in the report, as follows:

One reason for the attitude of the General Electric Co. can be found in the contract between AEC and the company. Under this contract the General Electric Co. has been reimbursed for all work carried out at the Hanford project. It has not been considered controlling that the total amount expended for a particular project exceeds the amount established by the directive authorizing that project, so long as the total sums obligated under the contract were sufficient to cover all costs.

On page 46 of the report, which is the last page, this board says:

It is the opinion of the board that the overhead costs on the 234-5 project and the total overhead costs on the entire construction project reflect an unhealthy situation involving duplication between the General Electric and many of its subcontractors.

Now, Mr. Chairman, those are the general high lights of what I believe to be a highly critical report of a board set up in the Commission, that shows the unusual jump of a contract authorization which was originally around \$6,000,000, to a total completion cost for all three phases of \$25,000,000.

I believe this is true—and I am going to allege that it is my belief—that the Commission itself did not know of this great overrun, and the unusual almost quadrupling of this contract, until one of the Commissioners on a routine inspection trip early this year—and I believe it was Dr. Bacher who went out there—in the course of a routine investigation discovered this matter.

In other words, the point is, and I think it is amply proven in this report, that because of a lack of organizational set-up in the Atomic Energy Commission these matters of this tremendous overrun from \$6,000,000 to \$25,000,000 were not brought to the attention of the Commission, and that the Commission's methods of checking caused an error there in which overages of this kind can and, in fact, in this instance did occur.

I refer to this instance not as an exclusive and sole instance, but as the ones that I am talking about this morning.

I think it goes directly to the question of maladministration, of a failure of a properly organized accounting and recording method, and I do not know about—that is, I do not care to go into—the urgency of this matter. Without doubt, the installation or the results to be obtained from this installation are necessary results for the Atomic Energy Commission, but I also call your attention to the fact that in this report is a flat statement that, had there been any idea that the total costs would have gone nearly this high, instead of planning a structure which would work on a 40-hour week, one shift, without doubt they would have planned a much smaller structure that would have worked on three shifts, and been much cheaper in construction and operation.

I also want to call attention, before I finish what I have to say, Mr. Chairman, to a news release that was put out yesterday evening by the AEC. I think there is a line left out of the newspaper clipping, but I believe that it is supplemented in the mimeographed release which the Commission has placed on our desks this morning.

This news release apparently is in anticipation of this meeting this morning, and I assume, because it comes from the Commission, that it is in the way of a defense or an explanation of this phenomenal

situation, but it says as follows—it refers in general to the changes in design. Maybe changes in design were necessary. I do not raise that issue; I do not raise the issue of whether or not faulty construction or faulty anticipation is necessarily involved. The point I am raising is about the system which permits a contract of this kind to get so far out of line, an authorization originally of \$6,000,000, ending up with a potential cost now for full completion as shown in this report of \$25,000,000, but I do want to call attention to this news release in which this very important thing is said, and I quote from the mimeographed news release, because it has the full lines in it. I quote from a paragraph about in the middle of the release, and is as follows:

The validity of these costs can be judged—  
this is what the Commission is saying in its news release—  
properly only in the light of the circumstances in which they were incurred.

This is significant—

The overriding consideration was earliest possible completion of this vital installation because of its relation to the results of the 1948 Eniwetok tests. A part of it will be in production on June 27 and the remainder will be completed as rapidly as possible.

Mr. Chairman, I defy you or any member of this committee to find that this report is bottomed at all on the urgency of the Eniwetok tests. This project was conceived early in 1947. The Eniwetok tests were not held until late last spring. The results of the Eniwetok tests were not reliably available until some time last fall, so how the Commission can come today and attempt to excuse this matter on the Eniwetok tests which, of course, is excitable to everybody, when they had not even been held, and this project had gone into these multiple increases in appropriations, is beyond me.

I find no evidence that the Eniwetok test is referred to in this report as a basis for urgency, and in fact the whole construction project was carried out before the date for the Eniwetok tests had even been definitely settled; that is, the project had been started, and it was well on its way to completion.

Now, I call that to the attention of the committee.

Mr. PRICE. Mr. Chairman?

The CHAIRMAN. Mr. Price?

Mr. PRICE. I think even I could answer that, but I would like Mr. Lilienthal to answer that.

Mr. LILIENTHAL. I hate to keep on pulling rugs out from under the Senator, and this is obviously going to take some care in statement because of security.

The Eniwetok tests had in mind the testing of new designs of atomic weapons. This design affected the fabrication of the nuclear component of weapons in order that they might be improved.

The plans of the Commission's staff and its Los Alamos Laboratory had advanced to the point where a long time before the tests were held, a very considerable time before the tests were held, there was a very good reason to believe that the tests would be successful, although they were rather daring in the design.

In order to take advantage of the test results and do so promptly—that is to say, to redesign and refabricate weapons based upon the results of the tests of these new models—the Commission had to be

ready as far in advance as possible with facilities for the refabrication of the nuclear components.

To await the results of the tests before beginning the design and construction of these new production facilities dealing with plutonium, a most difficult and highly poisonous material with operators—there was a very great urgency in the design and pressing forward with this facility.

It may seem to the Senator, as it might seem to me, might have seemed to me as a layman, that we would wait until after the tests before we took advantage of the tests. But on further reflection, and without going into any more details in open, details with respect to that operation, although the details have been presented to this committee in a closed session, it is perfectly evident that if we were to take the earliest possible advantage of the results of new designs of the nuclear components of weapons, this project, long before the tests were held, had to be under way and pressed forward.

I would like to say, if I may, about the Senator's remark that he does not care to go into the urgency—and, I gather from earlier remarks, nor into the results—of this facility—

Senator HICKENLOOPER. Before you get into that, Mr. Lilienthal, if I may, Mr. Chairman, I would like to just clear the record on one further point about this—at least to me—new philosophy of the Eniwetok test influence.

I will call your attention and that of the committee to the introductory or to the administrative history of this matter as set out by this Board, and I will read as follows:

In the middle of 1946—

that was before the Commission was even established—

the Manhattan Engineer District first approached the General Electric Co. regarding the installation and operation at Hanford of—

this type of facility. I will not mention the symbolic type of facility.

In August representatives of the General Electric management visited the plant at Los Alamos to inspect the facilities there. Various trips of this kind have been made since that time. On one of the earliest made in November 1946, by Mr. Winne and Dr. Suits, accompanied by Mr. Williams of the Atomic Energy Commission, it was decided that a plant of this kind should be constructed at Hanford.

This is in 1946, according to this report, before the Commission had ever been set up, and even before the Eniwetok tests were more than a gleam in somebody's scientific eye.

Mr. LILIENTHAL. Let me respond to that.

Senator HICKENLOOPER. I would just read the rest of it, the rest of this paragraph:

In December 1946, an intensive study of the Los Alamos facilities was made by a working group from Hanford works, and a feasibility report was issued early in the following year. A preliminary design was started in September 1947.

This project, apparently, was born and decided upon in the Manhattan District before the Commission ever took over. This is from the Commission's own report, of its own Board; and that is on page 2 of this report, Mr. Chairman.

Mr. LILIENTHAL. May I respond to that?

The CHAIRMAN. Yes, Mr. Lilienthal.

Mr. LILIENTHAL. The activities for which this facility was designed and built relating to the certain matters in connection with

plutonium, including its fabrication, had been carried on at Los Alamos largely by scientists. It was clear in the Manhattan District days, as borne out by the decision of the Manhattan District in respect to its removal from that place, that both for security reasons—that is to say the concentration of too many crucial matters at Los Alamos, and because it was unsound to continue operating a production line with scientists and technicians—that another facility should be built, which could be operated by those who were characteristically production men, which required a completely different kind of design, although the purpose of the plant would be the same as the one at Los Alamos, where the first fabrication took place.

There was also this question of dispersion, and it was the conclusion of the Manhattan District that Hanford was the best location, as the Senator has indicated, before this Commission was created—and that this facility at some time and as early as possible, for both of these reasons, should be redesigned and built as a production facility rather than as a kind of breadboard scientist-technician-operated facility at a place where there was already too great a concentration of vital production activities, vital activities.

Now, this relation to the question of the change of its location and the change of its characteristics, the question that the Senator has raised, relates to our urgency. The urgency was greatly increased as soon as it was decided—and gleams in the scientists' eyes had a lot to do with it—as soon as it was clear that the tests of models that had been thought about, planned about, argued about among scientists at the laboratory, should be the subject of full-scale tests, which take a long time to prepare for, and as soon as it was reasonably clear that those tests would be successful, because if they were successful, a facility capable of greater output, and located in a better place, would be needed. So the decision to hold a test at all carried with it the sense of urgency about having facilities available when the tests have been completed, to proceed at once into the refabrication of the new models using the materials in the earlier model.

Mr. HOLIFIELD. A project of this scale, if I may interrupt, Mr. Chairman, is not turned on and off like turning on a water faucet and turning it off. It requires years to complete, and it requires months and months to plan; and where a change of design is indicated by the success of a revolutionary new discovery, it becomes necessary to change very complicated plans which have taken months to produce, and it may take additional months to change them to meet the new situation.

Mr. LILIENTHAL. Yes, Mr. Holifield.

Mr. HOLIFIELD. Is that not true?

Mr. LILIENTHAL. And when you bear in mind what the stakes were here as to our urgency—we put the heat on the General Electric Co., and let there be no mistake about it, we share and we are glad to share responsibility for what I believe to have been a fine piece of work. The plant is there. It is there in time to help us in increasing our stock pile, but the responsibility we had was to see that no time was lost, and to persuade the General Electric Co., in spite of all the other jobs that had been loaded on to them, to really bear down on this so that the hiatus in the refabrication and taking advantage of the results of Eniwetok should be as brief as possible, and indeed it has been.

This has been a highly successful piece of work so far as the General Electric Co. is concerned. I would like to make this general remark.

Senator HICKENLOOPER. Just a moment. With all this urgency, Mr. Schlemmer stopped work on this project in January or February—he halted the work; there was a work stoppage on all this—

Mr. LILIENTHAL. Mr. Shugg and Mr. Schlemmer and others can testify as to the facts on that. That is not an accurate statement. I respectfully suggest that it is not borne out by the facts.

Senator HICKENLOOPER. All I know is what the report said.

Mr. LILIENTHAL. If I may come back to this business about getting the whole setting of urgency and results, and this is something on which I am sure the committee will want, in all fairness, to hear at length from the General Electric Co., which has been criticized, very severely criticized, in this report of the Commission's Director of Production, General Counsel, and Controller.

I think it is a wholesome thing and not evidence of incredible mismanagement—on the contrary to have people who are so independent and so desirous of improving results that they put on their hair shirt and they criticize themselves and everybody else. This is evidence of a good, sound, healthy management; whether their criticism in the end—when the answer of the General Electric Co. is made, and other facts are presented—is borne out or not. But I am somewhat disturbed by Senator Hickenlooper's repeated suggestions about not being interested in the whole picture.

The reason I am disturbed can be illustrated best, I think, by something which happened to me in a ball park. I went to see a ball game in the days when I had time for such things, with a fellow who had a habitually rather dim outlook on life, and Ted Williams came up, and Boston was behind, and there was a very good pitcher, and he stood up there and swung around, and he missed the first ball by at least 3 feet, and it was a very awkward performance. This fellow said, "This Williams guy is lousy; he is a lousy batter. Look how awkward he is, and he missed the ball."

The second ball, Williams knocked out of the park. I said, "Well, this does not look like a lousy batter to me." "Of course, he is lousy," he said. "Did you see the way he swung and missed that first ball and the way he hit that ball over the fence? He was awkward when he did it."

Well, I would like to suggest that perhaps the test of a ball player, of a batter, and of the General Electric Co. is not how awkward they may be during the process, but whether a ball is knocked over the fence. In this case GE knocked the ball over the fence, in my opinion.

I would like to suggest that Mr. Winne and his associates be heard from, and that then we come back to some of the more—particularly the Commission's relations to this undertaking. Mr. Winne can respond to such questions about the availability of cost data, some of the general criticism in this report.

It is the business of a good organization to create a critical attitude. But it is not the way to improve the relations between the Government and a very distinguished institution of business, the General Electric Co., for us to carry this critical attitude to such an extent that we have a press conference or a big microphone out in front of the Commission building every time we criticize each other.

Nevertheless, the matter has been brought out in a public hearing; that is wholesome; we can all take it and probably profit by it, but the essential thing for members of the committee, and I think for the American public is this: This is referred to in this report from which Senator Hickenlooper read. He spoke of the Commission-wide policy of being opposed to any detailed supervision of the General Electric Co.'s work. That is a correct statement of our policy, and the reasons for it go very deep, and they are a matter, I hope, that this committee, which is familiar with this policy in such matters as labor and other matters, will weigh and reassess and that in your report you will express your opinion to the country as to its soundness.

As we see it, and we will hope to come back to this at some later stage—if not in August, at some earlier time—to the relationships, to how this job is to be done as it relates to the industrial type of operation. Our view has been from the very outset that there are two things to avoid in this very complex undertaking. That it is owned by the Government of the United States is inevitable. If there had been any alternative, I am sure the members of the special committee would certainly have recommended such an alternative. I think we are all resigned to this.

But there is an alternative to direct Government operation. This is the thing we feel strongly—I feel as strongly as anyone could—should be avoided. That the thing to do is not to have the Government operate these industrial type activities directly, but to get the best industrial talent the country can afford; which is willing to accept and to live under the conditions under which this enterprise presently lives and, perhaps, most of us live. In the General Electric Co. there is such a company.

One of the great differentials this country has over the rest of the world is in the existence of just such companies as this, and I could name a number of others, and some of them are contractors of this Commission. "Contractor" is not the word; they are partners, they are operators. "Contractor" assumes that there is a specific job, like the building of a bridge, like the building of a line of railroad or highway from A to B, something that can be begun at a certain day; when it is through you can pay for it, and that is the end of the relationship.

But here is something that is dynamic and growing if it is to be useful in a new technology, so that the word "contractor" is hardly the word.

What we are trying to do, members of the committee, is to develop a new kind of set-up in American industrial affairs which is a hybrid of public and private; and a hybrid of this kind is only good if the public does not sit on the necks of the private or the private is completely unaware of its public responsibilities.

Now, the other alternative—and this is one that is considered and apparently has had considerable thought given to it—is to pile on top of the industrial operator another set of managers, that is, that the Government should supervise in such detail that every important step taken by the industrial operator should be checked and rechecked and double checked and triple checked by a group of Government supervisors. This we do not believe is right.

I do not want to cast any reflection on the field of regulation unnecessarily, but I think to a considerable extent what has happened

to the railroad industry of this country is an example of what not to do, because in the railroad industry we have regulation carried to such detail that in many respects there is a second set of managers in the form of the regulators.

Now, perhaps, that was necessary in the case of the railroads. We want to avoid it here.

This business of having—this business of carrying this checking business so far as to squeeze out any initiative, to be so sure there shall not be any mistake by someone's measure of judgment, by the checking process, is something that we believe will kill all possibility of holding and retaining the kind of companies which the General Electric Co. has proven itself to be in this over-all job, and generally in the history of this country.

I recall that last September, early September 1948, Senator Hickenlooper made a visit to the Hanford Works, and on several occasions it was reported that he had discussed with the Commission personnel and with G. E. personnel the strength and the function of the Commission's direct employee, of the Commission's staff at Hanford. He questioned General Electric Co. staff people as to whether the Commission's staff was not actually a hindrance to the company, and whether the Commission's staff was not unnecessarily large. These are proper and appropriate and pertinent questions relating to the relations between the Commission and the General Electric Co. His questions about whether the Commission had checkers checking checkers, that the contractor already had, was just the sort of thing that we seek to avoid, and apparently he sought to avoid at that time.

It was the impression of some of the General Electric officials, and in their conversations with Senator Hickenlooper on this visit, that he had strongly implied that if it were a matter of Federal law which required the Commission to have staff checkers making detailed checks of work performed and checked by the contractor, then the Senator proposed to see to it that the law would be changed so that such a redundancy of effort and waste of money would be stopped, and if that were the case I would certainly agree with the Senator that this should be stopped, that this would be a waste of money, that this would drive out the initiative of such contractors as the General Electric Co., and I do not believe it requires a change of law, and I believe the Commission's policy is consistent with it.

This does not mean that the Commission should not encourage the kind of self-criticism and the criticism of its contractors contained in the Williams-Green-Fisher report, and that we will not continue even though we know that these reports are going to be made public, although I think the difficulty of operating with a great industrial concern when such reports are made public that are not intended for that purpose, is evident.

We will continue to encourage such frank and candid and independent critical report.

As I say, Mr. Winne, whose company is directly concerned in this, is here with his colleagues, including Mr. Prout, the actual manager for the General Electric Co. at Hanford, as are Mr. Williams and Mr. Schlemmer and others concerned in this matter.

Senator HICKENLOOPER. Just to clear the record at this time, Mr. Chairman, I want to call attention to the fact that whatever criticism may be directed at the General Electric Co., I have not directed at the

General Electric Co. I have raised no issue of criticism of the General Electric Co. on my own personal belief. If there has been criticism it has been directed at the company by the Commission.

Secondly, with reference to the intense pushing of the General Electric Co. by the Commission in this matter, I again, for the record, want to read now the statement in the Commission's own board's report as follows:

On February 23, 1949, Mr. Schlemmer—

who is the General Manager at Hanford—

wrote to Mr. Prout disapproving the requested authorization for additional expenditures. In this letter Mr. Schlemmer requested immediate cessation of all work involving costs to the AEC not essential to phase 1, stopping of all overtime beyond the present 6-day week, a detailed statement of expenditures through February 15, 1949, and a review of the entire 234-5 program.

And I think I am still standing on the rug.

Mr. LILIENTHAL. Well, Senator, I think if there is an explanation of what phase 1 is, you will see that the rug has disappeared. I do not want to be disrespectful. What I mean is that phase 1 allows operation of that line.

Senator HICKENLOOPER. It is a three-phase operation, phase 1, phase 2, phase 3. It is the completion of three phases, according to this report, which would cost \$25,000,000.

Mr. LILIENTHAL. But the completion of phase 1 permits the operation of a completed unit of the operation, and this will be explained in more detail later. It perhaps is not clear enough in this report; it is obviously not clear.

Mr. ELSTON. Mr. Chairman?

The CHAIRMAN. Mr. Elston?

Mr. ELSTON. Mr. Lilienthal, you had full opportunity to offer the same defense that you are offering this morning to the committee that made the report to which Senator Hickenlooper has referred, did you not?

Mr. LILIENTHAL. Senator Hickenlooper referred to the House subcommittee, and this question, as far as I recall, was not discussed before the House committee.

Mr. ELSTON. No, I am referring to the report of the three persons from your own organization—

Mr. LILIENTHAL. Oh, no.

Mr. ELSTON (continuing). Who made an investigation.

Mr. LILIENTHAL. No, this report—that was not made clear, Mr. Elston, and I am glad to have a chance to make it clear—this report was transmitted to the General Manager and the Commission by this group sent out by the General Manager. It was also dispatched to the General Electric Co. for their comments and a report. They have a report which has also been amended so as to be declassifiable, which is in response to these criticisms.

They have not yet completed their report of response to the criticism, so that what you have in a sense is not a report: it is not a complete report, but a brief to which response has not yet been made, and the General Electric Co. today will make response to these criticisms.

Mr. ELSTON. Well, you had an opportunity to see the report of the investigating committee before it was filed, did you not?

Mr. LILIENTHAL. No I did not. That is not the way we operate. In order to maintain the independence of staff members they present

their views without any argument with the Commissioners or anyone else as to whether they are sound or not. That is why I say this is an internal report. If this report had been prepared for public presentation, there would have been the report, the critical report; there would have been G. E.'s response, and there would have been the conclusions of the Commission as to whether it was correct or not.

Mr. ELSTON. Do you contend that this report is not a complete report?

Mr. LILIENTHAL. I do not contend it. I simply say it was intended to be a complete report.

Mr. ELSTON. How do you account for the fact that your statement here this morning about the entire transaction is not included in the report of your own three investigators?

Mr. LILIENTHAL. Because these men were making an internal report. They were making a report to people who had available to them the whole circumstances, and it was, therefore, no point in putting it into the report. For them to have repeated the whole set of circumstances in a report directed toward a defect, as they believed, and as we all believed, the defect requiring improvement, would have been redundant in the extreme, Mr. Elston.

Mr. ELSTON. Did they not have the same opportunity to inquire into all the facts that you have had?

Mr. LILIENTHAL. Yes, of course.

Mr. ELSTON. Yet there is nothing in that report about any Eniwetok tests.

Mr. LILIENTHAL. Well, they knew the purpose of the report, and Mr. Williams, for example, who can make it perfectly clear, that he was fully aware of the relation to the Eniwetok tests.

Mr. ELSTON. And hearing your explanation and hearing the report of Senator Hickenlooper, as he read it, they seem to be quite different. How do you account for the difference?

Mr. LILIENTHAL. Well, my comments were not a report, Mr. Elston. My comments related to the setting in which this report should be reviewed, and there are people here who can provide that setting. It was not put into this report because that was not the assignment given to these men. This whole context of the facts are known, and there was no point in making a book out of a report.

Mr. ELSTON. The assignment given to them was to determine why the estimate had gone from a few million dollars up to more than \$25,000,000 for this particular project, was it not?

Mr. LILIENTHAL. Yes, Mr. Elston. I am sure that after you have heard Mr. Winne for 10 minutes the questions you have put to me as to the character of the report will be made plain.

Mr. ELSTON. Well, did he have an opportunity to make a statement to the investigators?

Mr. LILIENTHAL. No. This report was supplied as a basis for further discussion, and the response of the General Electric Co. has not yet been made, and that is why I hope you can have it here.

These are simply the criticisms. Now, the company, in all fairness, should be heard to make its response. The report of the three men who went out to Hanford was not intended to be a final report. It was intended to raise questions of defects to which response would be made by the General Electric Co. and by others in the organization. This is the sort of thing that goes on all the time in a well-managed

organization. The final report will then report the joint judgment of everyone having heard all sides.

Mr. ELSTON. When was the final report to have been made?

Mr. LILIENTHAL. I do not know the answer to that, but it can be made—we can get General Electric Co.'s views simply by listening to Mr. Winne at this juncture.

Mr. ELSTON. Was any investigation in progress after that report was filed?

Mr. LILIENTHAL. A good deal of continuing study has been made since that time.

Mr. ELSTON. Who was making that investigation?

Mr. LILIENTHAL. Well, I would not call it an investigation, but the General Electric Co. has put men to work on figures and facts, and has prepared a report which has been made available to you which, I believe, in its present form is unclassified. There is a good deal of further work which has been done. It is not contained in this first report because that was not the purpose of the first report.

Mr. ELSTON. I notice you say in your release, your press release, that "plutonium is a deadly material."

Was it any more deadly after the estimate got up to \$25,000,000 than it was when the first estimate was given?

Mr. LILIENTHAL. Mr. Elston, if you want some information about this subject, there is a man here, Mr. Winne, of the General Electric Co., whose company has been publicly severely criticized in an internal report. It would seem to me a matter of fairness to permit him to answer that question and some other questions of the same character.

Mr. ELSTON. It so happens that he did not put out this press release; you put it out.

Mr. LILIENTHAL. It is a joint press release, Mr. Elston, by the General Electric Co. and the Commission jointly.

Mr. ELSTON. Well, it is headed "United States Atomic Energy Commission," and I see no reference to the General Electric Co., except as you express some position of the General Electric Co.

Mr. LILIENTHAL. The second sentence in the press release states:

The Commission and the General Electric Co. feel that the facts pertinent to a consideration of the statement should at once be made public.

This is a joint press release.

Mr. ELSTON. Yes, but you are simply repeating what the General Electric Co. feels. This is not a report that the General Electric Co. made. This is the Atomic Energy Commission's report.

Mr. LILIENTHAL. If we are talking about the release still, this is a joint statement.

Mr. ELSTON. All right.

To get back to my question which you have not answered, was plutonium any more deadly after the estimate got up to \$25,000,000 than it was when the original estimate of three-million-something was made?

Mr. LILIENTHAL. Plutonium was no more deadly with the measures that had been taken and the fuller understanding of how to protect the employees of the General Electric Co. who were going to operate this plant—that knowledge had increased, and if and when you will permit Mr. Winne to respond, he will explain the technical reasons why the estimates were revised upward, in order to take into account

the increased knowledge of the deadliness of plutonium to workers having to fabricate it.

Mr. ELSTON. All right, Mr. Chairman.

The CHAIRMAN. Now, Mr. Winne, you have some comments on this matter?

**STATEMENT OF H. A. WINNE, VICE PRESIDENT IN CHARGE OF  
ENGINEERING, GENERAL ELECTRIC CO., SCHENECTADY, N. Y.**

Mr. WINNE. Yes, Mr. Chairman. I would like to comment in general on this particular construction job, and on the whole project, to some extent.

Senator HICKENLOOPER. Mr. Chairman, I would like to ask Mr. Winne a question.

When did you first see the report of this Williams' board? When was it sent to General Electric?

Mr. JACKSON. Before that, could we have him qualify for the record?

The CHAIRMAN. Yes. He is vice president of the General Electric Co.

Mr. WINNE. General Electric Co.

The CHAIRMAN. In charge of?

Mr. WINNE. Engineering policy, and chairman of our so-called nucleonics committee.

The report was sent to me by Mr. Wilson, received by me or by my office—I did not happen to be there at the time, so that I did not actually see the report personally until the first of this week, but it was received in my office on June 7. Mr. Prout had a copy of it—when?

Mr. PROUT. Friday before that.

Senator HICKENLOOPER. The date of this report is May 6, 1949, so that this report had been made apparently to the Commission a month before it had been sent to our office.

Mr. PROUT. Friday, June 3.

Mr. WINNE. You had it on Friday, June 3. But we had previously to the receipt of the report met with members of the Commission staff, and Messrs. Fisher, Green, and Williams, and discussed in general with them their investigation, but we had not at that time seen the actual report. As I say, these are the dates on which we did receive it.

Perhaps I should give just a little background since something was mentioned about personnel changes in the company, and so forth.

Going back to the fact when we took on this contract for the Manhattan District, in May of 1946, the contract embodied two main parts. One was the operation and the construction of some additions to the Hanford Works. The other was the construction and operation of a laboratory in the vicinity of Schenectady to be used for the development of power from atomic energy to be known as the Knolls Atomic Power Laboratory.

Mr. Wilson, our president, was and is very deeply interested in this whole project, and at that time he established a company nucleonics committee, consisting of myself as chairman; Dr. Zay Jeffries, vice president in charge of our chemical department; and Dr. Guy Suits, in charge of our research laboratory.

Later there was added to it Mr. David Prince, vice president in charge of our general engineering and consulting laboratory, and

that group has been acting continuously as more or less of a board of directors for our operation under this contract since we entered into it initially and is still functioning as such.

At the start of the operation, of our operation of the Hanford Works, there was envisaged the operation, plus the development and construction of some additional chemical facilities. In considering how to set up and operate we decided to place the Hanford Works under the general supervision of our chemical department, with Dr. Jeffries, then vice president and general manager of it, and his immediate assistants at that time, Mr. W. H. Milton, now vice president of our company, located in Washington, to set up the initial organization out there, which was composed very largely of the organization which we took over from du Pont, plus a considerable number of our own people in the administrative and technical sections.

We then appointed—Dr. Jeffries did—Mr. D. H. Lauder as manager of the Hanford Works.

Along in 1947 it became apparent that a much larger construction program was going to be necessary than involved in the new chemical plant, and in the latter part of 1947, after a lot of discussions among ourselves and with the Commission, the company decided to set up the operation of the Hanford Works as a separate department; that is, our company now consist of nine decentralized operating departments, one of which is the nucleonics department which is now responsible for the operation of the Hanford Works, and the general administration of our activity under our contract with the Commission.

At that time, as an interim measure, and we all knew it was an interim measure, Mr. Wilson appointed Mr. Roy C. Muir, who had just retired as vice president and general manager of our very largest department, the apparatus department, as vice president and general manager of the nucleonics department, in order to give time to make the necessary shift in our entire organization so that we could make available for that job the man who Mr. Muir and Mr. Wilson and those of us on the committee wanted to get to operate the plant, who was Mr. George R. Prout, who is now vice president and general manager of the nucleonics department, and was formerly vice president and general manager of our air-conditioning department.

I say that simply to explain some of the personnel changes, but also to show that there has been a continuous over-all direction, the group comprising this nucleonics committee.

Now, the construction job at Hanford has embodied a great deal more than this 234-5 project, although it in itself is quite a large project. But just to illustrate the magnitude of the construction operations which we have carried on, and I feel very successfully, at Hanford, I would like to give these figures.

From July 1, 1947, until April 30, 1949, there are approximately 65 what might be termed major construction projects which have been initiated, and many of which have been completed, and all of which are nearing completion. Those total 65 projects, our initial estimate of the costs, was a total of \$230,602,000.

As I say, many of the projects have been completed, and all of them are nearing completion, and the present indicated actual completion cost will be \$237,162,000, or an overrun of approximately 3 percent,

and included in there is this 234-5 project on which the overrun in percentage was quite sizable.

Now, to get to this 234-5 project: This facility, as may have been made clear—

The CHAIRMAN. If you deduct the overrun on the 234-5, do you know what the percentage of overrun would be?

Mr. WINNE. There would be no overrun. We would be under the estimate if we deduct, because, you see, we are over less than \$7,000,000, including the jump from the initial estimate, formal estimate of \$8,760,000 on 234-5, to \$24,950,000.

The CHAIRMAN. It would be about 12 million under?

Mr. WINNE. So that if we subtracted that project, it would take out an overrun of roughly \$16,000,000, and we would then be 8 or 9 million dollars under the estimated cost of the total of what would then be 64 projects, Senator.

Now, this 234-5 facility is a facility for the final refining and fabrication of plutonium metal. Plutonium metal is not only the material which has been used in some of the bombs, but in itself it is an extremely poisonous material. It is one of the most deadly poisons known to man.

The small particles of dust can be extremely dangerous, and to show you some of the conditions which we had to meet in the design of this facility, and to emphasize the point which was brought out by Mr. Elston, that at least our knowledge of the dangerous nature of plutonium has increased, as the cost of the facility increased; when the design on this building was started, it was believed that there could be permitted a concentration of plutonium dust in the air, and this is not a very heavy concentration, of about one part in two and one-half trillion parts of air.

Now, to offer a margin of safety, and it may seem that we put in an overadequate margin of safety, but later results have proved that it was no more than adequate because we have a pretty conservative staff of health physics people at Hanford, of whom we are very proud—we think they are the best in the country—the plant was actually designed so that the normal concentration would certainly not exceed one part in fifty trillion, and later results have proved that that is none too safe. Actually we are going to be able to get, with the equipment that we have installed, down to about as low as one part in one hundred trillion, and that is the amount that is today considered by the best authorities to be a safe margin, so that had we not of our own accord put in the additional factor of safety, above the value which was thought safe at the time we started this design, we might have on our hands today a plant which we would have to start in to rebuild, and at a cost probably in excess of \$25,000,000.

Now, it is true, as Senator Hickenlooper brought out, that we began first to consider this project in August 1946. The Manhattan District—

Senator HICKENLOOPER. Before you proceed, Mr. Winne, with reference to these very careful precautions that you must take, as a layman I am roughly aware of them; I have been out there and I know something about them, but I would like to call your attention to this statement in this report when we get into the matter of extensive costs.

On page 4 of the report, this board says this:

It appears that the project has been worked up on the basis of—  
a certain capacity, I will not mention the exact capacity—

on a single-shift 40-hour week. Although it appears that there are both security and technical reasons for this decision, a plant of smaller capacity operating on a three-shift basis might have been feasible and would have been given consideration by the Operations Division, AEC, Hanford, had they had any indication that the \$6,350,000 estimate was too low.

That goes to the point of whether or not it is a safe situation or a financial disruption.

Mr. WINNE. Well, I think we should be careful not to confuse two things, and those are actual production capacity of the plant and safety conditions in the plant.

Now, the safety conditions have to be met whether you are turning out a teaspoonful or a ton of the stuff a day. You still must meet the same over-all safety conditions.

Now, insofar as the actual capacity of the plant is concerned, again subsequent events with the increasing production capacity of the Hanford works, assuming, of course, that that capacity continues to be necessary, which I do not know whether it will be for weapons or not, but in any case if it is not needed for weapons, the same material which we are producing there can also be used in power reactors, that is power piles, producing heat, to be used, in turn, in the production of electric power or for other purposes. So that I feel that this plant has use even far beyond the weapon project alone, because it is so laid out that it can be used to form special parts which might be needed in the production of power piles and that sort of thing, so that it is a pretty complete facility, and actually the matter of capacity in the terms that we are talking about there, that is, we do not ship material out of Hanford in carloads per day, of course, as you well know, and the physical size of the plant and the physical size of the facilities in it could have been decreased very little even had we attempted to lay it out on a three-shift basis rather than a one-shift basis. Probably some saving in cost could be made, but—

Mr. JACKSON. Mr. Chairman, might I interrupt the witness just to ask one or two questions in the way of introduction?

Doctor, I wonder if you would state whether or not a building of this kind has ever been built before.

Mr. WINNE. Well, I think certainly none exactly like this. Now, there is a facility in operation at Los Alamos for turning out certain plutonium metal parts that has been operating since—well, since the first bombs were produced, in the early stages of the project.

Mr. JACKSON. Is this an ordinary building construction job?

Mr. WINNE. Insofar as the building itself is concerned, it is not ordinary, but it is not too unusual. It is the facilities within the building, it is the provision for tremendous amounts of ventilation, the provision for filtering, not only the incoming air but especially the outgoing air because we have to protect not only the workers in this building, but all the people and the animals in the surrounding countryside.

Mr. JACKSON. Doctor, I am speaking, of course, of the entire structure.

Mr. WINNE. Yes. The entire facility is different from anything that has ever been built before. There is no question about that. As far as the actual physical building and its walls and doors, it even is somewhat different because of the provision for ready decontamination in case any rooms gets contaminated or anything like that; and the provision of means for preventing dust collecting there or that sort of thing.

But as a structure, the building itself is not extremely special, you might say. It is quite special but not extremely special.

Mr. JACKSON. This type of plant has never been built before?

Mr. WINNE. It is wrong to think of this installation as a building. It is a complete facility involving not only the building but all the things in it, the ventilating equipment outside of it, the tremendous, big, high stack outside of it, great quantities of air filters, and so forth, and remote manipulating equipment, so that operators do not have to touch the material which is being handled, have no possibility to breathe it; walls separating them from any possibility of contamination; zones which can be decontaminated for repair of equipment, and many things like that, which make it an extremely special facility.

Mr. JACKSON. What portion of the costs are involved in ordinary building materials, and what portion of the total costs were involved in the unique type of equipment and facilities that go into the building?

Mr. WINNE. I do not know that I can answer it offhand.

Mr. JACKSON. Approximately?

Mr. WINNE. I am just talking to Mr. Baker, the Comptroller of our Nucleonics Department; he can get together some figures on that for submission at a later date, if you want it, but I do not have it broken down in detail now.

Mr. JACKSON. Submit it for the record.

Mr. WINNE. Is that all right?

Mr. JACKSON. Yes.

(The information referred to is marked "Exhibit 15" and will be found in the appendix.)

Mr. WINNE. Well, as I say, we started to discuss this project with the Manhattan District, or rather they did with us in the summer of 1946.

At that time the reasons given for desiring to install such a facility at Hanford were that they wanted to get it under the general aegis of a production operation instead of a laboratory; that it seemed desirable that Hanford should complete the fabrication of the plutonium metal rather than to ship its products to Los Alamos, and also it would have duplicate facilities in case anything happened either within or by enemy action at Los Alamos.

Well, at that time we told—in August, I think it was, in 1946, several of us visited Los Alamos, looked over this facility in operation at Los Alamos, and told the Manhattan District that we agreed with them that there was some reason for putting an installation at Hanford, but that we felt we could not embark upon it at all full-speed at that time because we were taking, just taking over the operation of the plant, and we were also getting into the development and design of this new chemical separations process. But we continued to study

the matter and, as was brought out, I think, in the report in December 1946, we sent some of our people there again, some of our technical people from Hanford, to look over the facility, and in February 1947 we formed a so-called feasibility committee to study the design and production of a plutonium fabrication plant at Hanford.

In July that feasibility study—July 1947—was concluded, and in September 1947 a project proposal was prepared.

Now, at that time we had no design for the plant whatsoever. We did not even know what size the buildings would be. They were, perhaps, not gleams in a scientist's eyes, but it was a gleam in the eye of our design and constructions divisions, perhaps, and in September of 1947 we submitted to the AEC this project proposal in the amount of \$6,350,000. That went through some modifications, resulting in the figure of \$6,255,000. It really could not be dignified by the name of an estimate; it was more of what we would term a "horseback guess," really, because we did not have design information; even complete process information. We had not determined fully what process we would use and, therefore, that was just more or less a guess at what the order of magnitude might be.

As it turned out it was not even very good as a guess of the order of magnitude, but it was the best that we could offer under the circumstances.

Then, in February 1948, I believe it was, when the AEC began to put the real pressure on us to get this job going and get it going fast, I think that was about the time you began to see the need for this from the projected or about-to-be-done tests at Eniwetok; is that not correct?

Mr. LILIENTHAL. That is correct.

Mr. WINNE. That is when we began to get the real pressure on us to shove the design ahead, and it was then that we began to get the subcontractors into the project, the Giffels & Valet Co., a very reputable firm, as architectural engineers.

Of course, we had to do in our own organization a large part of the design of the very special handling equipment, especially that equipment which was involved in the so-called remotely operated mechanized line.

In July of 1948 we, at the request of the AEC, submitted a new project estimate which was on the order of \$8,900,000. Again, even at the time of making that estimate, there was no completed design, hardly even the start of design which was available.

Senator HICKENLOOPER. Dr. Winne, may I read you a statement from the report of the committee with respect to that estimate? I am quoting from the report:

This cost estimate by Mr. Prout was confirmed on July 12, 1948, by a letter from Mr. Muir—

who was your operating manager there—

at the request of Mr. Shugg, who had insisted upon assurance that the cost estimate was accurate. In this letter Mr. Muir referred to the net estimate of \$8,239,059, and stated: "This estimate has been very carefully made, and we have every reason to believe that, barring unforeseen difficulties, the project can be completed as outlined within the amount estimated."

I mean, that is an indication to me at least from the report that it was not a "lick and a promise" estimate at all. It was an estimate arrived at through very careful consideration.

Mr. WINNE. That was Mr. Muir's understanding at the time. Subsequent review of the project has brought out the fact that even at that date there were not design drawings and data available on which to make an accurate estimate, and there were many changes which had to be made in what was then contemplated as the scope of the job as we went along in order to accomplish the necessary amount of safety and security, in order to provide for the ventilating equipment which had to be increased many times above that which was contemplated in that initial estimate, and changes in the remote operating equipment, which was truly only a gleam in our laboratory people's eyes at that time, and had to be revised as we went along and learned more about the job.

So that that estimate as made at that time was not an estimate based on anywhere nearly completed drawings. We feel that as a general rule you cannot make an accurate estimate unless your design is at least on the order of 75 percent or so complete. There was nowhere near that stage of completion at that time, but the urgency was being emphasized all the while by everybody.

We thoroughly understood that the job had to be done, that it had to go ahead, and, while no one was overlooking costs or squandering money or anything like that, still there was very definitely the feeling in our organization that this job had to go ahead and get through as nearly as possible on time, even if it did considerably exceed the initial estimate.

Our understanding of the urgency was that it was extremely great, and that persisted throughout the entire construction of the project. Many times, a good deal of the time construction, as you might say, was almost ahead of the design in an effort to get the project completed just as soon as possible and have a thoroughly adequate project.

Now, the project is completed, insofar as phase 1 is concerned. It is now going into operation. We believe it is a thoroughly adequate but not overadequate facility. We believe it is a facility which can be operated safely. We will not ask our people to take undue hazards. It is always a policy and has always been the policy of our company to make our operations safe. We have never paid what is known as a hazard pay. We will make the operation safe rather than to ask a man to do an operation for which he feels extra pay is justified, and that is the principle which has guided us in the design and construction of this facility. We think it is a good facility. We think it is a facility which is worth what it has cost, and that it was done in a very short time from the time that actual work was started.

The CHAIRMAN. Senator Hickenlooper?

Mr. ELSTON. Mr. Chairman.

The CHAIRMAN. Mr. Elston?

Mr. ELSTON. Dr. Winne, when the first estimate was given was it not known at that time that this was rather an urgent project?

Mr. WINNE. When the first estimate of \$6,000,000—that was in August of 1947. It was known that the project was wanted as quickly as possible, but there was not the urgency on it in our mind at that time that became apparent in the early part of 1948.

Mr. ELSTON. What time was fixed in the very beginning as a completion date?

Mr. WINNE. I think I have that here; just a moment. I have not the figure right here. Mr. Shugg tells me that it was scheduled to

start operation July 1, 1949, to be completed sometime later. That was at the time of this initial estimate of September 1947. Maybe Mr. Baker can locate it in his file here. It was in February 1948, the Commission emphasized the urgent need for having a production line ready for operation by January 1949.

In the Williams-Fisher-Green report there is an estimate that at the time of this \$6,250,000 estimate, the time schedule contemplated the completion of construction by April 1, 1949, the initial production started—

Mr. ELSTON. When was it actually—

Mr. WINNE. Wait a minute. I do not know exactly what that means:

contemplated the completion of construction by April 1949. The initial production started by July 1, 1949, and substantial completion by January 1, 1950, and full production by March 1, 1950.

Mr. ELSTON. Now, how much has it been speeded up ahead of that estimate?

Mr. WINNE. We will be in production this month. Will we be in full production in July? We expect to be in full production by July.

Mr. ELSTON. And how far did you miss that April date, the original April date, 1949?

Mr. WINNE. Well, the April date was specified as the completion of construction—I suppose substantial completion of construction—but we would not start production until July 1, 1949, and full production by March 1, 1950.

Mr. ELSTON. When was construction completed?

Mr. WINNE. Oh, when would you say, Mr. Prout? Along in May, Mr. Prout tells me, Mr. Elston.

Mr. ELSTON. Let us get it right. The original estimate was based on completion of construction in April 1949?

Mr. WINNE. Yes.

Mr. ELSTON. And actually—

Mr. WINNE. It is so stated here, at least.

Mr. ELSTON. Actually construction was not completed until May 1949.

Mr. WINNE. Well, it depends on what you mean by "construction," of course. I am not sure just what was meant by this "schedule of completion of construction by April 1, 1949, with initial production starting up, not coming on until July 1, 1949."

You see, we have considerably collapsed the time between what we term "the substantial completion of the construction and the getting into full production."

Mr. ELSTON. So, you do not know what that means in the report?

Mr. WINNE. I cannot tell you exactly what was contemplated in this particular estimate, Mr. Elston, except from the wording here.

Mr. ELSTON. Actually you say that the building construction program was completed in May. Now, if they were referring in the Williams' report to actual construction being completed in April 1949, what else could they be referring to?

Mr. WINNE. Well, they were presumably referring to construction, physical construction of the facility being substantially completed by April 1, 1949, ready for our production people to move in and get cleaned up and ready to start initial stuff through the facility by July 1, 1949.

Mr. ELSTON. And actually that type of construction was not completed until May 1949?

Mr. WINNE. Well, that is substantially correct insofar as the dates are concerned, Mr. Elston.

Mr. Prout tells me, informs me, that—and it is quite evident, of course, when you look at the \$6,350,000 estimate—the facility which was contemplated to be completed by April 1, 1949, was not anywhere nearly so complicated and complex as the one which actually proved to be necessary, and which was substantially completed in May of 1949. Here is a facility which was initially estimated, as has been thoroughly emphasized here, to cost around \$6,350,000, and which will cost several times that, and is completed about a month later, and will be in full production several months earlier, 6 months or so earlier, than was contemplated at the time that estimate was made.

The CHAIRMAN. Are there any other questions?

Senator HICKENLOOPER. I may just again state, Mr. Chairman, that I do not care to pursue this matter of design change, and things of that kind, with Dr. Winne. I know nothing about engineering nor of the requirements.

I again say that my criticism of engineering operations, that is another story. I am criticizing administrative procedures in a big operation of this sort, so far as over-all supervision is concerned and, therefore, I have no questions to ask Dr. Winne.

Mr. WINNE. If I may comment just a moment on that, Senator?

The CHAIRMAN. Yes, Dr. Winne. Go ahead.

Mr. WINNE. The system of cost estimating and cost control on a project of this nature is a sort of a complex thing to keep under control at all times, and the urgency of the problem has a considerable bearing on how well you can actually keep account of it.

Now, at the time this job was going on, bear in mind that we were also in the throes of completing additional major production facilities at Hanford as well as a great many houses and other facilities in the whole operation.

We were doing all that we could, all that we felt we could, at least, in the way of cost reports and so forth.

We, perhaps, could have had a lot more cost people on the job, the Commission, perhaps, could have had a lot more cost and accounting people checking up on us, although we usually feel that we get plenty of checking from the Commission and that more certainly would not be justified; that is, we have to take the responsibility for giving the Commission these figures and estimates as we go along, and we do not expect them to go into great detail in analyzing such figures as we give to them, so that we have to accept the onus for not advising them sooner of the way that this project looked that it was going in the way of overrun, although we were reporting monthly, about a month late, as to expenditures as they were going along and as to percentage of completion, from which it was evident along in the fall of 1948 that the project would be considerably overrun.

But again we cannot create in this room the atmosphere of urgency that surrounded the whole construction job at Hanford, and especially this particular job at that time. The effort was to get the job done and get a job that would work, and we have done that.

The CHAIRMAN. Well, Doctor, I just want to say in all fairness to the company and to the Commission: Certainly there is no allegation

here of any dishonesty; there is no allegation here, as I understand it, of any misfeasance on the part of the company.

The allegation that Senator Hickenlooper has made, as I understand it, is that this overrun was made without the knowledge of the Commission. I am very happy to know that in your opinion—and for your opinion I have a very high regard, because I remember with a good deal of pleasure the testimony that you gave and which helped us when we were writing this act.

I also remember your participation on the committee, the Acheson-Lilienthal Committee, that brought forward our magnificent international proposals. It is good to know that it is done and it is going to work.

I have in mind during the war there was no criticism certainly of it; it could not have been anticipated, but you remember we built the thermal-diffusion plant at Oak Ridge which cost, I believe, almost \$100,000,000, and it ran a week and we tore it down. That was just one of the necessary operations we hoped would be fruitful, but it was not.

I make this statement simply in fairness to the company and to the Commission. I understand that the Senator's charge on the matter is of a limited nature as to the fact that the Commission was not aware of the overrun while it was going on.

Mr. WINNE. Well, I appreciate that very much, Senator.

Would you care for any comment on the general operations at Hanford? We are quite proud of the job which has been accomplished on the operations.

The CHAIRMAN. It may be, Doctor, that this may become pertinent, and we will be glad to hear from you on a future occasion during these hearings. We will hear from you if it is pertinent. Right at this time it is 1 o'clock. We have announced a policy that 1 o'clock we quit.

Mr. WINNE. I see.

The CHAIRMAN. So, with this, if there are no further questions, the committee will recess until tomorrow morning at 10:30, when we will take up, as I understand it, the matter of the Chicago costs.

Mr. LILIENTHAL. Senator, may I just say this? The question of whether the Commission knew of these costs is related to whether the company knew of these costs at the time. I think that the comment on that would clear this whole record in that respect.

Mr. WINNE. Well, as I pointed out in reference to Mr. Muir's letter in connection with the estimate of July 9, at that time he was not aware that the job was going to overrun. He felt that it was a fair estimate. The matter of the overrun, the probably large overrun, did not come to the attention of our top operating people at Hanford until along, let us say, the latter part of the fall, along in the latter part of the fall.

Now, you may say that we should have had a set-up such that it could not happen. There would be that much delay, but it did happen, and, as I say, it is impossible to create in this room the atmosphere under which these jobs had to be done there to get them done in the time they did—the new production facilities and all, which were much larger jobs than this one was, of course, and which were completed in very short time, and well within the estimated costs, which com-

pare very favorably, in our estimation, with the costs and times involved in the construction of the initial facilities.

The CHAIRMAN. Your point is that if it was not known that you bear a good deal of the onus for not knowing about it.

Mr. WINNE. We bear that onus.

The CHAIRMAN. And, therefore, not notifying the Commission; is that your point?

Mr. WINNE. That is right; yes, sir.

Senator VANDENBERG. May I inquire?

The CHAIRMAN. Certainly.

Senator VANDENBERG. Dr. Winne, I am not clear on just one point. First, may I ask you: This is a cost-plus contract?

Mr. WINNE. Yes, it is, Senator Vandenberg. Cost plus one dollar, for the life of the contract.

Senator VANDENBERG. That is hardly a cost-plus contract in the ordinary phraseology; is it?

Mr. WINNE. No; it is not; and that is one reason for the terms of this contract. It is a contract in which the General Electric Co. is guaranteed against loss, but it is also guaranteed against profits.

If I may take just a minute, Mr. Chairman, I would like to bring out one point which has apparently caused considerable confusion in the minds of various people who have thought of this contract, and that is: There is embodied in the contract a provision that we shall receive from the Government a monthly payment of \$200,000.

Now, that many times has been termed an administrative fee, and has been considered by numbers of people as a profit to the General Electric Co.

In the first place, it is not an administrative fee. It is an administrative fund against which we are permitted to make such charges as we can justify as actual expenditures on our part; that is, it is to reimburse us for administrative expenses applicable to the contract operations which are not directly reimbursed at either Hanford or the Knolls Laboratory, and to serve as an indemnity fund to implement the hold-harmless clause of the contract which specifies that all costs applicable to the contract are to be recouped by us.

Now, this is a very important part of this which is overlooked by apparently many people in considering it. Under the terms of the contract we are accountable for the amount of the payment and must return and shall return to the Government any excess of receipts over the applicable costs and expenses, and our accounting must be certified by a firm of independent public accountants satisfactory to the Government.

Now, the type of charges that we are allocating against this fund are these: The cost of top administration at Hanford—that is, Mr. Prout's salary—and direct service rendered the operations on the contract on the part of certain administrative departments, such as a portion of my time, a portion of your assistant comptroller's time, who spends a good deal of his time on this job. Then, also charges for services rendered the contract operations by other departments in the laboratories; that is, some of Dr. Jeffries' time from the chemical department, which he spends in connection with nucleonics committee; charges for the expense incurred within the research laboratory for administration of activity at the Knolls atomic power laboratory.

That is some of the time of Dr. Suits and so forth; and charges for costs and expenses properly, in our estimation and in that of the accountants, allocable to the contract but which, for one reason or another, are not permitted direct reimbursement at either Hanford or Knolls.

Illustrative of this charge is a community-chest contribution at Hanford, and the cost of operating three automobiles which we have at Hanford, which were purchased by the company.

Now, those charges will be accumulated; they will be examined by a firm of certified public accountants approved by the Government, and the amount of those charges will be subtracted from the amount accrued under this \$200,000 per month payment and the excess will be returned to the Government, so that there is no profit there. The only profit whatsoever which we realize from this operation is that on such standard electrical equipment which we may supply to Hanford or to the Knolls Laboratory. And that is supplied on a competitive basis, and to date the figures show that we have received orders for only about 50 percent of such equipment which has been supplied, and I think we might reasonably expect to obtain that amount even if some other firm were operating Hanford and Knolls, so I feel that we are perfectly sound in claiming that we get no dollar profit other than the one dollar from the contract, Senator Vandenberg.

Senator VANDENBERG. Well, there was nothing sinister intended by that.

Mr. WINNE. No; I appreciate that, but I am glad to have the opportunity to explain the administrative fund because there has been so much misunderstanding about it.

Senator VANDENBERG. This is the question I wanted to get clear in my mind: I understand the Commission affirmatively approved the \$6,000,000 proposal; is that correct?

Mr. WINNE. Yes; they approved that.

Senator VANDENBERG. In the first instance. Then, does the project multiply three times without any further affirmative action by the Commission?

Mr. WINNE. No; they affirmatively approved—what was it? \$8,760,000.

Senator HICKENLOOPER. The Commission or the local managers?

Mr. WINNE. Well, to us the local management represents the Commission, Senator; I do not know.

Senator HICKENLOOPER. Yes. I just wanted to get that point straightened out.

Senator VANDENBERG. Where do you get your responsible authority for moving on from \$8,000,000 to \$25,000,000?

Mr. WINNE. Only in this particular case? Only the authority for doing this job. There was no, I think, definite approval—I mean, there was no written official approval of the further expenditures, except that the Commission construction representatives were working right on the job with us at all times, and knew the progress of the work and had available to them such cost reports as we, in general, had available.

We made, as I said, monthly reports which got to them about a month late, but again, as I say, this job, in the estimation of ourselves and of the Commission, was a job which had to go through and had to be done even if it were going to cost more.

Now, as a result of this particular instance we and the Commission both have tightened up very greatly on the operations in this respect.

We are going to insist in the future that we make no project estimates which are accepted as such until we have the design far enough along so that we can make such an estimate, and that means 75 percent or so along.

Had we done that on this job it would be nowhere near ready to go today. It all depends on the urgency of the job as to what steps shall be taken. But in the future we are going to make very certain that the conditions of the estimate are known fully to the Commission.

We have tried to do that in general in the past, but there have been mistakes and omissions, as there always are in any big operation. We are going to do our level best to prevent those in the future, and to make sure that the Commission is at all times fully informed and approves in advance all such expenditures as are made.

Senator VANDENBERG. When was this change in policy decided upon?

Mr. WINNE. Early this year, Senator Vandenberg.

Senator VANDENBERG. Then, as I understand it, you are saying that you felt that you had firm authority from the Commission to complete the project, regardless of cost?

Mr. WINNE. That is the way we looked at it, Senator, bearing in mind at all times the necessity of keeping cost to a minimum of cost.

Senator VANDENBERG. Certainly.

Mr. WINNE. But we felt that this job had to go through regardless of cost.

Senator KNOWLAND. Mr. Chairman, just before you adjourn, I would like to get for the record, if they could be supplied, as I understand it, the monthly figures which were supplied.

I would like to get your figures to the Commission, with approximately a 30-day time lag on it.

Mr. WINNE. Something like that.

Senator KNOWLAND. I would like to get the monthly figures, and what they show right up to the time that the Commission apparently sent this committee out to investigate the matter.

The CHAIRMAN. Would you furnish those for the record, Doctor?

Mr. WINNE. I can give them right now if you like.

The CHAIRMAN. Now, Doctor, I said 1 o'clock, and it is 12 minutes after 1.

Mr. WINNE. We can do it any way that you please.

The CHAIRMAN. Submit them for the record, and then I want to make a copy available to Senator Knowland.

(The information referred to is as follows:)

ADDITIONAL INFORMATION SUBMITTED BY HARRY A. WINNE FOR THE RECORD IN CONNECTION WITH THE OPEN HEARING BEFORE THE JOINT COMMITTEE ON ATOMIC ENERGY, WASHINGTON, D. C., JUNE 15, 1949

Senator Knowland requested that the dates and amounts shown on the various monthly cost reports on the 234-5 project, as submitted by the General Electric Co., be included in the record.

With the exception of October and November 1948, during the period of the major construction program, construction cost reports were issued by General Electric Co. each month. Copies of these reports were furnished as a matter of routine to the Atomic Energy Commission. Reports for the months prior to October 1948 set forth for each project (1) the expenditures for labor and

material incurred to the date being reported upon; (2) outstanding commitments as of that date; (3) percentage of physical completion of the work; and (4) the amount of authorized funds. Indirect costs were accumulated separately for later allocation.

During the month of September 1948 a change of accounting method was mutually agreed upon by General Electric and the Commission whereby the indirect costs such as project administration and construction overhead would be allocated to each project each month instead of at completion of the program and would be included in the report together with labor and material costs.

The clerical change-over acquired to give effect to this change was completed in time to issue the December report on the new basis. Therefore October and November were included in that statement and not issued separately.

Beginning with reports for the month of December 1948 the regular monthly reports showed for each project (1) the labor, material, and indirect costs incurred to the date being reported upon; (2) outstanding commitments as of that date; (3) percentage of physical completion; and (4) amount of authorized funds.

Below is a tabulation of data with respect to the 234-5 project taken from the regular monthly cost reports.

*Data concerning financial information on the 234-5 project taken from regular monthly cost reports issued by General Electric Co.*

[Amounts in thousands]

Date issued	For period ended—	Costs	Commitments	Total	Percent- age com- pletion	Directive amount
June 18, 1948.....	May 31, 1948	\$326	615	941	15	\$6,255
July 26, 1948.....	June 30, 1948	638	1,002	1,640		6,255
Aug. 20, 1948.....	July 31, 1948	970	1,258	2,229		6,255
Sept. 28, 1948.....	Aug. 31, 1948	1,341	1,609	2,950		6,314
Nov. 1, 1948.....	Sept. 30, 1948	3,201	1,810	5,011		6,314
Jan. 28, 1949.....	Sept. 30, 1948	3,005	1,810	4,815	23	6,314
Feb. 25, 1949.....	Dec. 31, 1948	9,059	2,628	11,687	43	8,760
Mar. 15, 1949.....	Jan. 31, 1949	12,601	1,710	14,311	68	8,760
Mar. 31, 1949.....	Feb. 28, 1949	15,697	1,130	16,827	87	8,760
Apr. 20, 1949.....	Mar. 31, 1949	17,820	943	18,763	96	8,760
May 20, 1949.....	Apr. 30, 1949	18,733	542	19,275	99	8,760

<sup>1</sup> Labor and material only, see above.

<sup>2</sup> Includes indirect costs for first time, see above.

<sup>3</sup> Revised due to reallocation of indirect costs.

From the above, it is apparent that the report issued September 28, 1948, showing only 21 percent completion with \$2,950,000 expended and committed, not including project administration and overhead, indicated the possibility of a very considerable overrun. This became even more definite of course with the report issued November 1, 1948, and in the succeeding reports.

However, in fairness to the Atomic Energy Commission, it should be pointed out that these figures were available to us a short time before they were available to the Commission and our management at Hanford should have been cognizant of the approaching overrun and have brought it specifically to the attention of the Commission representatives. As I stated in my verbal testimony, the reasons this was not done were several, including a change in accounting methods in the fall of 1948; the great pressure of construction work in addition to the 234-5 project, work much larger in volume than this particular project; and, above all, the concern, on the part of everyone involved, with the great urgency of this project and the feeling that it must be pushed ahead at maximum speed whether or not the estimated cost was exceeded, so long as money was not actually wasted.

Also, in fairness to the Commission, it should be pointed out that the original estimate of \$8,255,000 was made by the General Electric Co. and presumably the Commission relied upon the accuracy of this estimate. As I previously pointed out, however, this estimate was made on the basis of the extremely small amount of available information and was no more than a guess at probable costs.

In one of my responses to Senator Vandenberg I believe I said that the General Electric Co. had not received written authorization from the Commission to proceed with expenditures beyond the figure of \$8,760,000. I find that this was in error as on February 23, 1949, Mr. F. C. Schlemmer, Atomic Energy Commission manager at Hanford, issued instructions to us to complete only phase I of the project pending further review by the Atomic Energy Commission. Completion of phase I will permit operation on a scale sufficient to take care of the present output of the Hanford Works.

HARRY A. WINNE,  
*General Electric Co., Schenectady, N. Y.*

The CHAIRMAN. I take it Senator you did not want to examine on these figures?

Senator KNOWLAND. I just wanted to know.

The CHAIRMAN. You just wanted them in the record.

Thank you very much, Dr. Winne.

Mr. WINNE. Yes.

(Whereupon, at 1:15 p. m., the joint committee adjourned, to reconvene at 10:30 a. m., Thursday, June 16, 1949.)

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# INVESTIGATION INTO THE UNITED STATES ATOMIC ENERGY PROJECT

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## HEARING

BEFORE THE

JOINT COMMITTEE ON ATOMIC ENERGY

CONGRESS OF THE UNITED STATES

EIGHTY-FIRST CONGRESS

FIRST SESSION

ON

INVESTIGATION INTO THE UNITED STATES

ATOMIC ENERGY PROJECT

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PART 9

JUNE 16, 1949

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# INVESTIGATION INTO THE UNITED STATES ATOMIC ENERGY PROJECT

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THURSDAY, JUNE 16, 1949

CONGRESS OF THE UNITED STATES,  
JOINT COMMITTEE ON ATOMIC ENERGY,  
*Washington, D. C.*

The joint committee met, pursuant to adjournment, at 10:35 a. m., in the Caucus Room, Senate Office Building, Washington, D. C., Senator Brien McMahon (chairman) presiding.

Present: Senator McMahon (chairman), Representative Durham (vice chairman); Senators Vandenberg, Millikin, Knowland, and Hickenlooper; Representatives Holifield, Price, Jackson, and Elston.

Also present: Dr. Ernest W. Thiele, special consultant to the joint committee; David E. Lilienthal, Chairman; Lewis L. Strauss, Commissioner; Gordon E. Dean, Commissioner; Henry D. Smyth, Commissioner; Carroll L. Wilson, General Manager; Joseph Volpe, Jr., General Counsel; Everett Hollis and Bennett Boskey, Office of the General Counsel; Morse Salisbury, Director, Robert Tumbleson, and Rodney Southwick, Division of Public and Technical Information Service; Edward Brosnan, Division of Security; Frances Henderson, Assistant to the Chairman; Fletcher C. Waller, Director, Division of Organization and Personnel; C. A. Rolander, Chief, Violations Branch, Division of Security; Kenneth S. Pitzer, Director, and Paul McDaniel, Division of Research; Francis Hammack, Acting Director, Division of Security; George Marvin, Division of Production; Dr. Walter H. Zinn, Director, Argonne National Laboratory; Winston Manning, Chief, French Hageman, and Frederick Thompkins, Chemistry Division, Argonne National Laboratory; Paul Fields, Chemist, Argonne National Laboratory; Richard Dunsworth, Metallurgy Division, Argonne National Laboratory; Steven Larowski, Chief, Chemical Engineering Division, Argonne National Laboratory; William McConnell, Buildings and Grounds Department, Argonne National Laboratory; Mark Ingraham, Physics Division, Argonne National Laboratory; James Yore, Chief of Security, Chicago Operations Office; and Walter Kowalski, Assistant Chief of Security, Chicago Operations Office, all of the United States Atomic Energy Commission.

The CHAIRMAN. The meeting will come to order.

Dr. Zinn, I believe you are to be our first witness this morning. Will you come up and take the witness chair?

Doctor, you are free to have any of your assistants whom you wish with you to advise you.

**STATEMENT OF DR. WALTER H. ZINN, DIRECTOR, ARGONNE NATIONAL LABORATORY, ACCOMPANIED BY JOSEPH VOLPE, JR., GENERAL COUNSEL, UNITED STATES ATOMIC ENERGY COMMISSION**

Dr. ZINN. Well, we have a number here, but I could call for them at the time necessary. They are sitting over here.

The CHAIRMAN. All right.

Gentlemen, we have with us this morning Dr. W. H. Zinn, who is Director of the Argonne National Laboratory. Dr. Zinn is the gentleman who was in charge of the building of the first reactor pile in this country and, of course, that was the first in the world; and Dr. Zinn, as I have said, is now in charge of the Argonne National Laboratory.

Doctor, we have spent many hours with you in executive session examining into the loss of U-235 in Chicago, and the explanation of its recovery.

We believe, all of us, that it is most desirable to have an open hearing on this situation; and Senator Hickenlooper, of course, was particularly anxious to examine into the facts of the matter, particularly in regard to the finding of the now well-known bottle.

Senator, in accordance with your desires in the matter, suppose we have Dr. Zinn proceed—or do you want to question him preliminarily?

Senator HICKENLOOPER. Mr. Chairman, I would merely like to make an outline of the background of this matter in order that Dr. Zinn or anyone else can understand the particular matters that are still troubling me about this thing, and the areas about which I believe there is still substantial mystery about the whole situation.

The CHAIRMAN. I think that is quite all right, and quite in order.

Senator HICKENLOOPER. I make no particular allegations at this moment, but there are a certain series of facts that I think could be as clearly outlined as possible in approaching this thing.

In the first place, according to my understanding, on September 16, 1948, some enriched material, uranium, enriched over its normal U-235 content, with uranium 235, was transferred from one place where it was located to another vault at some distance from the place of its original location, that is, the location bottle in which it was contained. That is according to the records.

Later, and I believe on February 7, 1949, in connection with the search for or the desire to locate some other material, this vault to which this material had been moved in September was opened, and the particular enriched uranium material was not there.

Then, a little bit later—no, I should say when this was noted, an investigation was begun in the Chicago area, and checks were made of inventories, and the material simply was not found. The container was not found, and the material was not located.

Thereafter, and after a matter of weeks, and on about—yes, the date upon which this particular item was missed was on February 7, 1949. The loss was reported, I believe, to the Chicago AEC security office about a week later.

Then, about 5 weeks later, late in March, the exact date I do not think is necessary to be given at this time, although I could very easily here, the Washington Division of Research of the AEC learned

of this loss. A report was prepared by the Chicago division on March 25.

The FBI was notified a few days later, and in April, early in April, the General Manager of the Commission was notified of the loss in writing. Thereafter searches were continued, in which the FBI participated; and on April 27, 1949, the joint committee was advised by letter, I believe addressed to the chairman or to the staff director, who received it.

Then, on May 18, 1949, the membership of the committee, the joint committee, was notified of this loss.

A few days later in executive meeting, a meeting was had with you, Dr. Zinn here, and at that meeting it was emphasized and reemphasized that the missing material had been contained in a brown laboratory bottle. A duplicate of that bottle allegedly was produced here, passed up and down the committee. It had material in it that was of the same approximate weight in order to illustrate as nearly as possible exactly the container, and it was testified to here by a number of people out there that this was the same type and kind of bottle in which this missing material had been kept.

Then, a week or so later, after a search of a dump used by the Commission, and I believe on May 25, when this dump or refuse depository had been opened, the committee received a report that the bottle had been found, and the committee was given quite definite assurance that this unquestionably was the bottle.

At that time the committee, I am sure, still was under the impression—because I do not recall that that impression had been changed—the committee was assured that the brown bottle had been found in which this material was alleged to have been contained.

I asked for the full reports on this matter, and in going through them I found that the bottle that was found was not a brown bottle at all. It was not a normal routine laboratory bottle, but it was a clear Ball mason fruit jar bottle which was found in this dump.

I say this, and I am bound to say it, because of the situation that I believe the committee was put in at that time, and I say this not in any degree of criticism but I say it because I would have said the same thing under the circumstances. The chairman of this committee was permitted, through the information that he had been given after the alleged finding of this bottle, to announce publicly that the brown bottle had been found, and I hold no criticism of the chairman for that announcement, because that was my understanding, having attended the committee meeting, and as a result of the report by the Commission to our committee of the finding of this bottle.

It was not until I began to examine the actual reports that had come in that I discovered that the committee, I believe, was somewhat embarrassed by the brown bottle announcement, and the mystery of the clear Ball mason fruit jar which was found has come up.

Now, I am not going to speculate, Doctor, on the detailed information in these rather voluminous reports other than to say that I have gone through the reports of the investigating agency very carefully, and the reports of interviews at Chicago, and as a result of that I am still utterly mystified, and I am still unable to find in these reports any sound or acceptable evidence that would give reliable assurance that this was the bottle.

I am thoroughly convinced there is nothing in the reports that afford any conclusive proof at all that this was the container.

Now, the whole thing is clothed with a considerable degree of mystery to me. I think it is a vital matter. I call attention to the fact that there is still approximately 4 grams missing and still unaccounted for by any accounting method or examination method that I have been able to find, and a great deal of time, trouble and money has been spent in the exploration of this mystery; and I am interested in any conclusive evidence that can be brought to bear or any facts that can give us any relief other than what we have already had.

I make this outline because those are the things I am thinking about. It is the area with which I am concerned, and I am still concerned with the idea that there is still no conclusive proof whatever that the material itself has been discovered.

The CHAIRMAN. Senator Hickenlooper, your recollection, I am sure, is better than mine, but I do not recollect having denominated this bottle by color. Now, it is quite possible that I did. I am not contradicting you, but I just wondered whether you were sure of that fact.

Senator HICKENLOOPER. Well, I did not attend the press conference, Mr. Chairman.

The CHAIRMAN. I would be quite willing to take whatever the press indicated I said about it because I have no independent recollection of it.

Senator HICKENLOOPER. And I have a number of press clippings, Mr. Chairman, in which the press quotes the chairman as saying that the brown bottle had been found. I say that in no criticism because I would have said the same exact thing if I had been giving the press interview.

The CHAIRMAN. I understand that, and there is no effort upon my part to say that I did not say it was a brown bottle because——

Mr. PRICE. Mr. Chairman?

The CHAIRMAN. Just a minute, Mr. Price. If that is what the press reports, I am sure that it is reported accurately, and that their recollection written down at the time would be much better than mine now, but that clears that up.

Mr. PRICE?

Mr. PRICE. Mr. Chairman, I would just like to say that I sat through almost every hearing on this Argonne Laboratory matter, and I never remember at any time any great importance being placed upon the color of the bottle. I do not even remember that anyone ever mentioned it as being a brown bottle.

The CHAIRMAN. Well, you see, Mr. Price, there was a bottle produced, an ordinary laboratory bottle, in our executive hearings, which contained a quantity of brown oxide, and this was—contained what, Doctor?

Dr. ZINN. Tungsten, actually.

The CHAIRMAN. Really? This was passed around as being the kind of laboratory bottle that was used in the laboratory.

Mr. PRICE. They did not say that was the bottle that was missing.

The CHAIRMAN. Of course, I think, as it will develop when we give Dr. Zinn a chance, that we are talking about something that can really be quite easily cleared up, if I understand the situation correctly and, Doctor, I am sure you are quite competent to do it.

Mr. Volpe?

Mr. VOLPE. Mr. Chairman, I have here the report which was read to the joint committee during the executive session to which Senator Hickenlooper has made reference. I am sure that the committee minutes include this report. I would like to read one paragraph. It says:

The FBI was asked to have persons present observing all phases of the disinterment of the containers. Four containers were dug up, and in the second container, 107, near the bottom, among a number of other bottles, one clear Mason-type jar was found that had legible figures on its label.

Now, this was the report that was read to the committee in executive session.

Senator HICKENLOOPER. Mr. Chairman, it was after that meeting—this increases the mystery, and as I say, had I been making the statement that the chairman made after that meeting, I would have made the same statement because it was my clear understanding that was the meeting after which the chairman in his statement to the press said that the brown bottle had been found.

The CHAIRMAN. Now, Senator, I have just received a signal from one of the reporters—I will not indicate which one—out in front of me, who shook his head when that statement was made, so his recollection is not to that effect.

Have you any clippings that indicate that I have denominated it as a brown bottle? We will be trying the veracity of the report given by the chairman in his report to the press, which seems to be a little ridiculous, because what we are interested in really are the facts.

Now, in the press releases that I made there was no reference to a brown bottle. I am talking now about written releases.

I am reading now from a note that a member of the staff has just given me:

The press releases show no brown bottle, one dated Thursday, May 19, the other dated May 25.

It does not mention the bottle being of a brown color.

Senator HICKENLOOPER. Here is a news release of June 3, 1949, where it said:

Chairman McMahon of the Joint Congressional Atomic Energy Committee announced late yesterday investigators have found the missing brown pint bottle which had contained 10 to 12 ounces of uranium oxide, and which vanished from a Chicago laboratory last winter.

That is from the Times-Herald of June 3.

The CHAIRMAN. And the others?

Senator HICKENLOOPER. Yes.

The CHAIRMAN. There is no disparagement to the gentleman who wrote the story.

Senator HICKENLOOPER. This is a report of a very distinguished lady reporter, Mary Spargo, who sits over here, June 3, 1949, as follows:

From the Chicago graveyard of radioactive materials, gas masked workers, protected by Geiger counters, have dug up the brown bottle which originally contained the uranium 235 which vanished from the Argonne Laboratory in February.

They quote Senator Brien McMahon, as chairman of the joint committee, in this story—that is the story, apparently—

The CHAIRMAN. I think there is no use in debating this. The thing for us to find out is if the brown bottle description was used, how it

came to be used, and does it affect the veracity of the story, which I know, too—Doctor, you are shaking your head, too—know that it does not, and I know that the bottle that contained the missing material was the one that was dug up in the dump, if scientific evidence means anything to me.

So, you go ahead and let us hear about the brown bottle.

Mr. DURHAM. Mr. Chairman.

The CHAIRMAN. Mr. Durham.

Mr. DURHAM. In looking through the minutes here of the executive meeting, I do not know where this bottle got the brown color. From all the information that Dr. Zinn gave us, I do not find where he designated it in the executive session by color at any time.

Senator HICKENLOOPER. I do not know about the exact verbiage of the executive session, but Dr. Zinn will admit himself that he brought a bottle of brown color—

The CHAIRMAN. He did not.

Dr. ZINN. I did not.

Senator HICKENLOOPER. The bottle was brought before the committee and passed up and down, and was examined.

Mr. PRICE. You did not suggest that was the missing bottle; did you, Dr. Zinn?

Dr. ZINN. No, sir.

May I please state first that those of us in the laboratory are extremely anxious that the real facts in these cases be presented. No one can be more anxious than we are.

I, first of all, want to say that I am completely and absolutely convinced that this is the bottle in which the misplaced material was contained, and that I have been told by the FBI agent who made the investigation, that his investigation led him to believe and convince him that this is the bottle. I want to say also that from the moment that the FBI was called in on his case, I understood that we in the Laboratory were not to do investigations, and that only to a small extent have we quizzed people and asked them questions.

I would like to say in connection with this bottle that the kind of bottle that it was, and its general description, came to my attention in the kind of detail that has been referred to here, when the agents of this committee, Mr. Heller and Mr. Borden, were in Chicago asking questions. This, I believe, was on May 20 and 21.

I heard them asking questions of members of the laboratory: "What kind of bottle was this?" And so on.

The next thing I saw, and I stood in the background, was I think Mr. Heller going with someone to a stockroom saying, "Let's get a bottle like it," and they came back with a brown chemical bottle. That was my first recollection—is my first recollection of a brown bottle.

I am not sure that all of the people who reported to the FBI—and they are the agents really who asked the questions—insisted that it was a brown bottle. I have quite a lot of skepticism that people said to the FBI: "It was a brown bottle."

It was Mr. Borden and Mr. Heller's idea to bring a facsimile bottle in here, and I did not bring it in, and being, perhaps, a little skeptical myself, I do not think I would have been pinned down at the moment that we had definite categorical statements from anybody that it was a brown bottle.

Senator HICKENLOOPER. May I read an excerpt, paraphrase an excerpt from the report from Chicago, Doctor? I will paraphrase it because the report is really a classified report, although this particular information is no longer classified; it has been made public.

In this report the report notes that the bottle recovered was not a brown bottle as had been previously testified to by a majority of the witnesses.

Now, I would be glad to have you read this so that you can get the exact verbiage if you want to.

Dr. ZINN. I think the two things to note there, Senator, would be that it was only a majority, and that furthermore it is an eyewitness account. Now, really, before we see the other evidence on which I base my conclusion that this is the bottle, we must understand that eyewitnesses frequently say things which were not so.

Senator HICKENLOOPER. That could apply to those who said it was a clear bottle as well as those who said it was a brown bottle.

Dr. ZINN. Yes, sir; and I believe to pin this identification of the bottle on the color of the glass is really not giving proper weight to the other evidence.

Senator HICKENLOOPER. I am fully aware that the important thing is the question of whether or not conclusive proof or fully acceptable proof has been developed as to the location of the major portion of this.

I merely mentioned the question of the confusion on the bottle originally believed to be a brown bottle and later when one was dug up it was a clear mason-type jar, perhaps tests the general validity of the recollections of the historic background of this matter.

Dr. ZINN. May I reply by requesting permission to detail as I know it the actual history of the finding of this bottle? I will have to relate things that were told to me by the FBI agent who has been extremely cooperative, and I am sorry he is not here. He could do this better than I can. If I could have permission to relate the story, I think the Senator will see that the bottle was found and identified not by its color.

The CHAIRMAN. Doctor, I think it would be much better if you would try to briefly give us the story of the loss. You see, the committee has heard it in executive session, but the public has not, the press has not, and this business of just taking this bottle and neglecting the background of it, it seems to me, is quite ridiculous.

I think you should tell the story, and then proceed to put this in its proper place. Will you do that, Doctor?

Dr. ZINN. I would be glad to, with a clear understanding, if I may, that we will come back and clear up this point.

The CHAIRMAN. Oh, well, you will go into this point as you go along, but I want a connected story of the loss of this uranium, how it came about, how it was discovered, what you have done about recovering it, and the bottle will fall into its proper relative place. Do you not think that is the best way to handle it?

Dr. ZINN. Yes, I would be glad to do it, having in mind that it took me five and a half hours to do it last time.

The CHAIRMAN. Well, we do not propose, I think, to take you over any such tortuous road as you went over the last time. Perhaps there will be much examination after you get through, but just give us a running account of the instance.

Dr. ZINN. Yes. It must be understood that the metallurgical department, which was the department in which this material was misplaced, was used—is a department which normally works with unenriched uranium and a lot of it, not grams or pounds, but hundreds of pounds, and even tons.

Because of an urgent need for an experiment sometime ago, and because there was not any other facility in the AEC or in the country that could do the work, these people were asked to do some fabrication work on an enriched sample of uranium.

The CHAIRMAN. Doctor, I assume that you are keeping in mind classification as you go along?

Dr. ZINN. I am, sir. I am not going to mention enrichments, for instance.

The CHAIRMAN. Thank you.

Dr. ZINN. Except in a code fashion, so that the committee knows.

The CHAIRMAN. Although the enrichment was in the story that was published; was it not?

Dr. ZINN. Not categorically so.

The CHAIRMAN. It could be figured out.

Dr. ZINN. I did not check to see how accurately figured out.

The CHAIRMAN. Well, I have had it figured out.

Dr. ZINN. Yes, sir.

Now, this department which normally handled unenriched material did this job; it fabricated something out of a quantity of enriched material.

In this fabrication they produced the finished articles, and they also produced certain debris, if you like, or machine turnings, and so on. Actually a number of items existed which added up to the main item of the finished article, the machine turnings, the coolant which was used to cool the machine, the filtering or the filtrate from this coolant, and so on.

This material was stored in their special-materials vault, which is a vault which has a three-way combination lock.

Also in this vault was stored a large quantity of natural uranium. This is not our general practice, and it is only because this department never before or since has handled enriched material that this expediency existed.

Senator KNOWLAND. Doctor, right at that point, if I might clarify it, when you say it was stored in a vault, could you indicate to the committee, is it normally—leaving aside the color of the bottles for the moment—stored in bottles, in boxes, in tins, how is it stored? Is it left open or what?

Dr. ZINN. Well, normally it sits on a shelf—I mean it did there—not otherwise in the Laboratory.

The usual procedure with enriched material is to put it inside a three-way combination safe inside a vault. Here they had no safe. The vault was full of stored natural uranium of one kind or another, and it was on a shelf in the containers which it had been put in by the metallurgist actually who had collected the stuff, and so on.

Senator KNOWLAND. And these containers are glass containers, are they, normally?

Dr. ZINN. No. One sample was in a rather heavy stainless steel, should I say, box. It was a cylindrical box. Another sample, which

was a liquid solution, was in a glass graduate, so you could read how much. The bottle that we speak about contained the machine chips, and another smaller bottle contained the ashed filter paper on which some material had been recovered.

Now, it was the desire of the laboratory special-materials department not to permit that kind of storage, and they issued a bulletin for all that type of divisional responsibility in storage to cease, and these materials to be transported to a central vault under their control, which had only enriched material in it, not normal material at all.

It is fairly certain now that what happened is that the young man who packed up this material thought he had packed all of it in a package which was moved to this central vault under armed guard, according to the regulations, the vouchers filled out by the exit and entry guards showing the time during which it was moved, and so on; but it is fairly certain that this bottle in question—I believe it is certain—was left out and stayed in the original vault.

Senator KNOWLAND. Right at that point, even though the inventory that the packer filled out indicated that the bottle was a part of the shipment, your contention is that despite that documentary evidence, the bottle containing this enriched material was nevertheless left at its place of origin—where it was supposed to be sent from—and did not arrive at the point of arrival; is that correct?

Dr. ZINN. Yes, sir; and the documents show this, and our explanation of the point is that the bookkeeping for enriched material is complicated, and I believe was at that time weak in the sense that it carried the total amount of enriched uranium and did not carry all the other figures which show how you get this total amount.

The young man who did the packing clearly was not capable at that time of understanding the figures well enough to know that he had left something out.

Senator KNOWLAND. Did the man who received it understand enough to know that something was left out at the time he received it?

Dr. ZINN. The receiving of the package was, I think again, in looking back at it, a hole in the inventory system. It was going to dead storage, so to speak, and was to be stored just as is, and the transfer documents were used to adjust the inventory of the receiving vault and decrease the inventory of the transmitting vault. They did not make a physical inventory of the material when it was stored. It was delivered; it was put into the vault, and stored there.

Senator KNOWLAND. In other words, so that we may have the picture clear, here was some very valuable material, valuable enough to be kept in a three-way combination safe; it was packaged up, presumably; it was to be sent from point A to point B. Upon its arrival at point B, apparently there was not a detailed check as to what was in the package, but the package itself was to be put in a vault at point B, left for some considerable period of time before being checked.

Is that substantially correct?

Dr. ZINN. Yes. I believe this is a hole, so to speak, in that method of operation which, of course, by now we have corrected.

Now, there is an audit by a separate individual, both on leaving and on receiving, an auditing officer, who is not either the sender or the receiver.

I might say this was done when it was transported from one user to another user. The only case in which this was not done is when we went to this central storage vault which was, so to speak, a safe place. It is really a fine vault. It is in a building by itself. It has an outer door, which is opened by key, and then an inner vault, and the material is in there. The slip was that there was not an inventory when it went into this dead storage, this holding place.

Senator KNOWLAND. I do not think it is mentioned, and it is difficult to follow unless you do mention it, the approximate date when this material was supposed to have been shipped from the metallurgical laboratory to point B. In other words, was that in November of 1947?

Dr. ZINN. That was September 16, as Senator Hickenlooper has said.

Senator KNOWLAND. September 16, 1948?

Dr. ZINN. And the transfer documents carry these dates, and the notations.

Senator KNOWLAND. When was the loss first discovered?

Dr. ZINN. It was discovered on February 7, when one of the special materials men went to this other vault and checked in detail the material there against his figures, and he is a man who understands exactly, when you say there are so many grams of enriched material, how to figure back from that to how many grams of uranium oxide or uranium material there was in the bottle.

Senator KNOWLAND. So there were approximately 5 or 6 months between the time that the shipment arrived at the vault in point B and when the loss was discovered?

Dr. ZINN. Yes, sir.

Now, I would like to—

The CHAIRMAN. Doctor, do you mind an interruption while I announce that the committee's adviser, Dr. Thiele, is sitting on my left, between Mr. Durham and myself? I just want to have him identified for the record.

Dr. ZINN. For the story, I would like to explain that in the vault, and in the area in which this vault was, the metallurgical foundry machine shop and some laboratory, there is a problem in the recovery of used metals. It should be clear to everyone that, if you take uranium metal, we usually start with uranium salt and convert it into metal in a certain operation, and then it is cast into an ingot, and then it may be rolled or machined or handled in the way in which metals are ordinarily handled. In these operations certain debris forms.

Now, these materials are either in the form of uranium oxide, which comes about, to people who know about uranium, in a perfectly natural way. I do not think I should explain this, sir, or it is in the form of actual machining chips which again have to be handled in a careful way because of a certain hazard connected with them.

There is a stated fashion in which the laboratory, through certain people, collects this material to be recovered. This material is put into galvanized steel cans; they are really high-quality garbage cans, with tight-fitting lids.

This material is put into these metal recovery cans, and is stored in the vault until there is a certain amount, and the amount cannot be very large because the cans then get too heavy to move, and

eventually this material is shipped to a metal recovery plant, under contract to the Atomic Energy Commission, where this oxide, if it is oxide, uranium oxide, is processed, and, mind you, it may have a lot of other things in it beside uranium oxide, because it is coming from a fabrication plant, a fabrication area, so this matter of recovery of uranium debris from the machining operations and the handling operations is a well-established thing.

We know, therefore, that in this vault, at the time when the bottle was really there, there was also in the vault these cans in which material, used material no longer needed, uranium oxide in great extent, is placed.

By the way, this laboratory does not ordinarily deal with uranium oxide. It is what you get from the machining operations, and so on.

Now, I would like to jump ahead to the time when this loss was discovered, the loss of the bottle. Immediately the records were inspected; people were talked to, not by me, and the suspicion became very clear that the bottle had not been shipped.

Of course, the originating vault was thoroughly searched, but the next point was to really search hard throughout the laboratory for two things: Either to find the bottle intact or, secondly, see if we could discover that it got mixed up with some normal uranium.

Now, in this laboratory there are literally tons of normal uranium. Here is a small amount of material that looks like uranium; it is uranium by all ordinary tests; it is uranium; it was conceivable that it could have gotten mixed up with this material. If it had gotten mixed up with it, it can only be detected by a rather elegant type of testing which is mass spectroscopy, and normally we do not in our laboratory make mass-spectroscopy analyses of our uranium. This requires a special laboratory. I will come back to that later on.

So, searches were begun, not only for the intact article, but also for the possibility of it being mixed up in another lot of unenriched uranium.

The way you would have to find that, of course, is to make some test which shows enrichment. Very thorough searches showed that the bottle itself, so to speak, just did not seem to exist; no bottle carrying the right label or any type of description did exist anywhere. But one of the members of the Special Materials Department of the Atomic Energy Commission in Chicago remembered that we had in storage, waiting for shipment to the metal recovery plant in Philadelphia, a number of these galvanized iron cans containing oxide, and this other variety of uranium debris. As a matter of fact, there were 12 of these cans altogether, and the question was asked, could this enriched material have gotten into one of these cans? The question was asked early in April.

It was discussed with some of the physicists in our department, and they suggested to this AEC special-materials man that maybe we did have a test which was very sensitive right at Argonne for finding enrichment.

Now, this test involves getting a small sample of some material and putting it into the chain-reacting pile which we have, getting it out again and making certain measurements on the delayed neutrons. All of these 12 cans which were in storage and behind a locked door waiting for shipment in the control of the Special Materials Department of our laboratory were sampled by a method that is called "thief sam-

pling," if I may use that word at this hearing. One takes a probe, and extracts a small amount from various areas in these cans. Actually I still have all the samples, or the laboratory has them. They collected them. It must be 40 or 50 samples from these 12 cans, 4 or 5 from each can.

Senator HICKENLOOPER. How many grams in each "thief sample," Doctor?

Dr. ZINN. I would say something like two.

Senator HICKENLOOPER. I see.

Dr. ZINN. It is a little plug like this.

Senator HICKENLOOPER. There are four grams still missing, I understand?

Dr. ZINN. That is four grams of enriched material, and this is material out of a recovery can.

Now, these were tested, and among all of these "thief samples," when they were put into a pile and tested, and this is laborious work, by the way, which took place at the beginning of April, I do not remember the exact date, but as I recall it around April 12, they got an indication that one of the samples had four times the enrichment that normal material has.

Now, this does not come about by accident. Enriching uranium is a difficult art, and this meant that somehow or other enriched material had gotten into this metal recovery can No. 3.

At that moment, and I would say really the action of the Atomic Energy Commission in Chicago was to correct the metal-recovery can No. 3 was dispatched immediately to Oak Ridge, where there is an analytical laboratory for recovering uranium, enriched uranium, and for analyzing it through mass spectroscopy.

I do not know the date, although we have the transfer documents. The can got down there and we waited; we were sure that we had enriched material. What we did not know was how much.

Well, they began their analysis; they also check the "thief sample," as the committee knows. You listened to the analysis by those who did the work; they found also that these "thief samples" from can No. 3 showed enrichment, and their next step was to dissolve all of the material in this can, and about May 19—I would have to look back to my document book which I have not with me—we got a letter from Oak Ridge which said that of the 30-point-something grams of enriched material, a little over an ounce we have talked about, and we, not Oak Ridge, are the ones who knew about that. Of that amount, 27.31 grams, their analysis at that time, their first analysis stated were found in this metal-recovery drum.

The CHAIRMAN. Now, Oak Ridge, when they made those tests, did not know the story that lay behind the sending down of this container? They did not know anything except that you wanted it tested; is that not true?

Dr. ZINN. Mr. Chairman, you asked the Oak Ridge people that question yourself.

The CHAIRMAN. I know I did.

Dr. ZINN. And the answer was they did not know.

The CHAIRMAN. That is right.

Dr. ZINN. Now, to us at that time—and by the way, this is just at the time when this matter became a public matter—I mean we hardly

had time to think in between before it was a public matter—the great concern was, and I believe still is, to account in a reasonable and technically satisfactory fashion for all of the material which we have some reason to believe was in this bottle originally.

I will have to back-track, perhaps. I would like to go on now to the matter of the missing bottle, so as to speak.

Senator HICKENLOOPER. Incidentally, Doctor, do you recognize this as the bottle which was presented to the committee [indicating]?

Dr. ZINN. That is the bottle Mr. Borden and Mr. Heller insisted on bringing from Chicago and bringing to the committee.

Senator HICKENLOOPER. Yes, and this was considered to be probably a typical bottle for the type of stuff that was there. Is that the general idea?

Dr. ZINN. As read from the testimony, and I really think the FBI man who did all the quizzing, and knows what he heard and his notes should show what he heard.

Mr. PRICE. But, Doctor, no one ever said at the time that was the identical bottle or the bottle missing was the same color as that; did they?

Dr. ZINN. I cannot imagine myself saying this for the simple reason the first discussion I heard of what kind of bottle it was was when Mr. Borden or Mr. Heller, one or the other, was trying to say, "Let's see a bottle like it," and well then they went to the stockroom and dug this one up, and I am quite willing to believe that it could have been a bottle like that. This is the kind of bottle that one puts things into. It is a mason jar, by the way. They are frequently used.

The CHAIRMAN. Mr. Borden is here, and when we finish he can explain how the brown bottle was produced here as a sample laboratory bottle.

Dr. ZINN. Yes.

The CHAIRMAN. Go ahead, Doctor.

Dr. ZINN. Now, I believe on Tuesday or Wednesday the Atomic Energy people appeared in closed session before this committee, and on the following Friday Mr. Heller and Mr. Borden arrived in Chicago and, of course, started to ask questions, and investigate.

I saw them at noon on Friday which, I guess, would be May 20, and we sat down and had a talk, and at that time they said to me, "This bottle in which the stuff was is really a very vital point," and actually to me that was the first time it clicked that it was a vital point. They asked what would have happened to this bottle. They asked "What would have happened to this bottle, do you think?" Well, there were a number of us at the table, and we began to surmise as to what would have happened to this empty bottle had what I have described—namely, an emptying of this enriched uranium to the metal-recovery drum actually inside the vault in which we believe we have placed both of them—taken place.

Well, the answer, on the basis of laboratory practice, should be fairly simple. If this man thought he was emptying a normal uranium bottle, and everyone I believe agrees that this bottle probably did not carry a label showing it was enriched material, and this was a hang-over from the war days when you never labeled a container with what was in it. We were very careful never to give away that

we had enriched material or plutonium or so on—I believe there is not a valid reason any more—but this was practiced, not to put enrichments and so on on top of containers. I think for security reasons it is obvious that you do not do this.

The CHAIRMAN. That is a matter that is very highly classified as top secret?

Dr. ZINN. Well, the classification of such things, of course, is going down with time, but originally, back in the days, I will say, in 1945, when the atomic bomb was a new thing, enrichment was a very important point.

The CHAIRMAN. Yes, but it has never been declassified, has it?

Dr. ZINN. No, sir, not that I know of.

The CHAIRMAN. And you said yourself you were not going to tell us the degree of enrichment, and I certainly do not want you to.

Dr. ZINN. Well, I said that if it is true that this bottle did not carry enrichment things on it, an enrichment statement on it, then it is entirely conceivable that the man who emptied it thought he was emptying normal uranium.

I will come back to this point later on as to why I think this is entirely conceivable.

Then he would be following laboratory practice if he took the empty container and put it in what we call a dry active waste container or a vessel.

Senator HICKENLOOPER. He would not wash it if he thought it was normal uranium oxide and he emptied it? He would not wash the bottle out and reuse it, is that not the—

Dr. ZINN. No, sir; this may startle you a little bit, Senator, but in laboratories which deal with radioactive materials and which are doing research, where often the amount that you are dealing with is very small and it is very important not to get cross-contamination, you never reuse glassware that has been used in a measurement; for instance, beakers and chemical glassware are used once, and then, I am sorry to say, must be destroyed. There has been plenty of trouble over not doing that because of the cross-contamination of measurements.

Senator HICKENLOOPER. My question was prompted by being told a number of times that normal laboratory procedure in cases like that where ordinary waste material was thrown away was to be to wash the bottle and to use it, put it in the back and use it for other inconsequential things.

Dr. ZINN. This is what we would not like to see done.

Now, mind you, you cannot guarantee what an assistant in the laboratory is going to do.

Senator HICKENLOOPER. There is no particular issue about it. I just have been told that.

Dr. ZINN. He would be following accepted practice to put that empty bottle into the dry active waste receptacle. There was one of these in the vault. They are placed in frequent places around the laboratory.

Now, I must go into a discussion of what happens to dry active waste. First of all, these receptacles are put there to receive non-valuable amounts of radioactive materials. For instance, if a man is doing an experiment and he puts underneath his beaker on the desk or on the bench an absorbent piece of paper, which is the practice,

and in manipulating a little bit of the solution gets down to the outside and gets into the absorbent paper, that piece of paper must go into the dry active waste container. It must not go into a waste basket. There are no waste baskets. These containers, dry active waste containers, are picked up with a special crew; they are monitored by the health physics safety people, and the material is taken to what we call a burial vault, which is really a steel box 6 feet high, 10 feet long, 4 feet wide, which, for shielding purposes, is set in the ground, and it is put in there, actually the operation is rather simple, because the receptacle, the dry active waste receptacle, has a very heavy kraft paper lining which is folded over the top edge, and then the reclamation men who do this work just fold up the top of that bag, and the whole bag in toto goes into the dry active waste vault.

Now, these vaults contain about 8 tons of such material. The material comes from all parts of the laboratory, including the biological parts and, of course, therefore include animal carcasses and so on.

It is considered that this material may represent a considerable hazard in the amount when it is all accumulated, because you never can tell when a mistake in the laboratory has put in the dry active waste container really something which is hazardous; that is the whole reason for handling it so carefully.

Therefore, I told Mr. Borden and Mr. Heller that it was very likely if laboratory practice would have been followed, that is where the bottle would be.

Next I told him that two other alternatives might have existed: The man who would empty it could have washed the label off the bottle, in which case there would be no hope of finding it, or he could have and he should not have, put it outside his vault in, what you would call, a waste basket.

Now, even here we do not allow the trash that accumulates in our laboratory waste baskets or any part of our operation to go into the normal waste collection channels. That waste is very carefully collected, and under some supervision taken to a city dump, and buried, so we know where it has gone, and the waste paper, for instance, cannot get picked up by waste paper salvage operation. This is done so that again we cannot run the chance of putting into paper channels any trace of radioactivity.

The Commission has been insistent that we spend the money, so to speak, to do these careful things.

Now, Mr. Borden asked, could we not really dig up these dry active waste vaults, go in them. I explained that this was a hazardous operation. I was very reluctant to ask men to do it. We really ought to have, I explained to him, a much better idea which vault, and so on, before we tried it.

Well, Mr. Borden and Mr. Heller left us on Saturday noon. I spent Saturday afternoon, Saturday evening, and all day Sunday questioning people to try to get a lead as to—well, a number of leads—this situation, but among other things, where was the bottle. This is the only time that I have broken my agreement—

The CHAIRMAN. Doctor, I was being asked that, too.

Dr. ZINN. I understand that. It is the only time that I have broken the agreement with the FBI not to do investigating. They are very—I understand it completely—they are very firm in not having other people mess in their business. [Laughter.]

During Saturday night and Sunday, and particularly on Sunday, I became convinced that the bottle was emptied during the month of November 1948.

I would like to give the evidence, and I would also like to state at this moment in the middle of Sunday I was told to get down to Washington, so I had to leave Sunday afternoon and get a plane.

Senator HICKENLOOPER. The emptying in November would then have to go on the theory that this bottle never was in the original shipment, as the records show. It had been left out of the original shipment in September.

Dr. ZINN. Yes. It fits in with that supposition. May I give the evidence that I accumulated on that Sunday? It is detailed and perhaps to me wearisome now, but if you want it, I am willing to give it.

What are the things that I became convinced of on Sunday? Well, we already knew that metal recovery can No. 3 had been shipped from the vault of which we speak on November 29, 1948, and had been taken to an entirely different building and put under lock and key there. That is the place where we were holding these metal recovery cans for shipment to the Philadelphia firm.

The previous shipment from the same place of metal recovery cans was on October 28, 1948, and that was according to laboratory practice, where they pick up the stuff once a month.

What I found out on Sunday, which made it more convincing to me that indeed November was the month, was this: I asked what kind of metal recovery can was this No. 3? I was told it was a 10-gallon one. I know what a 10-gallon can looks like. I asked some people whom I had in the office, in my office, "Did you always use 10-gallon cans?" They said, "No; we used to use 30-gallon cans." I asked, "When did you change from using 30-gallon cans to 10-gallon cans?" I got the usual type of answer, "I don't remember."

However, I got the stock-room people in the laboratory to work on their records, and I received from them on Sunday afternoon a synopsis of the records, and the record shows that the custodian of this vault in the metallurgical division up to October 1, 1948, requisitioned only 30-gallon cans. October 1 he got two 10-gallon cans and three 30-gallon cans. October 12, however, he switched completely to 10-gallon cans, and from then it has been 10-gallon cans altogether.

This suggested to me, perhaps, that after October 12 is the time to think about it.

Another point was brought to my attention, that 2 of the 12 metal recovery cans had rather large amounts of extraneous material, including water in them, and No. 3, which is the one in question, had water in it; and I began to ask how did the water get into those oxide metal recovery cans.

I found that there were two incidents which could explain the water: One was recalled by one man, that there was a fire in one of these cans. Again this is quite understandable, as I explained to the committee last time; the fire was put out with some water.

I got hold of the records; I found out that took place on November 28—excuse me, correction, February 28, or the last day of February of 1949. That was not can No. 3. That was the other one.

The other incident which was remembered was the one in which at the rolling mill, where a good deal of this oxide is created in normal

operation, a leak had occurred of a cooling water line, and that the floor had simultaneously water and oxide on it, and that this material had been picked up with a vacuum cleaner, and then the vacuum cleaner emptied into a metal recovery drum.

I tried to fix the date at which this had happened because I was fairly sure that that was the time in November when the particular bottle was emptied.

I cannot fix it exactly at all. I got people to remember that it was around Thanksgiving. I got one man to say, "I know it was before Christmas because I left your employment around Christmas, and I remember the incident." We called him on long distance telephone.

Now, these things really convinced me that November was the month we should look at.

I came down to Washington, came down to the Commission offices, and went to bed, and the next morning, the morning in which I testified here before the joint committee—this was May 23, I believe—I directed by telephone—I did not do it personally—I asked people to telephone Chicago to get to work exhuming the burial vaults which had been filled from this site during the month of November 1948, and I also asked that this be done under complete supervision of the FBI.

I then was here in Washington, and I think until Tuesday, sometime. I returned to Chicago.

The next time I put any attention on the missing bottle was around noon on Thursday. On Thursday morning, Dr. Thiele had come to my office, and I began to give him some of these records, and so on, and we went to lunch, and on the way back from lunch, in an automobile, I said, "Would you like to see this burial vault in which we are trying to find the material?" We drove down there. There was a guard there. The records show we went down there, Dr. Thiele and several more and myself, and the FBI man was there, and we talked to him.

We looked over the operation, and he said, "I have something here which is very interesting."

This was on Thursday noon. "I would like you to look at it." He showed me a cardboard box in which resided a bottle, a mason jar, and he asked me to look at the label. I remarked that the label carried legibly at that moment one number, "284.0 grams," which I recalled immediately as having seen on a transfer document, transferring this bottle at an earlier time, earlier than we are talking about, from one laboratory to another for analysis, analysis of its contents.

I mentioned this to Dr. Thiele at the time. The FBI agent said, "I am going to keep this." I think he said, "The label is quite illegible," and we returned to my office.

On the way back I recall saying to Dr. Thiele, "What is the probability that just any bottle has on it a number which we know is in our records? Isn't that rather hard to understand?" I do not know what his answer was any more. I thought it over for a little bit, and I then called the FBI man—I had to do it by radio—and said, "I believe we should look much harder at that label."

He then brought it over to one of the buildings, one of the rooms, and we looked at it. He and I and several others looked at it, and we began to see other things on the label and as a matter of fact, what had happened of course was during the time that he had it—and I

will come back to that for a moment, the label had been drying out; it had all been wet, and the numbers became visible.

Subsequently, the FBI in its investigations of this bottle found quite a few things on the label. They had to do some work on it. The label was partly off the bottle. The thing was wet, and so on. There is a photograph, I believe, the gentlemen of the committee have seen—at least it exists—of the FBI photographs of the bottle.

What happened just at that moment was this. We called the analyst, the chemist who had weighed the material the last time that was in this bottle, and had made out the transfer document returning it—this was in 1947—to the metallurgical vault, and we called him in, among other people—that is, the FBI did this; I was a spectator—and the bottle was also produced like this [indicating] and asked, "Do you recognize it?" Some people said, "Well, I have seen lots of bottles like that," but one man immediately looked at a number and said, "Why, that is the weight, 289.2 grams which occurs on the transfer document transferring it from my analytical laboratory to the metallurgical division."

By this time, the 289.2 was legible. It was quite legible and, furthermore, he said, "That is in my handwriting." This is Mr. Paul Fields, who is here today.

Mr. Paxman, among other people—

The CHAIRMAN. He is the FBI agent?

Dr. ZINN. I am sorry; I should not have mentioned the name.

The CHAIRMAN. Well, it is all right; it is done.

Dr. ZINN. And other people observed that the inside of the bottle contained visible, small, very dimly visible—

The CHAIRMAN. Doctor, may I interrupt you? I have a letter signed by the Attorney General, which I will read into the record later, which identifies the special agent, so we can both be entirely relieved of any onerous responsibility that might have gone by a joint slip, because—I will not read the letter now, but it says, "Please be advised that Special Agent W. Rulon Paxman"—go ahead.

Dr. ZINN. It is my understanding that I should not mention agents' names, and I will mention no others.

It was visible, you could see, that inside the bottle there were traces of materials, and immediately the question came up: What is this material? We made arrangements at once to have that material analyzed by our microchemists that evening for the enrichment of the material and as to whether or not it was uranium.

I could not go along with this, but the FBI people went along, the AEC security people went along, the Deputy Director went along to observe it. There were, you might say, a crowd that observed that analysis. It was done extremely carefully, and by the middle of the next morning we had a mass spectroscopic analysis made by the mass spectroscopy laboratory.

We had another analysis done by a new way, worked out in our laboratory, both giving enrichments agreeing within all experimental errors with what we supposed was in the bottle.

I might state here that there was no other sample in the laboratory of that precise enrichment.

There was a very small sample, much smaller than what we are talking about, within 10 percent—more than that, 20 percent—of

that enrichment, roughly. This sample is still in the laboratory and intact.

This, to my mind, identifies the material without question.

The CHAIRMAN. In regard to your inventory, you remember that I requested that the physical inventory be checked to see whether you had all of your enriched material on hand?

Dr. ZINN. I would like to later go into that.

The CHAIRMAN. I beg your pardon. I just wanted to emphasize the point that that has been checked.

Dr. ZINN. Now, I believe I can say what was found on this bottle label. This is a letter from J. Edgar Hoover to the AEC, and I believe it is, therefore, appropriate—

The CHAIRMAN. Could I see it first?

Dr. ZINN. It was a copy given to me of what the FBI found on the bottle label.

The CHAIRMAN. Have you consulted with the Commission about this?

Dr. ZINN. I have just been told by this gentleman here that it better not be read into the record.

The CHAIRMAN. That is my conclusion, Doctor. Certain percentages are spoken of here.

Dr. ZINN. In connection with one of the things there that I would like to bring out—well, it just could not be coincidence, and it is involved. It is technical, but it is very important as far as I am concerned, and I had nothing to do with bringing it out. The FBI man ferreted out this thing himself and told me about it. It has to do with the numbers in the last sentence.

The CHAIRMAN. You mean—

Dr. ZINN. The 7.3 percent business, which is not the enrichment, by the way, if anyone wants to know.

The CHAIRMAN. Doctor, on your own responsibility, can you not—

Dr. ZINN. I believe I can discuss it without revealing classified information, sir. I understand that the reason for not putting this in the record is that you do not do that with FBI reports.

Mr. VOLPE. It is not because any of the information is classified.

The CHAIRMAN. I see.

Dr. ZINN. I can discuss the figures I want to.

The CHAIRMAN. I presume that you have a Commission report on this, your own report, which was made up after you received this information.

Dr. ZINN. Yes. You see, the FBI took the bottle away and took it to Washington and put their experts on deciphering the label, and that is what we got back. I have not seen the label since the day—

The CHAIRMAN. Perhaps I should read at this point what the Attorney General wrote me today and see if this does not contain sufficient information for you to make your point:

MY DEAR MR. SENATOR: Please be advised that Special Agent W. Rulon Paxman of the Chicago field office of the Federal Bureau of Investigation was present on May 25, 1949, during the search of waste material at the site A dump of the Argonne National Laboratory, Chicago, Ill., which search was being made by workmen assigned to the Argonne National Laboratory.

Special Agent Paxman observed the recovery from the waste material of a 1-pint Ball mason jar with a two-piece screw cap and which bore a label containing the notation "284.0 grams," and "U-308."

On May 26 Special Agent Paxman was present at the Argonne National Laboratory when Dr. Winston M. Manning, director of the chemistry division, Argonne National Laboratory, removed from the inside of the jar residue which had clung to the inside of the jar. This residue was placed in solution by Mr. French T. Hagemann, senior chemist, Argonne National Laboratory.

Kindest regards,

Sincerely yours,

TOM CLARK, *Attorney General.*

Is that sufficient?

Dr. ZINN. No. I think to complete the story on why we are absolutely certain that this is the bottle, more must be said about the numbers on the label, and it does not reveal classified information.

The CHAIRMAN. Doctor, tell us what was found. What was reported to you as being found, if it does not reveal classified information?

Dr. ZINN. It does not. I might interpose here that the bottle was really opened by French Hagemann, who is here. He had difficulty getting the cap off. It is, I believe, a valid point to make that the rubber gasket had welded itself to the lid and the bottle. It had to be pried off. This is all known. The FBI observed this. So this bottle was not loosely closed. It was really tightly closed.

But I would like to continue. The number 284.0 grams exists on a transfer document and, of course, I have a copy of it right here, a transfer from Mr.—I will not read the names—but a transfer from the metallurgy division to Mr. Fields, the chemical analyst, for analysis, and it was transferred as 284.0 grams; and then there was another item.

Mr. Fields later on transferred it back to him after he had made his analysis, and here is his document giving 289 grams as the weight. This is quite understandable because he got two items and he consolidated them. The weight went up. There are the figures: 284 and 289.

I was there when Mr. Fields said, "That is my handwriting." He identified it. Mr. Paxman made strenuous efforts to find who had written the other numbers. He still is trying, I believe, to make sure he knows each letter and number.

That day, May 26, he did not succeed, because then the bottle was taken to the chemical laboratory to get the material out of the inside; but he came to me the middle or late next day and said, "I know who wrote the other number. I found the man today who said, 'That is my handwriting, I wrote that number.'" That man is Mr. Dunsworth, also here today. I have never talked to him on this subject. I have just Mr. Paxman's word for it.

I also have Mr. Paxman's word that Mr. Dunsworth says, "I remember oxidizing some material."

The committee will remember the last time we spoke of the material not being in an oxidized form, but the chemical analysis found it to be oxidized. Mr. Dunsworth now remembers it being oxidized, and it would be natural for him to weigh the material and write the weight on the label. He has identified his handwriting.

You will find on the other numbers the gross weight of the filled bottle, which weight is checked.

Senator HICKENLOOPER. Will you tell me the name of the man who now identified his handwriting?

Dr. ZINN. Two men, Mr. Fields and Mr. Dunsworth.

The CHAIRMAN. They are both here.

Dr. ZINN. They are both here, sir. I did not do the questioning. The FBI did. I was a witness when Mr. Fields did this. I never have talked to Mr. Dunsworth about it. I have Mr. Paxman's word for it. He told me he knows who did it and gave me the name.

Senator HICKENLOOPER. All right.

Dr. ZINN. The tare weight of the bottle, the weight of the empty bottle, is written on there, and that is right also.

In other words, the figures on the bottle, you will find, all jibe with the two net weights, the 284 and the 289, and anyone who wants to sit down and go over this can do it.

Now, there was one other notation on the bottle which puzzled us. It was only partly legible. You could see 7.3 percent and written right after it U-308. I would like at this point to point out that this bottle was almost not found. The men who were doing the work in the vault picked up this bottle and saw U-308 on the label. That was legible. They looked at it and did not think it was the bottle, but one said, "Maybe we ought to speak to Mr. Paxman," who happened to be standing nearby. Mr. Paxman, not having on a gas mask and not being dressed in rubber clothes, was in better position to inspect it. He said, "Oh, we ought to keep this bottle." He was really the man who held it.

I might point out he found the bottle the middle of May 25 and still had it and had not done anything about it by the middle of May 26. He was uncertain about it, partly because it was really quite illegible still on the 25th. It dried out. 7.3 percent, followed by U-308. We knew this was not the enrichment, 7.3 percent. What could it be?

Mr. Paxman went around and talked to various people, trying to figure this out, and came back to me, I don't know just what day, and said, "I have a very logical and reasonable explanation of what this 7.3 percent, U-308 is," and I said, "What is it?"

When he had completed telling it to me, I said, "There is no question that your explanation is a valid one." If I may, I will try to give it here.

The analyst, Mr. Fields, who had analyzed the contents of this bottle, had determined that of the material called U-308, 82.3 percent was uranium element.

Now, I must tell the committee that if you have really pure U-308, the percentage of uranium element depends on the enrichment. If it is normal material, the enrichment is—and, by the way, any chemical student can figure this out, if it is normal material, not enriched—the percentage which is elemental uranium is 84.77, or 84.8.

If it would be pure uranium, 235, it would be 84.6-something. It is a custom among chemists, and so on, who handle these materials that when they are handling enriched material, no matter what the enrichment, to use 84.6 and not 84.8, they tell me.

If you take 82.3, which was measured in our laboratory by the analyst, and divide it by the 84.6, you get 97.3 percent of U-308. That is a correct description of the material in there. It is U-308 having 97.3 percent of the theoretical value of elemental uranium.

All the chemists, and so on, to whom this has been explained, agree this is a very reasonable explanation.

I would have to add that 82.3 percent elemental uranium in uranium oxide is no standard thing. It pertains only to the material in this bottle. If you just take uranium oxide anywhere in the laboratory, you can get numbers ranging all over the scale, depending on how clean it is, how free from foreign contaminants, up to the theoretical value.

This rather involved technical point to me is a very convincing one, even though the "9" has to be imagined in front of the "7."

The label at that point was actually—and I think it can be seen on the photographs made at that point—the label is actually torn so that "9" was not visible.

There are some other points I would like to make in connection with the identification of this bottle. I had asked from Washington here that the vaults, the dry active waste vaults of November 1948, be examined. Mr. McConnell, in charge of our reclamation service, who is here today, said on the day Mr. Borden and Mr. Heller were there, that he had records showing when material was taken from this room and put in that vault. He keeps complete records. We did not ask him for his records then.

Senator HICKENLOOPER. Dr. Zinn, do I understand you correctly to assume—I am not objecting to your assumption one way or the other—but do I understand that you are assuming there probably was a "9" in front of the "7"?

Dr. ZINN. Yes, sir.

Senator HICKENLOOPER. Is it possible that there might have been a "1" in front of the "7"?

Dr. ZINN. Anything is possible, but—

Senator HICKENLOOPER. I am talking of certain other records and assumptions that at least appear in the file that I have.

Dr. ZINN. I do not know of any number in this business which has 17.3 percent connected with it at the moment, but I have not searched through to find such a number.

Senator HICKENLOOPER. May I show you this document right here, which will illustrate the point I am inquiring about? The last paragraph.

Dr. ZINN. It says, "may be." Certainly, it may be. I might say that the FBI agent is convinced that if it is anything, it is a "9." He is the man who in conversations with the various scientists in the laboratory dug up this thing of the 97.3. I think it was a rather good feat of deductive reasoning.

By the way, he is a mathematician by training.

Senator HICKENLOOPER. I will not pursue the point further at the moment, and I do not dispute what the FBI agent told you, but it is my understanding that the FBI is not convinced that it was a "9."

Dr. ZINN. All I can say is, What reason do you have for saying it is a "9"? I have tried to give you the reason, sir. Otherwise, it is just a guess. It can be a "3," "8," or anything you wish, but you have to connect it, if you can, with the other numbers in this case. The 97.3 connects in a very good technical, I think, way.

I would like to go back to the vault in which this bottle was actually found. It was found right near the bottom. The agent tells me that he saw them take it out right within this far of the bottom of the box, and the box is 6 feet deep. It had been thrown on its side in order to make the job possible.

We asked Mr. McConnell for his records of collections of materials for that vault. I have the record here. It shows that from the metallurgical site, where we have every reason to believe this bottle was, collections were made on November 23, 24, 26, 29, and 30, 1948, and on December 1 down to December 13, 1948, and then ceased.

This fits in with the fact that it was at the bottom of the vault, and the last week in November of collections from that site were the ones which went into the bottom of this vault. It seems to me that gives you a strong feeling that it was picked up by the Reclamation Service and was put into this vault in November when the collections were made.

There is another small ancillary bit of evidence I would like to present, Mr. Chairman, which will bring out something of our problems. I have a record here which shows that last fall this building, the metallurgical laboratory, was given one of the most thorough house cleanings any place ever experienced. The reason for this was the following:

It has been published that beryllium and its compounds presents a very considerable health hazard, not a radiation hazard, a toxicity hazard. Our laboratory was instrumental in determining this fact by experimental work on animals; I hope none on humans by accident.

This laboratory was used a great deal during the war for beryllium work and even since. There are ways of detecting beryllium dust in the air, and so on. Last summer our Medical Department received from the Commission offices in Washington a clear statement of tolerance levels for beryllium in a place of work, either in the air or on desks, and so on.

Examinations were made of this laboratory and, true, it was not found that they were above tolerance, but beryllium contamination was found on the pipes—this is a big place—and beryllium had been extensively used, mostly during the war. It was decided that very special efforts should be made to clean. A special crew was set up. Here is their schedule of cleaning.

They worked 7 days a week. They cleaned four rooms on September 29 to October 5, 1948; a balcony on October 6 and 7; but they worked continuously from November 5 to November 30 and then the first 4 days in December cleaning the building. There was, therefore, during the period which I am convinced this material was emptied out of the bottle, a real house cleaning in process.

I did not know this when I was before the committee before. These things are infectious, I think, and this lends credence to the idea that some man who did not know there was enriched material there—as a matter of fact, after September this laboratory was convinced it did not have, that it had shipped it all out—found a bottle with oxide in it and said, "Well, we are cleaning up," and disposed of it in the metal recovery can. I think this is merely substantive evidence that should be in the picture.

This, so far at least, represents my story on the identification of the bottle. It is on three things: It was in the right dry active waste vault; the records show this as having been emptied during November in the metallurgical laboratory; it has on its label "identified numbers" and witnesses who testify to their handwriting and numbers related to the records, three of them; and it contained inside enriched material,

which unmistakably has been measured to be of the right enrichment.

To me this is conclusive evidence. By no accident, by no fortuitous circumstance, could these things have happened. I believe that any jury having such evidence presented before it would convict a man if that was what was involved. It would convict him perhaps of his life. It is strong evidence.

The CHAIRMAN. Is it, beyond a reasonable doubt, Doctor, in your opinion?

Dr. ZINN. In my opinion, it is beyond any reasonable doubt that this is the bottle.

The CHAIRMAN. Why do you not complete the picture?

Tell what the results are from Oak Ridge as far as you have got them at this time.

Dr. ZINN. The results so far from Oak Ridge—and, actually, to some extent Dr. Thiele is, so to speak, the general supervisor over what happens in this connection; because we want him to be satisfied; he has access to everything that is going on. We have only one letter on the material in the metal recovery drum, and this letter, which I had here last time, was delivered to us around May 18 or 19 and says that they have actually recovered 27.31 grams and that the error involved is probably another 1.3 grams, plus or minus.

Our analysis of what was in the bottle—and I could go into that in detail, but I have already done this, and it has already been confirmed by further measurements—indicates that very probably there were 30.80 grams in the bottle originally. This leaves a discrepancy of 3.49 grams.

Now, I believe there were some points in connection with the recovery of the material that were not completely satisfying, and these are being worked over by Oak Ridge. They have not given us any answer. We have gotten one thing from them, which was suggested by Dr. Thiele and which just arrived, really, yesterday morning, and that is a sample of the solution that they had made out of the material in this metal recovery drum.

Well, just as soon as we get our hands on such a sample, naturally we put our laboratory to work to check. This is only 1 night's work, of course, and everybody must understand measurements are subject to error, whether made at Oak Ridge or Argonne or anywhere else.

They find—and I think this enrichment is perfectly safe to mention—they find now that the enrichment in this metal recovery can is 1.33 percent. We find 1.40 percent with a method and techniques which are every bit as precise. We would like to see it checked by them, the actual sample that we had.

This would, of course, account for another  $1\frac{1}{2}$  or so grams. I merely mention it to show that trying to account for a small amount of enriched material in a very large amount, something like 22 or 24 pounds, as you will recall, of other materials, not all of them being uranium, is not an easy job.

The Oak Ridge people have been given a tough job, and it is difficult for them to ascertain certainly that they have precisely all of the material and precisely, with a certain accuracy.

Senator HICKENLOOPER. Mr. Chairman, I may say that when we met with the Oak Ridge people, it was my understanding that they were very confident, indeed, based on a long history of similar

analyses that they had run there on these things, that their analysis was very, very accurate.

Dr. ZINN. Yes, Senator, their analyses with mass spectroscopy. When you try to recover metal from a waste recovery container, each operation is a new one, because the kinds of chemicals that are in there are different; so you cannot have a long history of recovery from different samples of different enrichments, and so on. I am not saying that I have any proof to show that the Oak Ridge analyses are wrong. I am merely trying to point out that they are difficult and to say that as a result of measurements that have been made so far, we definitely know that 3.4 grams are not accounted for is, to my mind, not really valid.

Neither can I say they are accounted for. It is being worked on. Eventually, errors will be put on these things, and it will rest there.

Senator HICKENLOOPER. With their experience of 1.3 percent, plus or minus error—

Dr. ZINN. It is 1.3 grams and 27 grams.

Senator HICKENLOOPER. 1.3 grams, plus or minus, so there could be, according to their figures, 2.19 grams missing or, just as easily, 4.79 grams missing.

Dr. ZINN. That is the way it is with errors, sir.

Senator HICKENLOOPER. The error could work either way?

Dr. ZINN. It is not a valid expression if it is not fair. It must work either way.

Senator HICKENLOOPER. So it is just as fair to say there are now 4.79 grams missing as it is to say that there are now 2.19 grams missing?

Dr. ZINN. Neither is fair.

Senator HICKENLOOPER. I say it is just as fair.

Dr. ZINN. No; neither is fair. What you must say is that the probable value is 3.49 and plus or minus 1.3 is the possible error. One does not put the top and bottom limits on and say, "It is this or that."

Senator HICKENLOOPER. Except, Doctor, that in a report to us, apparently minimizing this loss, the margin of error was taken on the favorable side, and it was not indicated on the unfavorable side.

Dr. ZINN. This would not be unnatural, would it?

Senator HICKENLOOPER. I just wanted to make it clear.

Dr. ZINN. In connection with a material that is under recovery at Oak Ridge, I would like to make one more point. When we were here before, the question was raised, Is this material nonradioactive in the sense of, is it just normal uranium activity? Which is a well-known thing.

The Oak Ridge people said at that time their measurements indicated it was straight, normal; meaning no fission products in it, no enhanced radioactivity.

Our laboratory, which has much more experience than Oak Ridge in this, on the basis of the sample received from them yesterday, can report absolutely there is no enhancement whatsoever of the radioactivity. This is normal uranium. It does not have, so to speak, fission products in it, or does not have radiation in it which we could ascribe to fission products.

Senator HICKENLOOPER. Normal uranium, enriched with U-235?

Dr. ZINN. Yes; but that does not change the radioactivity appreciably. Yes; the kind of radioactivity I am talking about is the kind you would get if you had irradiated material.

Senator HICKENLOOPER. I understand.

The CHAIRMAN. Doctor, are you now convinced by the tests so far as they have gone that the three point—what is the figure?

Dr. ZINN. 3.49.

The CHAIRMAN. 3.49—

Dr. ZINN. Grams.

The CHAIRMAN. Grams. Can you give us, as simply as you can, where you think that 3.49 grams is? What is your theory?

Dr. ZINN. Well, I cannot admit to owning a theory. There are several points that might come up. Suppose this remains as an unaccounted discrepancy. You will always wonder about them. We have two ways of establishing the enrichment of the material in the original bottle, and they agree.

One is the small analytical sample, which our analytical chemists retain as the analytical laboratory's evidence. This gave a certain enrichment of—well, you remember what it was.

The material that was recovered from the inside of the bottle gave the same enrichment by our analysis. It is too little for Oak Ridge to analyze. They need a larger sample. But we have done it in two ways, and it is very clear that it is the same sort of material.

This enrichment shows that the material in this bottle had been diluted by some normal uranium during the machining operation, which I went into in detail.

Two other samples were recovered from the machine at the same time as the material in the bottle and their enrichment has been measured by Oak Ridge and also by us, and they agree. It is considerably less.

Now, I believe actually that what we are taking for the enrichment is the right one, but I will always be puzzled by the fact that the coolant stream and the stuff on the filter paper really showed considerably more dilution. You can see there are reasons why that would happen.

The coolant went around through the machine and could have picked up any normal uranium hidden in a crack or cranny. It had been used for normal uranium work. You can justify it that way.

I pointed out there was a small decrease from what we supposed was the normal enrichment of the material in this bottle, which would wipe out the remaining discrepancy.

The other thing I am concerned about is the fact that if you are trying to recover from a fairly large quantity of heterogeneous stuff, that it was not all uranium—I have the microscopist's report, which shows there was sawdust, for instance, in this metal recovery drum. We know how that happened. If you are trying to pick up a mixture of uranium oxide and other water from a floor with a vacuum cleaner, the simple thing to do is sweep in sawdust or floor-cleaning compound, and you have a solid to soak up the water. You want to get the place clean. This was known to have been what was done if you have this sort of thing to do.

They have a recovery job from a fairly nasty substance. It involved, as you recall, calcining a good slug of it in a furnace at a high temperature. I do not know whether or not some of it did not leave and go up the flue. The supposition is that it did not.

Senator HICKENLOOPER. Again, Doctor, at that point, did not the Oak Ridge people say that they had checked historically and repeat-

edly many, many times on flue recovery and that they were quite sure that they lost none in that fashion?

Dr. ZINN. But they would not say that it was not possible that they had lost some.

Senator HICKENLOOPER. But their experience had shown, with repeated checks and analyses, to their satisfaction, that they were not losing any in flue—

Dr. ZINN. Correct, sir, but we here surely should not be surprised if some unusual things happen in this business.

Mr. DURHAM. What degree of heat was used, Doctor?

Dr. ZINN. One gentleman said something like 800° C., and he was corrected by another one who said 500° C., which is almost red hot.

Mr. DURHAM. Red hot?

Dr. ZINN. Yes, sir.

The CHAIRMAN. You see, Doctor, without any intent to impute the theory to Senator Hickenlooper, there are those who cling to the theory that some spy ran away with this 3.49 grams. What comment have you got to make on that?

Dr. ZINN. I just cannot understand how the various things that I have related would fit into a picture of a spy running away with a bottle. First of all, we have no evidence whatsoever, and the FBI has never told me about any evidence of anyone getting past the guards anywhere in our buildings, and no evidence that the vault, and so on, was broken into. There is none of that.

Now, suppose it was an inside spy—and I would be extremely anxious to ascertain this, and so should the FBI—why would he dump the stuff, the most of it, into a metal recovery drum? Because if he was an inside man, he would know that that meant the stuff would be lost without trace. It would vanish. And then why would he very carefully put the bottle where it ought to go, into a waste recovery can and then only keep a little bit of it?

If he was going to risk really his life in stealing something and have the rest of it vanish without trace and put the bottle in a place where it might have been found, why did he just take a little bit of it?

The CHAIRMAN. This is approximately the amount, without identifying the bottle, this is approximately the amount in question. Your point is: Why, if he had this amount, would he pour all but 3.49 grams in a can and take the 3.49 grams?

Dr. ZINN. If it is all right to suppose what an informed and clever spy would do—I do not know whether it is a good thing—to me, it is very obvious what he would do if he had an opportunity.

I do not know whether this is a good thing to do in open hearing—how he could cover his tracks without going to this sort of trouble.

The CHAIRMAN. I do not think you need go into that.

Dr. ZINN. There is a much simpler way of making it very difficult to ever know that something funny had happened, and an informed person, it seems to me, who knows as much about the business as this person apparently did, if the supposition were at all true, I just do not understand why he would do it.

Senator HICKENLOOPER. Mr. Chairman, as long as we are discussing the theories of theft, I may say there has been advanced to me by one, two, or three people this possible theory: That if anyone wanted to surreptitiously remove 3 or 4 grams of this enriched ma-

terial for illegal purposes, it might be perfectly natural procedure for him to take a little bit out of it, dump the rest of it in the waste can, put the bottle where it was normally supposed to be, with the belief that he could get away with the 4 grams, let us say, feeling that a check would disclose the missing bottle and have it found in the waste recovery can, the bulk of it, and the bottle perhaps eventually found, and people say: "That is the explanation for it."

Meanwhile, he could take his 4 grams and go wherever he wanted to with it, and rely upon the fact that such an explanation would be forthcoming, most of it would be considered to have been recovered, and the 4 grams would be considered as lost some place in the dumping process.

I do not say that is what happened, necessarily, but it is, I submit, a theory upon which some espionage agent or someone wanting to do that kind of a job would feel that his backtracks had been thoroughly covered by a perfectly plausible explanation for the disappearance of it, with the exception of 4 grams, which probably would be attempted to be minimized greatly.

Dr. ZINN. I cannot agree, Senator, that that is perfectly plausible. Imaginable, perhaps; perhaps a little on the fantastic side.

Senator HICKENLOOPER. If he took the whole bottle, and it completely disappeared, there would be more of a hulabaloo, would there not?

The CHAIRMAN. I doubt it.

Mr. PRICE. How could there be?

Dr. ZINN. Let me try to show what I think is weak in your argument. Perhaps I will have to give what he really would have done if he had any brains at all.

The weakness in your argument, Senator, I believe, is this: That putting it in the metal recovery drum normally should have meant that we never could have found that stuff. It was only because we were holding an exceptional number of these metal-recovery drums for shipment that we still had it. Otherwise it would have gone to Philadelphia. Why were we holding it?

We explained before that the Metallurgical Division had been scheduled to move from its place in the city of Chicago out to the country site, 27 miles away, about January 1. The idea was that when you move, you get an extra amount of recoverable material. That is, I think, quite understandable. You take all the machines down, you move all the things away, and you find things, and, therefore, the AEC people, who were holding these drums involved in the shipment, said, "Let's hold them until we get Metallurgy moved."

Otherwise, they really would have shipped them out a couple of months earlier, and we would not have had any chance of making this analysis. Therefore, I think if someone wanted to put it in a place where it would be discovered, he put it in a wrong place. It would be a remarkable person who would know that in the Special Materials Department some place in the AEC there was a man who said, "Let's not ship now; let's hold until Metallurgy gets moved."

I really know that there is something that could have been done which is much simpler and much more logical to cover tracks.

The CHAIRMAN. Doctor, the FBI has reported to you that in its opinion there is no espionage involved in this matter?

Dr. ZINN. I have asked this question, and I have been told it can find no evidence of espionage.

The CHAIRMAN. On the other hand, the tests that you have told us about, in your professional opinion are such as to make entirely feasible and possible the facts that this missing portion is involved in laboratory work and in the errors that can be anticipated in processing this material?

Dr. ZINN. I believe it is entirely possible. I have not got evidence to prove it. I think it is a difficult matter. Matters of checking down detailed inventories whenever you have a complicated situation like this are always tough. There are many such tough situations in the inventorying and analytical work throughout our operations.

The CHAIRMAN. Doctor, many people cannot understand why it is so difficult to keep an inventory on materials. Many people have the idea that it is like money. You put it in the bank, you count it, the teller counts it, he receipts for it, and it is perfectly identifiable.

Now, will you give us a brief explanation as to the difficulties involved in the inventory process?

Dr. ZINN. There is only one way, sir, of keeping your material so that the number you carry on your book stays a constant number, your wealth, so to speak, is always the same, and that is to put it in vaults and never touch it. Do not do any work with it. Whenever you do work with it, you get into uncertainties in your inventory.

Let me, please, give an example. I think this is a perfectly legitimate example, and it is one that is involved in our inventory analysis. Dr. Thiele knows all about it.

It will take me some minutes. I think this is a good example of the type of problem that we run into when we try to account for all of this stuff all the time. For some very important work that our laboratory is doing—

The CHAIRMAN. You have about 2,200 people in your laboratory?

Dr. ZINN. Yes, sir; 470 scientists. For some very important work that our laboratory is doing we require fabricated certain metallurgical specimens. The Battelle Memorial Institute in Ohio has devoted quite a lot of effort under contract with the Commission to finding out how to manufacture these metallurgical specimens. They do their work on normal uranium, of course.

Some time this winter, I do not know the date, they announced and showed us that they could make some materials, these specimens, using normal uranium. So then we said, "Now, to carry on our work we need some things like that, a dozen of them, made with enriched material. Will you undertake it?" They said, "Yes, we will undertake it."

There are certain problems. I will come back to those problems.

We arranged to have shipped to them from the stock pile a certain quantity of enriched uranium. They used this to fabricate a dozen of these objects. Now, they received a certain amount of enriched uranium into their laboratory. That is known, a certain enrichment. They shipped to us the dozen objects they made, plus five other lots of material: The machine turnings, certain powder debris, some floor sweepings, wiping rags, some wash solutions, a whole mess of stuff.

They have done their very best in this operation to recover every bit of it. They sent us the finished articles; they sent us all the debris, so to speak, connected with it. It is six or seven items.

We got a slip of paper that shows the amount of enriched uranium in it that they received. Nobody knows if this is true. How do you find out if it is true?

Well, of course, you take the wiping rags, the cleaning solutions, the chips, the powder, the floor sweepings, and you send them to Oak Ridge and ask them to process them and recover uranium; and they are down there now being worked on.

But you still will not know where you are because how much is there in these materials that they fabricated for us? If you dissolve those to analyze them, then you have lost what you made.

Senator HICKENLOOPER. Doctor, if I may interrupt, the bottle at Chicago had gone through the process of recovery, as I understand it; a certain amount of oxide was in the bottle in weight. There were no rags involved, no machining process—a certain amount of material in a bottle.

Dr. ZINN. I am now trying to answer the chairman's question.

Senator HICKENLOOPER. From this bottle content, as certified, a certain amount has disappeared, granting the correctness of the theory that the material itself has been located, the bulk of it; so that there would be no processes involved in the disappearance of the amount of material from here.

Dr. ZINN. That is not what I was talking about. I was talking about the processing of the material in the waste-recovery drum, which is a recovery operation. I am trying to answer the chairman's question about difficulties in inventory.

Senator HICKENLOOPER. Excuse me.

Dr. ZINN. These dozen metallurgical samples cannot be analyzed now without destroying them. Let's see what is going to happen with them.

They are scheduled to be irradiated in reactors. They will become very extensively radioactive. During their irradiation certain measurements will be made of them. Subsequent to their irradiation, while they are still single objects, they will have other measurements made on them in apparatus which is shielded with many feet of concrete.

We still will not have a complete inventory. The only way we can do it is to irradiate these materials, then allow them to cool to a point where chemists can conceivably work on them. This will take years, we will never be able to balance the books on that operation—namely we will never know what we have to write down for a loss in this fabrication, which I mentioned, until these elements have been irradiated, have had their measurements made on them, have been allowed to cool for a few years—that is, the radioactivity decayed—and then they can be dissolved and analyzed, and you can close the books on that operation. You cannot close the books now.

And if during the metallurgical fabrication somehow or other a small amount of material was purloined, we do not know it now. We cannot know it without destroying that experiment now. We have to go on for several years before we can close the books on that operation. If we cannot do that, we cannot do any work. There is no way of doing it.

This happens over and over again, sir, in work with these materials. This is why the work is carried on behind barriers, behind guards. This is why people are cleared; this is why FBI clearance is required of people. Because if you cannot have people who you are confident will not do this filching, let us say, your inventories cannot control the situation because of the sort of thing I have just mentioned.

Senator HICKENLOOPER. I think that is very true, Doctor, and I agree with you, without being a scientist.

Dr. ZINN. Mind you, I am not trying to ascribe this as an explanation of this.

Senator HICKENLOOPER. I suggest, because there are those factors in other processes you have described, the degree of security in this project, therefore, should be maintained at all times to the highest possible level consistent with getting any work done.

Dr. ZINN. I believe, sir—

Senator HICKENLOOPER. It is for the reason that you may not be able to detect these things for a long period of time that the sanctity of the security system must be high indeed.

Dr. ZINN. I agree completely.

Senator HICKENLOOPER. One other question.

Doctor, four grams of this material with the enrichment that it had is an important sample for scientific investigation; is it not, that amount?

Dr. ZINN. I believe I gave a statement on that last time. If you want me to repeat it, I will do it. It has, of course, some importance.

The CHAIRMAN. This is not classified?

Dr. ZINN. I will avoid anything classified.

Senator HICKENLOOPER. The point I want to get at is this: I think we have gone through the fact that it has importance in research in certain fields. Four grams, in fact, of this particular material enriched, to all intents and purposes, is just as good as 30 grams, is it not, except that 30 grams is more than 4 grams and there might be certain mass use of it that would be helped by having 30 instead of 4, but 4 grams is still a substantial amount; is not that correct?

Dr. ZINN. I do not believe it is a critical amount at all, sir. I believe if you are thinking of someone who is in the business of making, let us say, atomic weapons—and I think I tried to describe this before, I cannot go into the detail I went into before—in my opinion—and, mind you, I am not an expert; I explained once before to you I did not work in the Weapons Department during the war, I was in the reactor field almost entirely, but I made many measurements, and many of the fundamental measurements, in this business.

There are certain small amounts which I mentioned once before which do you some good. There is in between a gray region where you do not get very much more for your efforts. There is, finally, a point where if you have that amount—and it is very considerably different from what you are speaking of—it is of considerable help.

Senator HICKENLOOPER. But when we started in this project, we had an infinitely less amount of this particular material.

Dr. ZINN. Yes, and I would like to point out we made a chain reaction, which was a very important thing in this business, without ever having seen any enriched material, never having laid eyes on it, never had it.

We, at Argonne, got the first enriched sample that came along and we used it with the chain reaction to make some measurements.

Senator HICKENLOOPER. Do I understand that 4 grams or 32 grams of this enriched material is not very important then?

Dr. ZINN. I will not say it is not very important. I will say it is of some importance. I will say I do not believe it is of critical importance, and I also say, if you are talking about weapons development, you are talking to the wrong man.

Senator HICKENLOOPER. I am not talking. Everybody, I think, is fully aware that 4 grams or 32 grams will not make an atomic weapon. That has never been——

Dr. ZINN. That is not what I am trying to hint at, sir.

Senator HICKENLOOPER. From the standpoint of research and experiment, for whatever answers material of this enrichment could give to a research person, four grams is important; is it not?

Dr. ZINN. It is of some importance, yes.

Senator HICKENLOOPER. And to all intents and purposes, for the answers it will give, is it not about as important as 30 grams would be?

I mean the mass of the grams would make little difference in giving the research answers.

Dr. ZINN. I do not believe I want to get into a discussion of where it becomes important, because this then gives my opinion, and I do have one, based on some experience, what amount would begin to make certain measurements, certain measurements which I have in mind, measurements that actually I made one time, and I do not think I want to get trapped into that one.

Senator HICKENLOOPER. I do not want to push you too far in that detailed field, but it seems to me the physical facts of the tremendous effort that has been put forth to try and solve this problem indicates that it is a matter that is considered of some serious importance. Otherwise, there would be no use whatsoever in going to all this trouble. It would be said, "It is of no importance whatsoever, and it is gone; so what?"

It seems to me the physical effort that has been put toward the solution of this matter is probably a great indication that it is considered to be a matter of some importance.

Dr. ZINN. This is so. I think the Senator should realize that, as time goes on, the amount of material which you would consider important really gets larger. We cannot expect that other people do not somehow or other, and by well-known means, begin to make some of these materials themselves. At some stage of the game we must be careful that we are not trying to, so to speak, do all this effort, and so on, to protect too little.

Senator HICKENLOOPER. Let us say in 1942 or before piles were developed or other separation processes were developed, we would have given a lot for 4 grams of enriched uranium; would we not?

Dr. ZINN. In my opinion, we would have given a lot more for numbers which tell us how to make the 4 grams. That is much more important. Just 4 grams without the possibility to make all the other grams of enriched material that you are interested in; the measurements do not tell you how to make it, sir.

Senator HICKENLOOPER. That is very true, but measurements give you physical proof of the correctness of your theoretical number; do they not, very often?

Dr. ZINN. Yes, that is why you use measurements, but the point I was trying to make is that just a certain amount of material while of interest would not be nearly as important as the knowledge as to how to make it.

I would like to point out—and I think I did before—that if we are dealing with espionage, certainly, we have to worry about the materials. I worry equally, and really much more, about our numbers, the measurements that we ourselves make with these materials. We have skills and ways of making measurements which probably are not current other places, and numbers when they leave do not leave any trace, and so on.

Senator HICKENLOOPER. In making the numbers from the measurements of the material, someone else with a certain degree of skill along this line could probably develop numbers from the materials after they had received the materials; could they not?

Dr. ZINN. Of course, that is—

Senator HICKENLOOPER. Of course.

The CHAIRMAN. Doctor, I have some photographs that were classified at the time they were taken because, as I understand it, it was previous to the bottle being examined. They are pictures of the operation and also pictures of the bottle that was recovered. I will show them to you and have you identify them.

Dr. ZINN. Yes; this is the object, the bottle.

The CHAIRMAN. Now, looking at that picture, Doctor, the picture of the bottle, is the size of the real bottle as opposed to one that was brought in as an example about the same?

Dr. ZINN. I would say it is about as tall as the lower edge of the cap on that bottle, not quite as tall, a half-inch shorter, the diameter about the same.

The CHAIRMAN. White instead of brown?

Dr. ZINN. It has white glass instead of brown glass.

The CHAIRMAN. Is the bottle pictured there one that is in common use?

Dr. ZINN. Yes; they are frequently used because they have a nice tight cap. The cap is a sheet of steel which has been enameled on the inside, and then a rubber gasket fits underneath there, and with the cap screwed down it makes a nice closure, and it is a clean bottle because of the enameled inside, and it has a wider mouth than that, and it is an easy bottle to clean. They are frequently used. They are available in the stock rooms.

The CHAIRMAN. Where is the bottle now; do you know, Doctor?

Dr. ZINN. I do not know first-hand. For a while the FBI had both the bottle and the cap. There was a fingerprint on the inside of the cap which they were not able to do anything with. They returned the bottle to the AEC at one stage of the game, and I have heard but I do not know actually, that they returned the cap perhaps also. They are through with it. I have not got it.

The CHAIRMAN. Is the bottle in the possession of the AEC?

Mr. VOLPE. Security officer.

The CHAIRMAN. Is there any reason why it cannot be produced?

Mr. VOLPE. I am told it is in Chicago.

The CHAIRMAN. In whose possession?

Mr. VOLPE. The security officer.

The CHAIRMAN. You mean the AEC security officer?

Mr. VOLPE. Yes, sir.

The CHAIRMAN. At any rate, we do have some pictures. There is no objection, as I see it, to entering these in the record, is there?

Mr. VOLPE. Not from a classification standpoint.

The CHAIRMAN. That is the only point that is involved.

Dr. ZINN. There is perhaps one point. As long as we have not found the hand, as I said once before in the other meeting, that has emptied the bottle, it is a useful object to show to a man and say, "Can you remember it?"

Now, the FBI has been doing this and apparently have covered what they consider to be the whole ground. I do not know.

The CHAIRMAN. I am informed there is no objection to putting the pictures into evidence at this time. If you have no objection, no personal objection, we will do so.

Dr. ZINN. I have no objection.

The CHAIRMAN. May I have them back?

Have you seen these, Mr. Elston?

Mr. ELSTON. No; I have not, sir.

(The pictures referred to above are in the files of the Joint Committee on Atomic Energy.)

The CHAIRMAN. Now, are there any further questions of Dr. Zinn?

Senator KNOWLAND. I have a few.

The CHAIRMAN. Senator Knowland.

Senator KNOWLAND. Doctor, I would like to go back to something on this process of moving the material from the metallurgy plant over to site B and the practices which I think you have indicated in your own judgment now in retrospect seem to have been rather loose practices at the time, and as I understand it, you have taken steps to lock the barn door, so-called, after the horse has been stolen or, at least, disappeared.

Now, in your judgment, with the new techniques that you have put into effect, are you satisfied that the type of a situation that you now find yourself in could not happen again?

In other words, that a man would make up a box and make out an inventory, but actually would leave one or two bottles out of the box. Do you think you have covered that loophole?

Dr. ZINN. Yes, sir; I am convinced we have done it, and I think we have done it in an expensive way too, but a very clear-cut way. The way is this, if I may say so:

Whenever such materials are transferred, even from one individual to another, even in the same building, the same laboratory, it will go through a representative of the source and fissionable materials branch, who will be stationed there. The man releasing it, so to speak, will make out his document. It will be audited at that moment by this fellow, and he will have to put down his complete audit. The audit will include tracing that sample back to its inception through a certain set of numbers which are assigned.

He then will transfer it on courier receipts, and if it goes outside of a guarded area, it will be by courier with armed guard, and so on, with receipts all along the line.

When it is received by the other man, there will be the source and fissionable material representative there, who will audit the package, read the numbers, the packages are being sealed with a special device with serial numbers, he will audit it and release it to the other man. This, of course, means we have to have a trained man in every place where things can be transferred. Since, as I explained last time, our laboratory is rather dispersed, this means we will have a rather large number of these trained people and, of course, the expense necessarily will go up, but I think it is entirely justified in view of this sort of difficulty.

Senator KNOWLAND. I can certainly understand the problem that you are involved with in working with this material. It is not like locking the gold at Fort Knox where all you have to do is to put it down in a big vault and with the necessary guards and it is not used, and I think we all understand that in the processing you have got more complications certainly.

On the other hand, I think you yourself have testified that it is necessary to be sure that you have all reasonable security precautions set up. Would it be your judgment that if anyone took any material away, referring now specifically to Argonne National Laboratory, took it away from the laboratory, that that would be a serious offense and should require serious disciplinary action?

Dr. ZINN. I believe so. These people all understand—well, any material property, if we find anyone taking it, depending on what it is, saying they will be prosecuted, and so on—especially the special materials, I cannot believe there is anyone who would not understand that taking that makes them liable to prosecution under the Atomic Energy Act.

Senator KNOWLAND. You would think that not only might it warrant the prosecution under the Atomic Energy Act, but that the event would be of such a serious nature that there would be a prompt removal of the person from his position if he unauthorizedly took material away from your establishment?

Dr. ZINN. Certainly. As a matter of fact, anyone who takes anything from our establishment, we know would be removed from his position. People have.

Senator KNOWLAND. There would not be a considerable delay after that was found out, as far as the Argonne National Laboratories are concerned?

Dr. ZINN. No, sir.

Senator KNOWLAND. I am glad to hear you say that, Doctor. That is all for the present.

Mr. PRICE. Mr. Chairman.

The CHAIRMAN. Senator Vandenberg?

Senator VANDENBERG. No.

The CHAIRMAN. Mr. Price?

Mr. PRICE. Dr. Zinn, earlier in your remarks you made a statement that you had hardly had time to get into this matter before it was a public matter. Could you elaborate on that? Could you tell us to what you refer?

Dr. ZINN. I will try to recall in what connection I said that. Yes, I recall the connection.

In April, around April 12, we saw that we had enriched material in our metal recovery drum, and I was completely in agreement with the

idea of getting it to Oak Ridge and getting them to work, because that is their business, to recover things enriched. We did not get an answer back from them until this letter, which is dated, I think, May 11, but it takes a little time for a classified letter to come through the channels.

I do not think we got that letter until about May 17 or 18 or 19. That is the first time we knew that metal recovery drum had over 90 percent of the material in it that we were looking for. It was only after that that I believe we would have started looking for an empty bottle, because until we knew that the stuff was in the metal recovery drum, the material being in our dry active waste, let us say, did not become a problem, and right after that the roof fell in, so to speak.

Mr. PRICE. Do you refer specifically to any news story?

Dr. ZINN. It came out in the newspaper, yes.

Mr. PRICE. You refer, perhaps, to a specific story bylined by Mr. Jerry Green and Mr. William Bradford Huie in the New York News?

Dr. ZINN. That was the beginning of it, yes, and my telephone started ringing at 6 o'clock that night and never stopped ringing until 2 o'clock the next morning the first day.

Mr. PRICE. Mr. Chairman, Senator Hickenlooper referred to a hypothetical espionage case, stating as his source of information, 1, 2, or 3 people. I would not question the sources of the Senator's information, and I am not concerned with it. He is a member of the committee, and he is entitled to all information he can obtain, theoretical or actual information; but I do question, perhaps, the security violation in regard to the sources of information on the outside that have led to what I consider security violations in newspaper stories and in magazine articles.

I have one article here in particular, which appeared in the Nation's Business, a publication of the United States Chamber of Commerce, in the June issue, 1949, authored by Mr. William Bradford Huie, entitled "Is the A-Bomb Secure?"

I would like to explore some of the statements made in the article, and I think the only way I could do it would be to question the Chairman of the Commission.

I realize that you have set a 1 o'clock limit on these hearings, and I want to cooperate with the committee in every possible way, but I think that the sources of the information contained in this article should be explored by this committee.

The CHAIRMAN. Mr. Price, it is quite obvious to me that when we reach 1 o'clock, that we cannot close this matter because there are several witnesses; they may be brief, but nevertheless, they must be heard. Inasmuch as the Chicago gentlemen are of the utmost importance in this project, I am anxious to get them back to their work just as quickly as possible.

Therefore, if there is no objection from any member of the committee, I would like to proceed this afternoon at 2:30 to continue this hearing. I have consulted Senator Hickenlooper about it a few minutes ago, and he is personally agreeable and has no objection.

If there is no objection, we will proceed at 2:30.

Mr. PRICE. There is no objection on my part, Mr. Chairman, but I certainly would like to explore the statements that are made in this particular article.

The CHAIRMAN. You will have that opportunity later on in the afternoon when we meet this afternoon. Are there any further questions, Mr. Price, at this time?

Mr. PRICE. Not at this time.

The CHAIRMAN. Mr. Elston?

Mr. ELSTON. Mr. Chairman, I would like to ask Dr. Zinn a question or two.

Doctor, I notice that you have guarded very carefully today any statement about the percentage of enrichment of this material and, of course, I am not complaining at all that you are doing so, but I wanted to ask you whether or not the information about the percentage of enrichment is itself a classified item.

Dr. ZINN. Yes, sir. I can give you the reason if you want. I think the reason is perhaps unclassified.

Mr. ELSTON. Doctor, I do not want you to give it if you do not feel you should. Let me ask you whether or not the possession of a single gram of this enriched material would indicate the percent of enrichment.

Dr. ZINN. Do you mean, sir, that on a gram can one make a measurement?

Mr. ELSTON. Yes.

Dr. ZINN. It depends on who you are. In other words, it depends on how good a mass spectroscopist you are. Mass spectroscopy is a science which I would really say the United States is supreme in, in science. A great deal of the work was pioneered in England in the 1920's, but during the 1930's and in the 1940's certain individuals in this country became extremely competent in this mass spectroscopy field. Mass spectroscopy is a very important thing in connection with the enriching of uranium, and so on. I am not going into the details. I do not want to at this time say what amounts our best people, and so on, can make measurements on. I do not want to do it, because the measurements are being made in the project.

Mr. ELSTON. Would you be fearful if three or four grams of this material were in the hands of a foreign nation, that they might be able to measure the percentage of enrichment?

Dr. ZINN. I believe if they have any real competence in physics, they would succeed in doing it eventually.

Mr. ELSTON. Would the knowledge about the percent of enrichment give some indication as to the kind of experiment that was being conducted at the metallurgical laboratory?

Dr. ZINN. No, sir. I might say, if I could amplify that reluctance to start mentioning enrichment, it is not reluctance on my part at all to mention this particular enrichment. Once you start on these things, they have a tendency of cascading, and to begin to mention amounts of enrichment—of course, there can be an infinite number of them from zero to a hundred percent—to begin to do that, I think, is a very poor thing, and I do not want to be the one to begin it.

Mr. ELSTON. I commend you for your policy. I am simply trying to find out whether or not possession of three or four grams would be helpful to a foreign nation.

Dr. ZINN. I think I tried to answer that question when it was asked of me by Senator Hickenlooper. The knowledge that we have, a certain enrichment, the enrichment we are talking about here is not of any great importance to a foreign nation.

The beginning of releasing enrichment from this project, I think, is another matter. Once you start to open up that subject, you are not doing the best in security.

Mr. ELSTON. Doctor, another thing. Was any other material dumped out of bottles besides the material that was in this one bottle in question?

Dr. ZINN. Well, of course, I know you realize that in a laboratory a bottle is the general vessel in which things are kept, chemicals, it is the common article. Therefore, to say that bottles are emptied, of course, they are, all the time.

Mr. ELSTON. I mean bottles that were stored in this vault.

Dr. ZINN. Well, were bottles emptied that contained natural uranium, unenriched uranium?

Mr. ELSTON. Anything stored in the vault.

Dr. ZINN. Yes. The men who had custody of this vault—they do not any more—they say yes, at various times they remember there was a bottle with some uranium oxide in it, normal uranium oxide; the reasonable thing to do with it is put it in the metal recovery drum and to get rid of that sample.

This would not be an exceptional thing to do, because this laboratory, you will recall, please, did not deal with uranium oxide. Its business was with uranium metal, and oxide was the debris.

Mr. ELSTON. When this particular shipment came in, it was an unusual shipment, was it not?

Dr. ZINN. To that department. It would not have been unusual in some other departments, which are not there.

Mr. ELSTON. But to that particular department, it was an unusual shipment?

Dr. ZINN. Yes, sir.

Mr. ELSTON. Unusual material?

Dr. ZINN. Yes, sir.

Mr. ELSTON. Now, were any particular precautions taken to protect that material?

Dr. ZINN. Yes, instructions were given to everyone who handled it to make sure at the end of each day's work it was locked in the vault, the people who took care of the vault actually, I think, were over-instructed; they were told to be very careful; don't touch that material, don't disturb it; and, therefore, they did not really inform themselves sufficiently of what it was. It did receive special instructions.

Mr. ELSTON. Those instructions were not followed, then, were they?

Dr. ZINN. I believe not.

Mr. ELSTON. Was any particular check made of the personnel to see whether or not they could be trusted with this highly secret material?

Dr. ZINN. The people who were allowed to handle it had what we call security clearance, Q clearance.

Mr. ELSTON. I am not going to go into specific cases, as I understand that is a matter which we must go into in executive session, but did you make any particular check of your personnel before turning this highly classified material over to them?

Dr. ZINN. We have no way of making a check, sir. What we get is a clearance order, which says this man has Q clearance. Sometimes this is followed up later on by a letter pointing out that although the

man has Q clearance, there may be some question about his record. We had no such information about any of these people.

Mr. ELSTON. The records of all these persons were in the possession of your own security officer?

Dr. ZINN. In the laboratory?

Mr. ELSTON. Yes.

Dr. ZINN. The FBI records? No, sir; we never see that. The FBI will not allow the contractor to see their records.

Mr. ELSTON. You had other security records; did you not?

Dr. ZINN. I think I must explain, sir, that I think the Atomic Energy Act and the rules of the FBI put the contractor in this position: The contractor cannot and may not go out and investigate people. What you do is have the applicant fill out a job-application form. He gives references. You write letters to his references. You cannot do more.

He fills out a security questionnaire which does not go to the contractor. It goes to the AEC and the FBI, and from them you get back a report saying this man has clearance or he does not have clearance.

Mr. ELSTON. That FBI report on the individual becomes a part of his security record, does it not?

Dr. ZINN. Not in the laboratory.

Mr. ELSTON. Where is it kept?

Dr. ZINN. It is kept in the security records of the Atomic Energy Commission.

Mr. ELSTON. In Washington?

Dr. ZINN. I do not know this first-hand, but I believe that up to a certain time they were kept in Washington; beyond that time they are being kept in the local offices.

Mr. ELSTON. Are they kept in the local offices now?

Dr. ZINN. I believe so.

Mr. ELSTON. At the time this material was missing they were not kept in the local office, were they?

Dr. ZINN. I believe that they were; yes. I do not want to be held to this number, but I think it was about a year and a half or so ago that the records on this sort of thing were transferred from Washington to the local offices. I had nothing to do with this.

Mr. ELSTON. I do not think you did. But at least, your security officer would have the entire file before him.

Dr. ZINN. No, sir.

Mr. ELSTON. If it were transferred from Washington to the local office, then you would have the record, would you not?

Dr. ZINN. The security officer of the AEC, the Atomic Energy Commission, not the laboratory, would have that file.

Mr. ELSTON. You mean the security officer in Chicago?

Dr. ZINN. Yes.

Mr. ELSTON. Well, he works in close cooperation with you, does he not?

Dr. ZINN. Yes, sir.

Mr. ELSTON. And when this material came in, did you make any check of the personnel that was to handle it, any recheck?

Dr. ZINN. No, sir; the people who handled it were Q clearance, and this means they are around the laboratory, they have access to all the restricted areas, and so on. No recheck was made.

Mr. ELSTON. How many persons had access to this material?

Dr. ZINN. Well, the number of people who could, so to speak, go in the vault was always limited to two or three.

Mr. ELSTON. And if anything was taken out for use in the laboratory, they had to leave a receipt for it, did they not?

Dr. ZINN. They had to get it from the vault custodian; yes. As a matter of fact, I think in this case he sort of followed them around and got it back again.

Mr. ELSTON. Now, the vault custodian; is he a guard?

Dr. ZINN. No, sir. At that time the vault custodian in this area was a laboratory employee, not a guard, who had some technical training so that presumably he could do weighing and some figuring, and so on.

Mr. ELSTON. Well, he could have, of course, had access to very highly classified material; is that right?

Dr. ZINN. Yes, sir; and so, of course, would the machinists who did the machining.

Mr. ELSTON. Yes; but the machinist who did the machining would have given a receipt for the material before he touched it.

Dr. ZINN. He probably did not give a receipt, because the vault custodian was probably there when he machined it, brought it to him and watched him do the work.

Mr. ELSTON. And then returned it?

Dr. ZINN. Then, at the end of the day they cleaned the operation and returned the stuff to the vault; picked up everything they could.

Mr. ELSTON. Mr. Chairman, that is all I can ask on that phase of the question in open session.

The CHAIRMAN. All right. It is 1 o'clock, and the committee will recess until 2:30.

(Whereupon, at 1:05 p. m., a recess was taken until 2:30 p. m., of the same day.)

#### AFTERNOON SESSION

The CHAIRMAN. All right, the meeting will come to order.

Some of the members of the committee have been delayed for a few minutes by reason of business on the floor of both the House and Senate, and I anticipate they will be in; some of them that can, will be in very shortly. In the meantime, because of the pressure of time, we will go ahead.

I just want to read into the record at this time a note which was sent by Mary Spargo of the Washington Post this morning to the members of the committee. Miss Spargo says:

So long as this reporter is mentioned—

and you will remember she was mentioned this morning, her story on the bottle—

I tell you we called it the brown bottle, not Senator McMahon. We had previously been told it was a brown bottle by one or another not a member of the committee.

It is signed "Mary Spargo."

I have not as yet checked the notes of the press conference, but I will ask that that be done, just simply to clear the matter up, not that I view it of as any great importance at this time, but simply because we must try and make a complete record.

Senator HICKENLOOPER. Mr. Chairman, just to make the record complete, I do not want to dwell on this point—I hardly called attention to it, but I do call attention to the news article, the news story of June 3, 1949, in the Times-Herald which I referred to this morning, referring to it as a “missing brown pint bottle,” and then it quotes the chairman of the committee further down in the article indicating that that was an interview, and, as I say, this is no censure or even criticism of the chairman.

Then, in the New York Daily News of June 3, 1949, the story in which the chairman is quoted among other things, with respect to the bottle—it does not specifically quote the chairman as saying “a brown bottle,” but it says in the story:

Chairman Brien McMahon of the Joint Congressional Atomic Energy Committee announced late today that investigators have found the missing brown pint bottle which contained 10 to 12 ounces of uranium oxide which vanished from Chicago.

That is in the New York Daily News of June 3.

In the Washington News of June 3, which was written as a result of—that is; following the press interview on June 3—this is the United Press story, and it says in the middle of the story, and I quote:

The discovery of the brown pint-sized bottle cleared up one mystery surrounding the loss of an ounce of uranium in Argonne.

Then, in the Baltimore Sun of June 3, resulting from the same interview is the following:

Washington, June 2—

this is the Washington Bureau of the Sun—

Senator McMahon (Democrat, Connecticut), chairman of the Senate-House Committee on Atomic Energy, tonight announced recovery of the pint-sized “brown bottle” which had contained uranium 235 missing from the atomic laboratory in Chicago.

Then we had the Washington Post story of the 3d to which I referred a while ago.

As I say again, I am not criticizing the chairman on this matter, but I am merely putting these in to indicate that I had assumed from the repeated press stories following this conference that an announcement had been made.

The CHAIRMAN. I think, Senator, that I can clear up perhaps in part, how that came about.

A brief press conference was held in my office. Sitting on the desk was a brown bottle which contained vitamin pills. [Laughter.]

When asked or queried about the bottle, my eye lit on this bottle of vitamin pills, and I picked it up, and it was said, “Oh, it is something like this,” and, of course, it was brown, and I rather think that that was the origination, and certainly no one was to blame for it; it was just one of those things that happened. That is the way the brown became fixed.

Then, later, when talking about the bottle that was dug up in Chicago, there was no reference to its color; but naturally the reporters were certainly warranted—and I was in error in not making clear when I pointed to the vitamin bottle and held it up, that I was not warranting its color and, perhaps, that is the origination of it and if so, of course, it is my fault.

At any rate, I think the testimony, both given and what is to come, will substantiate beyond a doubt that it was not a brown bottle. It was not a brown bottle that was in question.

Now, it seems to use that we want to make progress, particularly about the Chicago people, to get them back there to their work; and it might be well if the two gentlemen whose handwriting was on the bottle in question that was dug up would come forward at this time for very brief examination.

Now, which one of you two gentlemen first wrote upon the label on the bottle?

**STATEMENTS OF RICHARD DUNSWORTH, JUNIOR METALLURGIST,  
ARGONNE NATIONAL LABORATORY; AND PAUL FIELDS, CHEMIST,  
ARGONNE NATIONAL LABORATORY**

Mr. DUNSWORTH. I did.

The CHAIRMAN. What is your name, sir?

Mr. DUNSWORTH. Dunsworth.

The CHAIRMAN. Your first name?

Mr. DUNSWORTH. Richard.

The CHAIRMAN. And you are a scientist, physicist, employed in the Argonne Laboratory?

Mr. DUNSWORTH. Junior metallurgist.

The CHAIRMAN. Junior metallurgist, and in the course of your duties, did you have occasion to label a quantity of brown oxide enriched?

Mr. DUNSWORTH. That is black oxide.

The CHAIRMAN. Black oxide? I have got "brown" on my mind. [Laughter.]

Mr. DUNSWORTH. Well, I must have.

The CHAIRMAN. I will have this mislabeled if I am not careful.

Mr. DUNSWORTH. I have no recollection of the actual labeling on the bottle, but the handwriting seems to be mine, so I must have done it.

The CHAIRMAN. You do identify—you have identified, and so now identify to us—

Mr. DUNSWORTH. The handwriting.

The CHAIRMAN. The handwriting that is on the label.

Now, what particular numbers are in your writing?

Mr. DUNSWORTH. I would have to check the label again, but the main body on the label is mine. There are some numbers at the bottom, as I recall, that were not mine, although then they might have been mine, because when you are writing on a bottle you are liable to get your figures a little crossed.

The CHAIRMAN. It is pretty difficult, a pretty difficult thing, to write on it. Now, did you identify your handwriting in the presence of an agent of the Federal Bureau of Investigation, Mr. Paxman?

Mr. DUNSWORTH. I did.

The CHAIRMAN. And you informed him that it was your handwriting that was on this bottle?

Mr. DUNSWORTH. Yes.

The CHAIRMAN. Could we, Mr. Borden, have these pictures to refresh the witness' recollection? Well, these are pictures of the bottle, but I doubt if that—here are the pictures. I doubt whether you can

identify them from that picture. I am informed it shows up a little better on this one here [indicating]. Can you decipher it on those pictures?

Mr. DUNSWORTH. Yes. The "585.3G" and the "284.5—284.0G."

The CHAIRMAN. And that is in your handwriting?

Mr. DUNSWORTH. Definitely, yes.

The CHAIRMAN. And the "284.G" represents what?

Mr. DUNSWORTH. Well, "G" stands for grams.

The CHAIRMAN. Right.

Mr. DUNSWORTH. "284.0" is 284—

The CHAIRMAN. Two hundred and eighty-four grams of what?

Mr. DUNSWORTH. Well, there is a "U-30" something. It is clearer on the original bottle. It is called "U-308" right here.

The CHAIRMAN. Senator Hickenlooper is referring to the file, so I will go ahead and develop it as far as I can. But you definitely recognize that as your handwriting?

Mr. DUNSWORTH. That is right.

The CHAIRMAN. Is it in the line of your customary duties to do this thing? I mean, to do a thing of this kind? Is that a common ordinary practice of yours?

Mr. DUNSWORTH. To label a bottle?

The CHAIRMAN. Yes.

Mr. DUNSWORTH. We have labeled quite a few bottles, yes. I have labeled quite a few bottles.

The CHAIRMAN. When you say "quite a few," can you give us some idea of the number a day, the number a week?

Mr. DUNSWORTH. Well, it could be maybe two a week or something of that sort, in the period of my employment there.

The CHAIRMAN. What is your name, sir?

Mr. FIELDS. Paul Fields.

The CHAIRMAN. What are your duties?

Mr. FIELDS. Well, I am a group leader in the laboratory, and one of the duties of our group is service work, and if I give you a little background, perhaps, at least of how I got my writing on this—

The CHAIRMAN. Yes. Speak up now.

Mr. FIELDS. How I was in a position to recognize the bottle was this material which had resulted from the machining of the uranium was gathered together apparently by Mr. Dunsworth, and there was a little material in some oil, which the metallurgical people could not quite recover, and I was asked to get this material out of the oil, and I received both this bottle containing the 284 grams, and this material in oil, which I recovered and purified, and added to the 284 grams.

Then, I reweighed the bottle and the contents to give the total amount, the new total amount of the uranium, and I put my new notations in the upper right-hand corner of the bottle, so that the next person who received it would know that was a change in weight, and when I was questioned about it, I said that I had put this notation in the right-hand corner of the label, and when the bottle was found I found my penciled notation up there; it was in my writing.

The CHAIRMAN. What was that notation?

Mr. FIELDS. Well, there was the weight of the bottle, plus the uranium.

The CHAIRMAN. Do you remember what that was?

Mr. FIELDS. It was 590. The new weight of uranium—that was 289 grams, and both of them were there; the papers which I had filled out sending the material back to metallurgy stated that there was now 289 grams, and that weight corrected the figures on the bottle, the weight had come in to me as 284 grams, and that was also on the bottle.

The CHAIRMAN. Where did you see this bottle for the first time after it was dug up?

Mr. FIELDS. In Dr. Zinn's office. Mr. Paxman was there, and he took it out of a box and asked me to look at it, and it did not strike any note until I looked at the label, and then I identified my figures, and they have been just what I said they probably were, and it was the figures I had claimed I put on there.

The CHAIRMAN. So, the bottle in question was the bottle you say that—

Mr. FIELDS. I passed on to metallurgy coming to me.

The CHAIRMAN. And this was in your handwriting?

Mr. FIELDS. Yes.

The CHAIRMAN. Any questions?

Senator HICKENLOOPER. Mr. Fields, do you recall, when you saw the bottle in Dr. Zinn's office, that that was the bottle that you had put your figures on?

Mr. FIELDS. I recall just the label.

Senator HICKENLOOPER. I see.

Mr. FIELDS. I have been quizzed as to how the bottle looked, and I just did not remember. I get hundreds of bottles but the label—

Senator HICKENLOOPER. I just wanted to clear that up, because it is reported that you said that you could not recall the particular bottle, but you did identify the figures in one corner as your writing.

Mr. FIELDS. Yes. I had told them before that I had these figures added on to the label.

Senator HICKENLOOPER. Yes.

I think that is all, Mr. Chairman.

The CHAIRMAN. Thank you very much.

Senator HICKENLOOPER. I wanted to talk to Mr. Dunsworth.

The CHAIRMAN. I beg your pardon.

Senator HICKENLOOPER. If I may.

The CHAIRMAN. Certainly, Senator.

Senator HICKENLOOPER. Mr. Dunsworth, do you have a clear recollection of handling this bottle?

Mr. DUNSWORTH. No, none at all.

Senator HICKENLOOPER. I believe you stated just a moment ago that you felt that some of the figures on the bottle were in your writing, is that correct?

Mr. DUNSWORTH. That is correct.

Senator HICKENLOOPER. And you determined that after having seen the bottle that was dug up from the dump with the figures on the label?

Mr. DUNSWORTH. That is right.

Senator HICKENLOOPER. And you recognized your own writing on the bottle?

Mr. DUNSWORTH. Yes.

Senator HICKENLOOPER. I merely suggest that because in the record of the investigation, in which you were interviewed, I find no reference

whatsoever to your belief that any of these figures were yours. I do not question your statement now. You certainly ought to be able to recognize your own writing, but this was after the bottle had been found, and in the record of talking to you about the matter, as I say, I find no reference in here to the fact that at that time you mentioned anything about the part of the figures being yours on the bottle.

Mr. DUNSWORTH. What does it say in the record as to what I said?

Senator HICKENLOOPER. Well, you discussed what was the probable operation. I would be glad to have you see this; I just do not want to quote directly from these records. Now, you may read these two paragraphs.

Mr. DUNSWORTH. It discusses the operation of converting turn-  
ings—

Senator HICKENLOOPER. I think it would be only fair if you read the two paragraphs. Would that be all right?

The CHAIRMAN. Surely.

Senator HICKENLOOPER. Because I do not want to quote directly from this. I assure you that, as far as I can find, these are the only two paragraphs referring to you there.

Mr. Dunsworth, please do not misunderstand me, I am not questioning your identification of your handwriting, but I am concerned with the exactitude of some of these investigations and the information developed, and while it is noted that you have handled this bottle, that is, could have very easily, I just noticed no mention of the fact that there was a claim that any of these figures on the bottle were your figures.

Again I want to make clear that I am in no way questioning your statement that they are your figures. I do not question that at all.

Mr. DUNSWORTH. The statements you have there were taken at an earlier date than when I made the notation about the figures being on there. Do you see those paragraphs—

Senator HICKENLOOPER. This is dated the 27th of May.

Mr. DUNSWORTH. Of course, that does not give you any indication as to when I was actually interviewed on that subject, does it?

Senator HICKENLOOPER. It is the period from the 24th of May to the 27th of May; that is during that period.

Mr. DUNSWORTH. The interview period?

Senator HICKENLOOPER. It was during that period when the interview is bracketed, between those two dates, and the entire report seems to be predicated upon a further inquiry after the bottle had been discovered, so I just assume that all of these inquiries were after the bottle had been discovered because there is an earlier investigative report of the various authorities prior to the time of the actual discovery of the bottle.

You certainly can identify your own writing, and I raise no question about that either way, you or Mr. Fields.

The CHAIRMAN. Mr. Dunsworth, you saw this bottle on a number of occasions since it has been dug up?

Mr. DUNSWORTH. No, the only time I saw it was after this interview in question.

The CHAIRMAN. After this interview. Now, it was testified by Dr. Zinn this morning that the bottle had to dry out, the label had to dry out. When you saw the label, was it dry?

Mr. DUNSWORTH. Yes; I saw it after it had come back from Washington.

The CHAIRMAN. You saw it for the first time after it came back from Washington?

Mr. DUNSWORTH. Yes.

The CHAIRMAN. That is when you made your identification of your own handwriting?

Mr. DUNSWORTH. Yes.

The CHAIRMAN. Thank you. Are there any further questions?

Thank you very much, gentlemen.

Mr. Borden?

Mr. William Borden, who is director of the staff of the Joint Committee on Atomic Energy.

Mr. Borden, pursuant to my instructions, you and Mr. Heller went to Chicago?

**STATEMENT OF WILLIAM L. BORDEN, EXECUTIVE DIRECTOR,  
JOINT COMMITTEE ON ATOMIC ENERGY**

Mr. BORDEN. That is correct.

The CHAIRMAN. As Dr. Zinn testified this morning?

Mr. BORDEN. Correct.

The CHAIRMAN. What date was that?

Mr. BORDEN. That was about May 20. We left on a Thursday which, I think, was the 20th.

The CHAIRMAN. And you conferred with Dr. Zinn when you got there?

Mr. BORDEN. Yes, we did, Mr. Chairman.

The CHAIRMAN. And with others?

Mr. BORDEN. With a number of other people at Chicago.

The CHAIRMAN. Now, Mr. Borden, did you bring back a bottle with you to Washington?

Mr. BORDEN. Mr. Chairman, I not only brought back a bottle, I brought back pictures which were procured at the request of Mr. Heller and myself. I brought back photostats of some of the relevant documents, and in addition I brought back the facsimile or duplicate bottle which had contained uranium oxide and over and above that, to compound a number of bottles involved here, I brought back a little vial which contained an amount of material in it which represented or simulated by volume the amount of U-235 which was not accounted for.

The CHAIRMAN. Now, will you tell us how this bottle incident arose?

Mr. BORDEN. Surely.

When Mr. Heller and I visited Chicago, we thought that it might have been incumbent upon us when we returned to make a personal report to the committee. We felt that it might assist the committee if we had with us graphic and visual aids; that such aids would tend to make tangible and comprehensible the kind of problem that was involved.

With that thought in mind we procured a photographer to accompany us to the various sites when we were in Chicago, and to take pictures of relevant vaults and other items that figured in the story.

The CHAIRMAN. He was cleared, I hope?

Mr. BORDEN. He was cleared; yes. [Laughter.] My understanding was that he was a member of the Chicago Operations Office of the Commission.

In addition to that, I expressly requested from Dr. Zinn a bottle which would more or less indicate the order of magnitude involved. I thought that it might be helpful to show that this facsimile or dummy bottle, representing one which had been lost, was not this big [indicating], or so big [indicating], but rather this big [indicating].

I did not have any particular color or legend on the label in mind, but I did think that to have something tangible to show to the committee along this order would be helpful.

When Dr. Zinn, in executive session, testified the following Monday, the bottle was produced at my request and passed around among the committee members. I think in all fairness I ought to say that any blame for confusion that may have arisen because of the production of this dummy or duplicate bottle is completely and solely attributable to me and my request in Chicago.

The CHAIRMAN. You did not specify any color when you asked for this sample bottle?

Mr. BORDEN. My recollection is not completely clear on the point. I think I did, because it had been said in various conversations that had been held in Chicago that the bottle could have been or could well have been or was possibly a brown bottle. There seemed to be a plethora of brown bottles at site B, where the actual bottle in question had been stored at one time, and so that was the color that turned out to characterize the dummy we brought back.

The CHAIRMAN. Dr. Zinn was generous enough to state this morning that it was you who made the suggestion that the dump be examined, which suggestion has resulted in the digging up of the bottle. You did make such a suggestion?

Mr. BORDEN. There was considerable conversation on that point; yes, Senator.

The CHAIRMAN. Well, Mr. Borden, for my part I certainly have no criticism of the unfortunate confusion that resulted, because I think it is easy to understand that in the light of all the facts now.

Are there any questions?

Senator HICKENLOOPER. No questions.

Senator KNOWLAND. No questions.

The CHAIRMAN. Thank you.

Now, Dr. Thiele, would you mind going out and taking the chair, please?

Doctor, will you give your name to the reporter in full?

# **STATEMENT OF DR. ERNEST W. THIELE, ASSISTANT DIRECTOR OF RESEARCH, STANDARD OIL CO. OF INDIANA**

Dr. THIELE. Ernest W. Thiele.

The CHAIRMAN. Doctor, you are connected with the Standard Oil Co. of Indiana?

Dr. THIELE. I am assistant director of research at Whiting, Ind.

The CHAIRMAN. For how long have you been connected with that company?

Dr. THIELE. About 24 years.

The CHAIRMAN. Would you mind giving us your educational background?

Dr. THIELE. Well, I received a degree of A. B. from Loyola University in Chicago; following that a degree of B. S. in chemical engineering at the University of Illinois; and degrees of M. S. and S. D. D. from Massachusetts Institute of Technology, the latter also in chemical engineering.

The CHAIRMAN. Doctor, as a result of a request that I made on behalf of the committee to Dr. Wilson, the president of Standard Oil Co. of Indiana, were you, with your consent, assigned to conduct an investigation of the facts relevant to this reported loss at Chicago for this committee?

Dr. THIELE. Yes, sir; mainly the technical facts.

The CHAIRMAN. That is right.

Now, Doctor, fortunately you have been here when Dr. Zinn testified, and you know that we are interested in all of the testimony that we can produce relating to the matter, and particularly to the recovery of this loss.

Will you please tell us what you have done in connection with your work on it?

Dr. THIELE. Well, I mainly was to discuss the discrepancy of 4 grams, and so forth. There is another aspect of it leading to, relating to the inventory, which probably would, judged from what was said this morning—could not be very well discussed in a meeting like this.

Do you want me to go on?

The CHAIRMAN. Yes, go right ahead, Doctor.

I might say for the record that you have a Q clearance from the Atomic Energy Commission in regard to the work to which you were assigned.

Dr. THIELE. Yes, sir.

The CHAIRMAN. And of course, you are aware of the limitations of security, and you will proceed within those limitations.

Dr. THIELE. I hope so. [Laughter.]

The CHAIRMAN. So do I. [Laughter.]

Dr. THIELE. First, with regard to what was lost, the question there would be to find out, as nearly as possible, how much uranium 235 was in the bottle which disappeared.

After looking it over, I do not have anything much to change with regard to what has already been quoted. There cannot be any doubt that the scales used to weigh the amount of material were quite accurate enough for this purpose.

The analysis for the uranium which was conducted at the new chemistry laboratory was done by a method which would be suitable for material of this character. It was a proper preliminary investigation as to possible interfering substances, so that I think, and also the analysis was made in triplicate, giving closely accorded values, so that the figure 82.3 is probably as far as we can judge after a period of 2 years—there is no possibility for a check—quite a good figure.

It is difficult to assign limits of error to analyses. I would think, however, that an error of 1 percent probably should not be exceeded. It is very probable that it was within those limits.

There is some auxiliary evidence as to the weight contained in the bottle because you can trace back the history of the original billet

from which the shavings were made, and by deducting the other materials which were found, you can arrive at a fairly good idea of the probable losses, and those appear to me to be within reason for an operation which was conducted only once. They are perhaps a little large if you were to operate that way on a continuing basis.

Then, there remains the question of the isotopic composition. That is a separate analysis, and that can be checked because there was reserved a small sample in the new chemistry laboratory which has since been determined by two different laboratories—one by Oak Ridge, and one other result—which is closely accorded, although I do not have the exact figure before me since it was obtained only very recently, and those agree as well within limits with the supposed composition of the original billet from which the material was made, so that, to sum it all up briefly, it seems to me that the weight of uranium 235 which was in this jar must have been very close to 31 grams, probably a very high probability insofar as you can see by such an after-investigation—not more than a half gram either way would probably be a liberal allowance for possible various erratic errors.

Then, taking on the other side the large waste can in which the enriched material was found, that was sampled first at the Argonne Laboratory, and five small samples were taken, and one of the samples, together with the original can, was then sent down to Oak Ridge.

I was down at Oak Ridge to examine what was done with the can there. I find that they are very well equipped to do the kind of work that needed to be done. They have a special room for it, and it is a part of their regular business to deal with materials of this sort. They have excellent scales, and the operator was said to be an experienced man. I have no doubt that was the case.

Contrary, however, to what Dr. Zinn said, the material was not all brought into solution at that point. After five additional small samples had been taken out, an attempt was made to bring them to solution and the greater part of it was made into a solution which was fairly bulky.

There was a residual solid material which did not respond to this treatment. Both the small samples, the extra sample which was sent down, extra sample which was sent from Argonne, and the two large lots, one of solid and one of liquid, were analyzed at Oak Ridge.

The methods used in the analysis for uranium had been largely developed by the Atomic Energy Commission or, perhaps, it would be better to say by the Manhattan District, and the Oak Ridge people have had a large amount of experience in making such analyses, so that as far as could be judged by a person who does not have and cannot have special experience in this field, the analyses made there should be good analyses.

With one exception they should be good analyses, and that was that I considered that the method used for the isotopic analysis of the solid was open to objection. While an error appeared unlikely, there might have been one, and it might have been one of any size. Apparently the Oak Ridge people had realized this, and they had, while I was down there, already made preparation to make another analysis of the solid. I do not know whether this had been done.

Then, you have to evaluate the accuracy of the analyses which they made. If we took the statements available in the literature

as to the accuracy of the uranium analyses, there would be a situation where it would be quite high, very high, a tenth of 1 percent—1 percent of the amount of uranium which was determined. Probably one cannot expect that in the normal course of analyses and without very special precautions that the full possibilities of the methods used could be obtained, and I find it somewhat difficult to decide what the limit of error would be.

For this reason, and because the question of the discrepancy turned very largely on the analysis particularly of the large bulk of solution, I suggested to the Oak Ridge people that they should make another analysis, a comparison of the two, which would give at least some idea of the probable erratic errors that would arise and probably form a basis for evaluation; and furthermore, since this was important, I asked them to send a sample up to the Argonne Laboratory to have analyses made by their methods there. The former analysis I have not obtained. I do not know actually whether they have gone ahead to do it, but, as Dr. Zinn said this morning, the analysis made at the Argonne Laboratory was quite considerably higher, outside of the limits—on the isotopic concentration—outside of the limits which the people at Oak Ridge had suggested their experience showed should be the case.

However, the mass spectrographic analysis is subject to erratic errors arising from the fact that the previous analysis made in this equipment tends to affect subsequent analyses. This was pointed out to me, particularly by Dr. Ingraham, who is—who does work for and is partly connected with the Argonne Laboratory, and who was one of the developers of the instrument in which the mass spectrographic work at Argonne was done, so that the fact that there was a larger discrepancy was—I will not say in accordance with his predictions, but at least consistent with what he suggested the limits of error should be.

But I have not had time, of course, to state exactly what the result of this latest analysis of the material in the can will do, but I believe that since the point is rather important, further analyses of this can are indicated, and I presume they would be made.

The CHAIRMAN. They are being made, I am informed, Doctor.

Dr. THIELE. There is, however, one further point, but before I go to that, I would say that I think where this leaves it is that you have here an indication that some part of the discrepancy may possibly be eliminated.

There is another point which I have been following up, which is a little different and really refers, you may say, to the calculation. You see, what you determine in the garbage can is simply the amount of, the total amount of uranium 235 that is present in order to determine how much of the enriched material came from the bottle or elsewhere. The assumption has been made that the rest of the material which was in this can, the uranium, was normal uranium, which contains certainly a much smaller proportion of uranium 235.

Now, it turns out that in the month previous to the month in which—in October of last year, they were working up in the metallurgical department at Argonne some depleted uranium, that is, uranium from which nearly all of the U-235 had been removed.

The CHAIRMAN. Now, in the natural state that is seven-tenths of 1 percent?

Dr. THIELE. Approximately seven-tenths of 1 percent.

The CHAIRMAN. You are talking about this material, that seven-tenths had been—

Dr. THIELE. Well, I doubt whether they know very accurately, but probably 90 percent had been removed. It was mostly gone. This billet was received about October 5, and it was machined, and the records show that the 810 grams of the material were lost as chips in the machining operation. There was a machine to make them into square blocks. Then these blocks were to be further fashioned, and while this was being done on the first one, an explosion occurred which burned an operator slightly, and caused the block to be useless for further work, and it was also scrapped, so that in all there were presumably scattered among the scrap uranium of normal composition something approaching 1,500 grams. I do not have the exact figure. There was something approaching 1,500 grams of this depleted material. This was in October.

One can of waste was taken out of the Metallurgy Laboratory, according to the records at the end of that month, and this can No. 3, in which most of the material appeared, was taken out at the end of November. It seems, therefore, on the whole, to be considerable possibility that some of the depleted uranium found its way into this can No. 3, and if so, to the extent that that took place, the enriched uranium would, so to speak, be soaked up, and its excess U-235 composition would be used in making normal uranium out of depleted uranium, if I can express myself in that way.

Senator HICKENLOOPER. Do you mind being interrupted, Doctor?

Dr. THIELE. Not at all.

Senator HICKENLOOPER. Do you have the date in October when this explosion occurred, or the approximate date?

Dr. THIELE. It was the 22d of October. The medical department records show that that was the case. Two men had to go to the hospital.

Senator HICKENLOOPER. Yes. But the point is that if this depleted uranium had been worked on, and then ruined or something for further use and had been scrapped, it probably would have gone into the October waste can, would it not, rather than in the can that was used for the November waste?

Dr. THIELE. Presumably so.

Senator HICKENLOOPER. And the one that was used for the November waste, as I understand it, was can No. 3?

Dr. THIELE. That is right.

Senator HICKENLOOPER. So that the depleted material probably would be in the can that preceded the one in which excess U-235 was located?

Dr. THIELE. Yes. Of course, we cannot now find out just how they dealt with the material on the floor, wherever it may be, so that I do not see any way now of arriving at really a history of the thing, and so far, it may be said that we do not have any affirmative evidence of the presence of any depleted uranium in can No. 3. I would like to go into that a little further.

Of the 12 cans which were checked, were awaiting shipment to Philadelphia, only this can No. 3, so far, has been analyzed and examined by Oak Ridge, but the other 11 cans are down there and they

are working on them. So that we may, from the isotopic analyses of these cans, perhaps, get an idea of where the depleted uranium is.

In theory, presumably you could make a balance of the thing. I am not too hopeful that anything very accurate can be obtained.

There are also the additional four "thief samples," which were taken at the Argonne. They have been examined only by a very inaccurate qualitative method, and while the other six "thief samples" which were taken from can No. 3 showed either normal uranium or an excess, still only one of those six showed any considerable excess, and it seemed to me worth while to have Oak Ridge get an isotopic analysis on the remaining four in the hope that possibly some depletion could be found.

If any depletion which is below the limits of analytical error can be found, it would be proof, really, I believe, that some, no definite quantity, can be said—some of the depleted uranium—was in this can No. 3. If nothing is found, our experience with the enriched uranium shows that you cannot really infer very much from it.

What ought to be tried is to make a balance of all the 12 cans and see how much, if anything, of depleted uranium could be attributed to can No. 3. At any rate, there seems to be a possible explanation of the discrepancy.

In addition, as I said before, the analyses require some further study.

Senator HICKENLOOPER. The net result, then, Doctor, is that we do not know any more now than we did; is that about it, except theory?

Dr. THIELE. We do not know any more for sure now than we did.

Senator HICKENLOOPER. Yes. That is all.

The CHAIRMAN. Are there any further questions?

Doctor, that is all, at least for the present time, except that I should say—I know that you know this—that the further analysis and experimentation is going forward on this matter.

Can you tell me from your knowledge when it would be finally completed?

Dr. THIELE. Well, that will depend on the work at Oak Ridge, I believe. I do not really know how far along they are. We have asked them to do a number of things, and I presume it will be a little while before they are through.

The CHAIRMAN. Have you requested that these 12 cans, if they are still available, be examined to find out if they contain—

Dr. THIELE. That was requested before I came on the scene, and that is being done. There is no question but that will be obtained.

The CHAIRMAN. I see.

Dr. THIELE. No doubt all the work will be done.

The CHAIRMAN. I see.

Dr. THIELE. But that is quite a job, and they have to carry on their regular business, of course.

The CHAIRMAN. Yes. Thank you very much, Doctor.

Senator HICKENLOOPER. May I ask just one question that I overlooked?

The CHAIRMAN. Yes.

Senator HICKENLOOPER. Did I understand you correctly, Doctor, to say that you believed that a 1-percent error was a tolerable error in examination of these products for the location of this material?

Dr. THIELE. Well, every analysis will have a different probability of error.

Senator HICKENLOOPER. Yes; but I understood you to use the term "1 percent."

Dr. THIELE. Yes; that is right; that was the reference to the jar.

Senator HICKENLOOPER. You believe that they should be able to locate this material within 1 percent of what was actually there?

Dr. THIELE. Oh, you mean—the way things stand now, I think it is questionable whether you can in the case of the can, considering that you have a large bulk of material and only a small amount of enrichment; I think it is hopeless to attain that. The difficulties of what they have to do to form the best evaluation are what really is to be considered a really probable limit, but I hardly think that 1 percent can be attained in that case.

Senator HICKENLOOPER. Did you have an opinion on that, at the moment?

Dr. THIELE. What would be a limit?

Senator HICKENLOOPER. Do you have an opinion as to what would be an unreasonable limit?

Dr. THIELE. I would think before we got through it would certainly be plus or minus 5 percent—well, maybe not quite that good. It is a little—

Senator HICKENLOOPER. Oak Ridge, I believe, says it is plus or minus 4.2 percent.

Dr. THIELE. I beg pardon?

Senator HICKENLOOPER. Oak Ridge has indicated that the probable error they believe is plus or minus 4.2 percent. I do not mean to hold you to an exact percentage, but do you believe that is substantially a reasonable error limitation?

Dr. THIELE. Well, in the over-all, yes; but I may say that I do not think I quite see eye to eye with Oak Ridge on their possibilities of error. I believe they have given too liberal limits in the uranium analyses and not liberal enough in the isotopic analyses; the two have to be more closely tied together.

Senator HICKENLOOPER. Well, the figures on which I based my suggestion were based on 31 grams of U-235 and a 1.3 limitation of probable error, plus or minus, which, as I calculate it, is 4.2 percent.

Dr. THIELE. Well, 31.0; yes. I think I should say one thing further, and that is that if we are going to have to bring in—if it seems proper to say—the depleted material, it becomes much more difficult to get down to a fine point because the depleted material is scattered among other cans, and that further dilutes your accuracy in a way which is hard to follow up.

Senator HICKENLOOPER. That is all, Mr. Chairman.

The CHAIRMAN. Thank you, Doctor, very much, indeed.

Dr. Zinn, I would like to put one question to you if you would not mind.

#### STATEMENT OF DR. WALTER H. ZINN—Resumed

The CHAIRMAN. Doctor, I am going to ask you this question based upon what I understand to have been the conversation between Mr. Borden and yourself. In talking about error, the difficulties of com-

ing to an exact figure in matters of this kind, was it you that told Mr. Borden about the illustration at Fort Knox in Kentucky of \$20,000,000 error on gold that is buried there?

Dr. ZINN. I have heard the story, and I have repeated it. Whether or not I repeated it to Mr. Borden, I am not sure.

The CHAIRMAN. You must have, because he told it to me.

Dr. ZINN. It is a well-known story. That is the monetary number the number which expresses how many dollars presumably can be written down to the cent, but actually if you weight up all the gold there and take your errors of weighing, I believe it turns out that your error is something like \$20,000,000 because you do not know how much gold is there, to that amount, just because of the errors in weighing. That is the difference between accounting, where you give to a thing a value which is permanent. For instance, a 25-cent piece is a 25-cent piece, no matter how much it is worn, until its is discarded. Whereas, in this material, of course, every time you handle it you change its value.

The CHAIRMAN. You are talking about uranium now?

Dr. ZINN. Yes. Handling uranium. Everytime you handle it you make a change in the amount that you have there. Usually, it goes down, because you lose some.

The CHAIRMAN. And you change it into gases and liquids?

Dr. ZINN. Yes.

The CHAIRMAN. And bring it back to solids.

Dr. ZINN. Yes; it is inevitable that you have losses along the way so that your inventory cannot be a number which stays fixed. It has to be changed, and can only be accurately changed if you do a lot of analytical work, but even then the answer has always got an error on it, because it is not a 25-cent piece that has that value regardless of what happens to it. There is a difference between monetary accounting and accounting of these materials, a very, very real one.

The CHAIRMAN. And yet, in accounting for the \$20,000,000 you say there can be an error of at least of one-tenth of 1 percent due to the weighing?

Dr. ZINN. Yes; it is a weighing error, and balances are only so good.

Senator HICKENLOOPER. The calculation methods, however, Doctor, used to calculate these enriched and highly important atomic matters are much more delicate—atomic materials are much more delicate than the weighing arrangements for weighing big blocks of gold, are they not?

Dr. ZINN. Well, I do not imagine that where we have to weigh, let us say, several kilograms of uranium, we have any better balances than the Bureau of Standards supplies to the—

Senator HICKENLOOPER. I am not talking about several kilograms; I am talking about grams and less. Measurements are much more accurate.

Dr. ZINN. The relative error is not too much affected by the weight that you are weighing; that is, if you are weighing a milligram you have a certain error, if you are weighing a gram you have a certain error. The percentage error is not—it is true when you get to micrograms, the error goes up, and in miligrams it goes up. The balances are best where it is around a fraction of a gram.

The CHAIRMAN. Now, Senator, do you desire any other witnesses called in relation to Chicago?

Senator HICKENLOOPER. Not any more this afternoon.

The CHAIRMAN. Has any other member of the committee anything to add?

Mr. Price, you stated at 10 minutes of 1 that you had a matter that you wanted to go into.

Mr. PRICE. Yes; I would like to go into a matter which I think justifies looking into, which involves security, and I think it is something we should look into, with respect to the motive behind the different articles that have appeared in the public press, and I think that, perhaps, Mr. Lilienthal might be able to answer a few of the questions that I would like to ask in connection with the articles.

The CHAIRMAN. All right.

Mr. Lilienthal, Mr. Price has some questions which he wishes to address to you.

Mr. PRICE. Mr. Chairman, I have been very much disturbed by what appears to me to be a concerted campaign in some quarters, in other words, deliberate sniping at the Commission which, in my opinion, has a purpose to possibly destroy public confidence in an organization, an organization which is so valuable to our national security.

I have thought for some time that it might be well or advisable for the committee to go pretty thoroughly into this matter and to try to uncover the source of some of this information.

As a member of the committee, I insist that the joint committee go into the matter of leaks in classified information. It is a matter vital to the security of this Nation.

Now, I would just like to refer this afternoon to one or two articles, particularly the article which appeared in the Nation's Business, a publication of the United States Chamber of Commerce, in June 1949, written by Mr. William Bradford Huie. It is entitled "Is the A-Bomb Secure?"

Before going into that article, I would like to refer to an article which the same writer—

Mr. LILIENTHAL. What is the name again?

Mr. PRICE. It is the article which appeared in the June 1949 issue.

Mr. LILIENTHAL. The author's name?

Mr. PRICE. William Bradford Huie.

**STATEMENT OF DAVID E. LILIENTHAL, CHAIRMAN, ACCOMPANIED BY CARROLL L. WILSON, GENERAL MANAGER, AND JOSEPH VOLPE, JR., GENERAL COUNSEL, ALL OF THE UNITED STATES ATOMIC ENERGY COMMISSION**

Mr. PRICE. Mr. Chairman, in the January 1949 issue of the Reader's Digest, this same writer said, in effect—not in effect—he actually wrote this in his article:

Whether or not we can knock out Russia depends on the answer to two questions: Do we now possess the necessary quantity of sufficiently powerful atomic bombs; and (2) can they be delivered to the source of Soviet power?

He writes:

The answer to both questions is "Yes."

Then, he goes on to elaborate on the bomb-manufacturing program, and he states:

On the Los Alamos mesa thousands of technicians have been engaged in nothing but the production of weapons. Does anyone imagine that in the 3 years since Hiroshima, all these mountains have labored to produce mice? Anyone familiar with American zeal and ingenuity cannot escape these conclusions, that we have atomic weapons in quantity; that we have not one but several types of weapons, and that the 1949 model bomb is at least several times as destructive as the 1945 bomb.

Then, going on further, he is talking about people who attempt to deflate the value of the bomb, and he makes this statement:

They would be wiser to heed David Lillienthal when he declares "Some people are beginning to say this man-made earthquake is not so bad after all. Believe me, it is."

Now, my purpose in reading those paragraphs from Mr. Huie's story is to show that 2 months ago he, in effect, was very complimentary of the Commission and also of Mr. Lillienthal.

Now, within 2 months time, he writes another article for *Nation's Business*, which is almost a reversal of technique.

I was just wondering what the motive behind the change is; what are the circumstances behind the change; because I cannot very well delve into the man's mind, but he does point out that if he has the same source of information now as he had 2 months ago, the sources of information have changed their way of looking at the picture, or he may have different sources of information, but I would like to read a few paragraphs from his latest article, "Is the A-Bomb Secure," which appeared in *Nation's Business*.

It says:

The five-man Atomic Energy Commission of which David E. Lillienthal is the Chairman is the most powerful bureau ever created by the United States. Lillienthal accepted the chairmanship on the condition that a majority of the Commissioners should be acceptable to him. Since January 1, 1947, he has been virtually absolute dictator of an organization which is protected by self-regulated secrecy which now spends \$1,000,000,000 a year, and upon which the survival of what freedom is left in the world may depend.

Would you care to comment on that, Mr. Lillienthal, whether you made any conditions at the time that you accepted the President's appointment to this chairmanship?

Mr. LILLIENTHAL. I certainly would like to comment. This statement is a complete 100 percent falsehood. No President would permit such a condition, and no self-respecting man would exact such a condition, and no such condition was suggested, nor did it in fact exist.

Mr. PRICE. Has this article in the June issue of the *Nation's Business* ever been brought to your attention, to the attention of the Commission?

Mr. LILLIENTHAL. It is my understanding it was not submitted for clearance as to the inclusion of restricted data. I did not hear of it—I heard of it several days ago, and read it on the way up to the hearings this afternoon rather hurriedly.

Mr. PRICE. Have you had an opportunity to read it then?

Mr. LILLIENTHAL. I read it hurriedly this noon, yes, I have.

Mr. PRICE. Just going over it hurriedly, what is your opinion of this article?

Mr. LILIENTHAL. Well, I think the most relevant question is, the most important question is, whether the article contains data restricted by law, and this will take some study.

Mr. PRICE. But the article was never cleared with the Commission?

Mr. LILIENTHAL. It is my understanding it was not submitted for clearance.

Mr. PRICE. What is the usual process among writers who write articles dealing with this highly important subject of atomic energy.

Mr. LILIENTHAL. The usual practice among the more careful writers, where any question occurs to them that there may be a question of the use of restrictive data, is to make use of a voluntary service, not one required, but a voluntary service available to them, for counsel from the Classification Division of the Commission as to whether the article contains material which may or may not contain restricted data.

The Commission does not require this, nor indeed, I think, does the law provide that articles be submitted, but it is generally a practice that they are submitted.

Mr. PRICE. This article has not been submitted in advance for publication?

Mr. LILIENTHAL. I believe it was not. I can tell you more definitely later.

Mr. PRICE. Now, I will read another paragraph from this article. In reading this article thoroughly the conclusions in it, to me, seem to be drawn exclusively on the fact that the joint committee dismissed two aides described in the article as intelligence agents. This article states:

Accordingly, Senator Hickenlooper employed as executive director and deputy director of the committee two intelligence agents, Fred Rhodes, Jr., and David S. Teeple. Both of these men had been with Lt. Gen. Leslie R. Groves in the Manhattan Project from the beginning, both of them knew the production and security problems.

Mr. LILIENTHAL. In the Manhattan District employ.

Mr. PRICE. This would infer, this article, reading it here would infer that they did then, and do now——

Mr. LILIENTHAL. No. These two individuals, Mr. Rhodes and Mr. Teeple, were security officers in the Manhattan District, rather than production employees.

Mr. PRICE. Did they know the extent of production?

Mr. LILIENTHAL. I do not know. I would be inclined to doubt it because the Manhattan District general rule was that an individual had only that information which he required for his work, but I cannot be sure about that.

Mr. PRICE. Did they know under the present Commission?

Mr. LILIENTHAL. That is so say while they were employed——

Mr. PRICE. By the joint committee?

Mr. LILIENTHAL. Director and deputy director. No; they did not have that information. That is information as to stock-pile numbers and production and production rates. This information was never supplied at the committee's request to the committee members, and, therefore, was not made available to the staff of the committee.

Mr. HOLIFIELD. Will my friend yield for a question?

Mr. PRICE. Yes.

•**Mr. HOLIFIELD.** You pointed out two statements in this article in Nation's Business, which are direct falsehoods. Would you be free to say that there are other additional falsehoods in that article, or misstatements of fact?

**Mr. LILIENTHAL.** Misstatements of fact. I believe the second statement is inaccurate; the first I do not hesitate to say is a falsehood as emphatically as I can.

The article is being studied from the point of view of a security breach. Until that study has been made, I would prefer to await that study, and at that time, perhaps, the joint committee had better hear further on it in executive session.

**Mr. PRICE.** Do you know Mr. Huie?

**Mr. LILIENTHAL.** No; I do not.

**Mr. PRICE.** I think it is common knowledge, at least in the newspaper fraternity here in Washington, that Mr. Huie was at one time a ghost writer for some men in pretty high and important positions.

The Readers' Digest describes him in the following language:

The Readers' Digest commissioned William Bradford Huie to present the facts. Mr. Huie, well known for his studies on air power, has for years been the close confidante of several of the ablest United States generals.

I would like to point out here, and I am not making any inference or any charges in connection with this, but I would like to point out that an article inserted in the Congressional Record very recently by one of our colleagues on this committee, referred to Mr. Huie as a ghost writer for Lt. Gen. Hugh Knerr, Inspector General of the United States Air Force. I would like to also point out, without making any charges or inference, that Mr. David S. Teeple, mentioned in Mr. Huie's article, a former aide to this Committee, is employed in the Inspector General's office in the Air Force.

**Senator KNOWLAND.** Mr. Chairman, I would like to ask our colleague down the table a question in regard to this article which I have not read. Is his point that there has been a security violation, or is he suggesting that we should set up some kind of a censorship, which I question very highly?

**Mr. PRICE.** Senator, I would say this: I personally feel that there is a security violation in this article. I feel that there is a concerted effort, and I am not making any charges against any individuals, but in different manners there is an effort, a tendency, to discredit this Commission in the eyes of the public. I think that the difference in views as expressed in this one article in January 1949 and another article just 2 months later by the same writer indicates that there are some forces at work. I do not know what they are, who they are, or what their motives might be, but I merely am trying to point out here that this committee should give some consideration to this, and possibly go very deeply into exploring the sources of information of the type that is contained in this article in the June 1949 issue of Nation's Business.

**Senator HICKENLOOPER.** Mr. Chairman, if I may interrupt at this time—

The CHAIRMAN. Senator Hickenlooper.

**Senator HICKENLOOPER** (continuing). I do not want to interrupt the gentleman's discussion of the article, but I will say that his insinuating remarks about Mr. Teeple are inexcusable, and there is no basis for them.

I may call attention to the fact that Mr. Joe Volpe, who sits here, and is General Counsel to the Commission, was one of General Groves' trusted assistants during the Manhattan District, and nobody has raised any question about Mr. Volpe nor made any insinuations about him, and that Mr. Rhodes and Mr. Teeple and Mr. Volpe were all closely associated in the Manhattan District under General Groves; and I resent the veiled insinuation about Mr. Teeple and Mr. Rhodes that certain columnists have been making, and that has now been made in this committee.

Mr. PRICE. I say to the Senator that I did not insinuate that. I was very careful to point out that I was not going to insinuate that.

Senator HICKENLOOPER. I can get the implications of your statement.

Mr. PRICE. I merely pointed out that there has been some violation of security furnished to a writer, and he must have had some source of information, and I think that it is vital in the interests of national security that this committee explore such leaks. I am not placing the blame on anybody for the leaks, but I think it is a very important matter, and I think this committee should give some consideration to exploring the sources of these leaks.

If you talk about national security, this is some place where we should begin to make some explorations.

Senator HICKENLOOPER. I am raising no objection nor interfering with the gentleman's examination of the article. I only spoke up as to the individuals who were carefully brought in.

Mr. PRICE. I am not insinuating. The only reason the names came in here were because they are named in this article. If they had not been named in this article, I would not have even mentioned them, because I had no idea along that line before I read this article or even since I have read it. But there has been some leak in classified information that this committee should delve into, and I brought this up because with a hearing here this morning in reference to the Argonne Laboratory matters, there was a very serious leak there, and this committee should do something about plugging up those types of leaks if they are going to preserve the security of this project that it necessarily must have.

Senator KNOWLAND. Mr. Chairman?

The CHAIRMAN. Senator Knowland.

Senator KNOWLAND. Mr. Chairman, there are a couple of questions I would like to ask Mr. Lilienthal or Mr. Wilson, whoever might be the best one to answer the questions.

Mr. LILIENTHAL. Mr. Chairman, may I complete the statement in respect to this article before going on?

Senator KNOWLAND. Yes.

Mr. LILIENTHAL. The question was asked about misstatements of fact and falsehoods.

Without trying to cover all of them, there is one that I do recall and would like to make a point of at this time before we leave the subject.

Mr. PRICE. Perhaps you are going to touch on one that I might want to bring out.

Mr. LILIENTHAL. The statement, as I recall the reading of the article this noon, is made and elaborated, that your witness, as Chairman of this Commission, has a false idea of the proper emphasis put upon

production of weapons; that that emphasis is upon peacetime uses of atomic energy, and that the Chairman of the Commission does not have the stomach to press forward and put the proper emphasis on the admittedly grim business of producing atomic weapons for this country.

I do not think it is necessary for me to say more than that it is not only a falsehood, and in considering my oath of office, a reflection on my patriotism, as well as my stomach, of which I think I have the normal quota of each, but is completely contrary to the record of the Commission on which I sit in the past 2½ years.

I would like to make the further comment that these articles contain statements in respect to two of, perhaps, the most highly classified and important pieces of information from the point of view of a potential enemy of this country: These two items, these two statements, relate, one, to the destructiveness of the present atomic weapons as tested at Eniwetok, and now in production.

The importance of information on the subject to a potential enemy is too obvious to require any further comment.

A second statement in these articles of that same character relates to the number of weapons, an inference as to the number of weapons in our stock pile, and the number of weapons that, by a curious distorted and fantastic kind of statement, the number of weapons that should be in the stock pile—

Mr. HOLIFIELD. And the number per year.

Mr. LILIENTHAL. Mr. Price's comment about the wisdom of inquiring into such statements as these would seem to be obvious on this basis. I am not speaking now about the course of the committee, but of the course of the Commission.

As I say, these will be examined more carefully, and a report in executive session made back to the committee.

The CHAIRMAN. Senator Knowland?

Senator HICKENLOOPER. May I just comment on this matter? Mr. Lilienthal referred to—I may say that for the first time I have read this article today during this meeting. I heard of the article and intended to get a copy of the magazine, but I did not have a copy of it, and I borrowed a copy of it today from the staff.

I have been busy on some other things, and I forgot to get the article, but here I believe is a paragraph referred to with respect to some complaint, that Mr. Lilienthal has not paid any attention to making weapons, and I would like to comment on it because I think it is only fair to comment. The paragraph says:

But, instead, the manufacture of bombs seems to have been treated as a secondary rather distasteful activity of the AEC. From the lecture platform repeatedly, almost apologetically, Lilienthal has declared, "If all there was to atomic energy was weapons, I would not be in this job." In his confidential appearances before the congressional committee he has been impatient with questions about bombmaking, and has hastened to his long-range plans—

and so on, with atomic energy.

I must say in all fairness that I know of no time that Mr. Lilienthal has been restless or impatient with questions about bombmaking. I could not at all agree with that statement in the article.

But with respect to whether Mr. Lilienthal has said on the platform "If all there was to atomic energy was weapons, I would not be in this job," I cannot verify whether he has made those statements on the

platform or not. I presume that I could check through copies of speeches, which have come over, but I have no knowledge. Mr. Lilienthal could say whether he has ever used that language or not.

Mr. LILIENTHAL. I am glad of an opportunity to say that I have not used that language or anything that bears the same connotation.

Senator HICKENLOOPER. But I would certainly on that particular score want to say that I know of no occasion when Mr. Lilienthal has been impatient with questions about bombmaking. That is a direct quotation from this article.

Mr. HOLIFIELD. Mr. Chairman?

The CHAIRMAN. Mr. Holifield?

Mr. HOLIFIELD. As long as this article has been brought into question, I would like to have Mr. Lilienthal's comment on the following paragraph:

Lilienthal and the military have argued for 2 years over custody of the atomic bombs.

Now, that is news to me. As a member of the committee, that is news to me that you and the military have been arguing over the custody of the bomb. I thought that the Atomic Energy Act provided for that, and that it was a fait accompli, and it is not something for argument between yourself and the military.

Has there been an argument between yourself, the Commission, and the military on the custody of these bombs?

Mr. LILIENTHAL. There have been discussions raised by the military as to the custody of the weapons, which are in the hands of the Atomic Energy Commission.

The President stated publicly last July 24 that he had heard these discussions, he being the individual who could change the status quo, and decided, for reasons included in his public statement and in other statements which were not public, to leave the custody with the Atomic Energy Commission under arrangements with the military, the nature of which, I believe, has been described to the joint committee.

The word "argument," I think, goes a little further than what these were, but these were expressions, these were explorations of positions urged upon us, urged upon the President, by members of the Military Establishment.

Mr. HOLIFIELD. Your position has been, and following out the President's order, to maintain the custody of the bomb in civilian hands as was directed in the act; has it not?

Mr. LILIENTHAL. When the Manhattan District was transferred to the Atomic Energy Commission on the first of January 1947, the President's Executive order included custody of the atomic weapons. The President, as Commander in Chief, and as President, could at that time have made another disposition of it.

The suggestions from the Military Establishment were that the President should change that custody. He concluded for a number of reasons within his purview as Commander in Chief and Chief Magistrate not to do so, and since that time I have assumed, and I believe I am correct in assuming, that the decision has been accepted by the Military Establishment and all of its individuals, both in their official and their private capacity.

Mr. HOLIFIELD. Well, I am glad to hear that because this writer goes on and says, "Why should not the Air Force take custody? How can an adequate Air Force personnel be trained to assemble and detonate the bomb if the Air Force has no bomb?"

If there is a renewal of the attempt on the part of some trigger-happy admirals and generals to take over the bomb, both as to production and custody, I think the American people ought to know it.

The CHAIRMAN. Well, Mr. Holifield, the Secretary of Defense, Mr. Johnson, who is an honorable man, has assured me in a letter that the official view of the National Military Establishment is that he is quite satisfied with the present arrangement. He specifically endorsed in that letter the approval that was evidenced by Secretary Forrestal shortly before he died, in his last report to Congress.

I merely say that for the record because the Secretary of Defense cannot, of course, control the thinking of every last individual down to the last private and corporal, but I am pleased that that is the official policy of the Department of National Defense, which, of course, is in consonance and harmony with the determination, and a very wise determination, in my opinion, which was made by the President of the United States when he decided this issue.

Mr. LILIENTHAL. May I add, while we are on that, so that there will be no misunderstanding, I have seen organizations for quite a long time, and a good many in Government, and I may say that, without exception, the working relations between the Atomic Energy Commission and those for whom we are responsible, and the men in the Military Establishment, are as good and as wholesome and wholehearted as I have ever seen in any phase of public service anywhere.

This is not to say that there do not occasionally arise differences of opinion, but they are carried on with the dignity and an adherence to the facts, and the fairness which especially in the last year and a half when our organizational liaison has improved, that I think it would be hard to improve on.

Now, this happens to be very important. Whether it relates to custody or anything else, it is very important because it is the spirit and atmosphere that exists between two organizations which have common interest, but different sources of responsibility, that I think has a lot to do with the present security of the country insofar as it relates to this weapon.

Mr. HOLIFIELD. Can you assure us, Mr. Lilienthal, as Chairman of the Commission, that, notwithstanding the fact that the Commission is in technical custody of the bombs, they are available instantly without undue delay of any type to the military in case there is need for them to take the bomb and deliver it?

Mr. LILIENTHAL. I can.

Mr. HOLIFIELD. That there is no cumbersome method involved in making them available, and upon order of the President?

Mr. LILIENTHAL. The procedure——

Mr. HOLIFIELD. Never mind the procedure. I do not want to bring in procedure. I want an answer to the question. Can they be made available without undue delay to the military?

Mr. LILIENTHAL. They can, and I just would like to say that my hesitation was to frame this sentence, that why they can and how they can have been described in detail to the joint committee.

Mr. HOLIFIELD. That is right.

Mr. LILIENTHAL. The important thing now is to say——

Mr. HOLIFIELD. That is a matter that I do not want to bring out, naturally.

Mr. LILIENTHAL (continuing). Unequivocally they can.

Mr. HOLIFIELD. This sort of sneak attack, then, is something that is conveying to the American people exactly the wrong impression.

Mr. PRICE. Mr. Chairman, I would just like to ask one more question about this article, and then I am through.

Speaking of the relationship between the joint committee and the Commission, they have a paragraph in this story which says:

The result has been little more than a continuing series of disputes over matters which involve the national safety. One of these disputes has been about the question of production.

Do you recall any of these disputes, when they might have occurred and what they were?

Mr. LILIENTHAL. No. Such a statement as that is reckless and irresponsible, considering how grave the subject is that we are dealing with.

May I say and add, Mr. Price, to the previous question, about the possible security breaches, that with respect to this piece we are consulting at the earliest possible date with the Director of the Federal Bureau of Investigation, Mr. Hoover, as part of an inquiry into the possible security breaches involved in these pieces.

Mr. PRICE. Mr. Chairman, I would like to say that I regard this article as a collection of distorted statements, misrepresentation, of lies, and I think it was done for the purpose of discrediting this Commission.

The CHAIRMAN. Now, Senator Knowland?

Senator KNOWLAND. Mr. Chairman, I would like to ask Mr. Wilson a question.

As the General Manager, you, perhaps, would be the best one to supply the facts: How many cases do you have, Mr. Wilson, of people working either for the Commission or the contractors, to your knowledge, who have given substantial false testimony on their original applications for employment?

Mr. WILSON. Where such information comes to our attention disciplinary action is taken in relation to people who may then be employed. Disciplinary action, if this is other than an accidental omission, is one of dismissal.

In the case of applicants, when this comes to our attention they are not employed.

Senator KNOWLAND. Where it is discovered, if they are employed, they are dismissed?

Mr. WILSON. That is correct.

Senator KNOWLAND. And that has taken place in each case that has come to the attention of the Commission?

Mr. WILSON. In each case that I know of, and these are instructions.

Senator KNOWLAND. Now, in regard to the question of disciplinary action—this is a hypothetical case. If you had someone that would deliberately take some material home, is that a situation that would also require dismissal, or what disciplinary action would be taken?

Mr. WILSON. There would be consultation between the employer—let us assume this is a Commission's contractor's employee—as to the

circumstances, as to his intent, as to the character of the infraction or violation of the regulations, depending upon the record of the individual, his performance, the intent involved, the judgment would be made as to whether he should be reprimanded or whether he should be dismissed. This would be a matter of consultation between our local office and the employer.

Senator KNOWLAND. Could you tell the committee the number of visiting newspapermen, columnists, and radio commentators to whom you have extended courtesies to the various plants of the Commission, say, Oak Ridge, Hanford, Argonne National Laboratory, and Los Alamos?

Mr. WILSON. You mean for visits to unclassified areas?

Senator KNOWLAND. Well, could you just explain? Have there been numbers of them? I am not critical of it, because I can see very many advantages of doing it.

Mr. WILSON. I can furnish that, Senator; I do not know offhand. There have been a number of members of the press and radio who have visited parts of Argonne Laboratory, who visited Los Alamos, who visited Oak Ridge. These are towns, as you know; they are not admitted to the exclusion areas; they are not admitted to any place where clearance is required.

Senator KNOWLAND. Are they entirely limited to visiting the town sites?

Mr. WILSON. Not where there is unclassified area in certain laboratories. Let us take Brookhaven, for example. Most of the work there is unclassified, and all of the classified work is in what we call exclusion areas, admittance to which is limited to those people who have clearance. Now, they would obviously not go in such places.

Senator KNOWLAND. All right.

The CHAIRMAN. Senator, you have nothing further to take up at this time?

Senator HICKENLOOPER. No; I do not anticipate going further into this matter.

The CHAIRMAN. I think that we have had a long hearing today, and as I understand it, you wish to go forward at 10:30 tomorrow morning?

Senator HICKENLOOPER. Yes.

The CHAIRMAN. At 10:30 tomorrow morning.

Mr. LILIENTHAL. Can we know the subject?

The CHAIRMAN. Senator Hickenlooper states that he will send word to the staff of the committee, which will transmit it to the Commission, as to what the subject will be, and he will do it in very short time.

Mr. LILIENTHAL. If this involves people out of town, it will be a very great help.

The CHAIRMAN. Thank you very much.

(Whereupon, at 4:10 p. m., an adjournment was taken until 10:30 a. m., Friday, June 17, 1949.)

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# INVESTIGATION INTO THE UNITED STATES ATOMIC ENERGY PROJECT

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## HEARING

BEFORE THE

## JOINT COMMITTEE ON ATOMIC ENERGY CONGRESS OF THE UNITED STATES

EIGHTY-FIRST CONGRESS

FIRST SESSION

ON

## INVESTIGATION INTO THE UNITED STATES ATOMIC ENERGY PROJECT

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### PART 10

JUNE 17, 1949

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# INVESTIGATION INTO THE UNITED STATES ATOMIC ENERGY PROJECT

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FRIDAY, JUNE 17, 1949

CONGRESS OF THE UNITED STATES,  
JOINT COMMITTEE ON ATOMIC ENERGY,  
*Washington, D. C.*

The joint committee met, pursuant to adjournment, at 11:35 a. m., in the Caucus Room, Senate Office Building, Washington, D. C., Senator Brien McMahon (chairman) presiding.

Present: Senators McMahon (chairman), Connally, Vandenberg, Millikin, and Hickenlooper; Representatives Holifield, Price, Cole, Elston, Hinshaw, and Van Zandt.

Also present: David E. Lilienthal, Chairman; Sumner T. Pike, Commissioner; Lewis L. Strauss, Commissioner; Gordon E. Dean, Commissioner; Henry D. Smyth, Commissioner; Carroll L. Wilson, General Manager; Carleton Shugg, Deputy General Manager; Frances Henderson, Assistant to the Chairman; Walter J. Williams, Director, Division of Production; Brig. Gen. James McCormack, Jr., Director, and Capt. James Dussell, USN, Deputy Director, Division of Military Application; Joseph Volpe, Jr., General Counsel; Bennett Boskey, William Denson, and Everett L. Hollis, Office of General Counsel; Edward Brosnan, Division of Security; Morris Salisbury, Director, Shelby Thompson, and Dodney L. Southwick, Division of Public and Technical Information Service, all of the United States Atomic Energy Commission.

The CHAIRMAN. The meeting will come to order.

I believe that Senator Hickenlooper is ready to proceed with the matter of the construction of the natural gas pipe line at Oak Ridge.

Senator HICKENLOOPER. Mr. Chairman, I want to present to the committee this morning again a matter which has been considered by the committee, in connection with the administrative and financial activities in the Atomic Energy Commission. I want to refer to the so-called natural gas pipe line construction at Oak Ridge, Tenn.

The original proposal, as I understand it, was to construct 117 miles of 16-inch pipe, 20 miles of 6½-inch pipe, and 18 miles of 8¾-inch gas pipe line to supply natural gas to the installations at Oak Ridge, Tenn. This matter came to the attention of the joint committee some time ago.

There was some question raised as to the need for this natural gas pipe line, and you, Mr. Chairman, appointed a subcommittee to look into this matter. That subcommittee consisted of Mr. Durham, Mr. Price, Mr. Cole, and Mr. Van Zandt. The subcommittee made an investigation.

On May 23 of this year it filed a report in which it canvassed the situation, and canvassed the adequacy of the coal supply in Oak Ridge

to furnish fuel for the existing facilities, and finally came to these conclusions:

(a) Adequate coal stock piling appears to be feasible at Oak Ridge to insure continuous power-plant operation.

(b) Reliance on fuel sources outside of the local area does not appear compatible with the original selection of the Oak Ridge site or in the best interests of the common defense and security.

(c) The Commission's action has been taken without consultation with the National Security Resources Board.

(d) Substantial improvement in the national fuel picture in the past 18 months has not been reflected in the Commission's action.

Then the subcommittee made a recommendation as follows:

The joint committee should make legislative provision requiring express authorization of Commission proposals and programs having major economic security or production importance prior to Commission actions.

Mr. Chairman, this report is not long and I will not attempt to read it into the record now. The Commission has it; the joint committee has met and received this report; adopted, I believe, unanimously the report that was unanimously adopted by the subcommittee originally. The report contains criticism of the Commission's action in building what I interpret from the report to be a \$10,000,000 installation which is not needed either for national security or for the purpose of furnishing fuel supplies to the Oak Ridge plant.

The Commission was notified of the unanimous action of the joint committee in approving this report, and of the opinion of the joint committee. I will quote certain paragraphs from an Associated Press article taken from the Washington Evening Star of June 2, 1949. It is headed "Knoxville, Tenn., June 2." It states:

A Nashville contractor planned to move equipment today to start work on a 172-mile natural gas pipe line to Oak Ridge atomic plants although a congressional committee only last week disapproved the project.

It is my information that the Commission nevertheless has gone ahead with this project in the face of the unanimous finding of this joint committee that the project is unnecessary. It is a \$10,000,000 expenditure that in my opinion is needless, is wasteful, and has no present or reasonably anticipated use in the near future.

I submit that, Mr. Chairman, for whatever discussion you think would be proper, with the Commission, on that score.

(The balance of the article is as follows:)

The multimillion dollar pipe line contract was awarded last night to the Oman Construction Co. of Nashville.

Wade Thompson, president of the East Tennessee Natural Gas Co., announced the contract award here. He said Ebisco (sic) Services, Inc., of New York, will handle engineering problems and supervise the pipe-line construction.

Senator McMahon, Democrat, of Connecticut, said last Friday the congressional Atomic Energy Committee which he heads had turned thumbs down on the pipe line. He said a subcommittee reported "adequate" coal stocks are available for Oak Ridge atomic plant fuels and that the gas line, to cost an estimated \$10,000,000 is not necessary.

Mr. Thompson said "We've got a contract with the Atomic Energy Commission to supply Oak Ridge AEC operation with 60,000,000 cubic feet of gas daily for 20 years, and they can't stop us."

He said his company has paid for 25,500 tons of pipe steel certified to it by the Commerce Department, and that the Federal Power Commission gave its approval in certifying the project.

The CHAIRMAN. Who will be designated to answer for the Commission?

Mr. LILIENTHAL. Commissioner Pike and Production Manager Williams will respond.

The CHAIRMAN. All right, gentlemen, will you step forward, please?

Commissioner, this is your debut, is it not?

Mr. PIKE. It seems so, somewhat delayed, but——

The CHAIRMAN. You are not complaining?

Mr. PIKE. I am not complaining, not at all.

**STATEMENTS OF SUMNER T. PIKE, COMMISSIONER, AND WALTER J. WILLIAMS, DIRECTOR, DIVISION OF PRODUCTION, UNITED STATES ATOMIC ENERGY COMMISSION**

Mr. PIKE. One of the first things that bothered us when we got a survey of this whole show was the necessity for continuous operation of the gaseous diffusion plant at Oak Ridge for reasons with which you are thoroughly familiar, and which need not be gone over here. There is no disagreement on that point.

The history of coal supplies in previous periods of operation have been pretty troublesome. There apparently had been an attempt to keep up a large stock pile of coal. There was a period when, in spite of the best efforts of the Manhattan District, the coal pile had dropped by nearly 100,000 tons. This was partly due to irregularity of production of coal, partly due to unavailability of freight cars to get coal to the project.

At times the coal situation seems pretty good. At other times the coal situation seems pretty bad. At the moment it is a mixture of the two: The coal mines are shut down, but there is still a lot of coal around. This is typical of the coal business. It is a highly disorganized industry in production.

There are about 16,000 mines in the country, most of them small. On the labor end, it is quite well organized. Whether they want to call strikes or not, work stoppages have been quite frequent in the coal industry.

Personally, I always feel pretty doubtful that that is the sort of thing that one should depend on wholly, when he has a good alternative.

After making a survey, it seemed to us that there was an opportunity to get a completely independent supply of fuel at no over-all cost to the Government except the minor cost of changing the burners in the boilers, and at a substantial saving, which at that time looked like around \$600,000 a year. At the present prices of coal and at the present prices of gas on the contract, the annual saving will be \$1,250,000 a year by the use of gas as a fuel.

Of course, nobody can see very far ahead on prices of fuel as far as coal and oil are concerned. It is almost impossible to get a contract running beyond a few months. In the case of gas, it is possible. In this case, I think the cost of the line is around \$10,000,000.

The line would not have been put in unless there was a willing user on the receiving end. We are the willing user of gas. We have, in effect, told them that we will use gas at this price for a period, and if we don't use it, we pay some damages. This is a perfectly typical commercial contract.

If, however, we do as we expect—use the gas—no cost of this pipe line will fall on the Government whatsoever. It looks to me as if we have got about what we want: a completely independent source of fuel, independent both as to the fuel itself and its method of transportation. It is a good fuel. It comes at a price which is a saving to the Government of a million and a quarter dollars a year, an item not to be ignored. It still leaves us coal as a stand-by fuel.

Due to the physical nature of the two fuels, coal can be piled and used in case of a stoppage. Due to the nature of gas, it cannot be stock-piled and used in case of emergency. If you have the two fuels good management dictates, first using the one that costs less and using the one that is not a good emergency reserve. Both happen to be the gas. Then, for the reserve use the one that is more costly and the one that can be stock-piled. That is coal.

I think that is about the length and breadth of our position. I must say I disagree with the report of the subcommittee. Some of the observations are not particularly relevant. Some of them do not carry much, if any, weight. In this case, I respectfully submit that it is human to err, and I think the committee came to the wrong conclusion. I think that to adopt the report of the committee would involve a waste of Government funds of substantial size.

Now, I rather respectfully hope that you will look this situation over again and change your views.

Senator HICKENLOOPER. Had you finished?

Mr. PIKE. Yes.

Senator HICKENLOOPER. Mr. Chairman?

The CHAIRMAN. Senator Hickenlooper?

Senator HICKENLOOPER. Mr. Pike, the subcommittee states in its findings as follows, and I am reading from page 6 in the third paragraph from the bottom under the heading "Coal":

The worst experience recounted—

That is, the worst experience of the Commission—

was a reduction in the coal inflow between August 1946 and August 1947, which resulted in drawing down the 200,000-ton stock pile to 92,000 tons, or 6 weeks' requirements. At this lowest point in the experience of the Commission, the coal supplies were still arriving to cover up to 80 percent of the daily requirements.

So that the lowest possible point, according to this report, that the Commission has ever experienced in the supply of coal still left them 6 weeks' reserve, and still enabled them to get in during that so-called emergency period enough coal daily for 80 percent of the total requirements.

Now, is that substantially correct?

Mr. PIKE. I think it is, Senator, but I suggest Mr. Williams, who knows the facts more directly, can give you a better answer to that question.

Senator HICKENLOOPER. The Commission is prepared to make an outlay on this gas line, in one way or another, whether it is reflected in the price of the gas or otherwise, an amount approximating \$10,000,000; is that not true?

Mr. PIKE. I do not think that is right, Senator. My memory—and, of course, the contract is available—my memory is that if we buy the gas as we expect to buy, there is no question of a penalty. The fact is

that these people put in 180 miles of pipe line. They have a big customer, which is the Atomic Energy Commission, on the end of it. They wanted some assurance that the pipe line would be justified, and that they would make some money on it, as I hope they do.

Senator HICKENLOOPER. The subcommittee report states on page 6 as follows:

The Commission has pledged an initial amount of \$4,400,000 for natural-gas payments.

That is an initial advance payment toward gas purchases, is it not?

Mr. PIKE. No, sir; it is not an advance payment. It merely says that we will buy a certain amount of gas each year, and this is a forfeit if we do not buy.

Senator HICKENLOOPER. I see. The gross cost of the pipe line has been estimated by the gas company at \$9,329,900.

Mr. PIKE. I think that is right.

Senator HICKENLOOPER. Now, the people putting the gas line in have to get that money back somehow, do they not?

Mr. PIKE. Yes, sir.

Senator HICKENLOOPER. And it comes out of the Commission in one way or another?

Mr. PIKE. Yes; I think that is right.

Senator HICKENLOOPER. That is the point.

Mr. PIKE. And still get a cheaper fuel than the fuel we are buying.

Senator HICKENLOOPER. Mr. Pike, it is contemplated that eventually the houses in Oak Ridge will be heated by gas, is it not?

Mr. PIKE. That is correct; yes, sir.

Senator HICKENLOOPER. So that this gas installation is not alone for the use of the production facilities, the industrial facilities at Oak Ridge, but it is also contemplated to equip the houses in Oak Ridge with gas-burning furnaces.

Mr. PIKE. Primarily so. The first purpose is to give fuel for the power plant.

Senator HICKENLOOPER. Do you know how much it will cost to convert the houses in Oak Ridge, each house, to a gas-burning furnace?

Mr. PIKE. No, sir; but may I finish my sentence first?

Senator HICKENLOOPER. Yes.

Mr. PIKE. The primary purpose of getting the gas in is for the power plant. The saving which we have estimated, a million to a million and a quarter at present prices, takes in no use or no application of industrial gas. That is a separate thing. I am not too familiar with it.

I think where we have this problem of the community and have to take coal to every house and take the ashes out, I should think the town management would be very anxious to get the fuel which will get in there by itself and leave no ashes. Perhaps Mr. Williams can give you that information.

Senator HICKENLOOPER. At the present time I believe the custom has been to just furnish all the coal that is needed to every house as they request it. There has been no particular—that is included in the rent, is it not?

Mr. PIKE. I think it has been up until recently. I would be very much happier if Mr. Williams, who knows the facts first-hand, could give you that.

Senator HICKENLOOPER. I thought you had been in some general charge of this.

Mr. PIKE. I have been acquainted with it, Senator, but I obviously have not been at Oak Ridge very much.

Senator HICKENLOOPER. I see. Then I do get it that you clearly disagree with the findings of the subcommittee and the joint committee.

Mr. PIKE. Yes; I do, Senator.

The CHAIRMAN. All right, Mr. Williams.

Mr. WILLIAMS. Mr. Chairman, if I may, I would like to make a general statement to clear up some possible misconceptions, to just sort of lay out the problem and then I can answer some questions, I hope.

There have been certain questions that have been raised in connection with the gas line to Oak Ridge, which makes it necessary to review some of the background concerning this project.

When the Manhattan Engineering District was looking for a site for the atomic energy project, it finally decided on the Oak Ridge location, based on the following criteria: The site must have available a continuous supply of water; a medium-sized town should be close, but not too close, since the plants had to be isolated from surrounding heavily populated areas; rail transportation had to be available; roads had to be available; the climate was considered, in order that construction could be carried on throughout the year, since this was an urgent project; a series of ridges and valleys was determined essential, so that the plants could be isolated from one another and from the town by a natural barrier; a supply of electric power was necessary.

There is no record that low-cost coal was a major consideration in the location of the Oak Ridge plant.

Mr. COLE. May we have in the record the source of this criteria which Mr. Williams has used in the determination of the Manhattan District in selecting Oak Ridge?

Mr. WILLIAMS. I believe it is listed in the Manhattan District history, and yesterday in order to check to be sure, I talked with General Nichols, who has been with the project since the beginning. I did not come with the project until 1944. He gave me essentially this information.

Now, I am quite certain, though, that it is in the history of the Manhattan project. I have not read it in there. I got this from General Nichols.

If I may start that sentence again—there is no record that low-cost coal was a major consideration in the location of the Oak Ridge plant; in fact, in the early stages of the selection of the site, it was not known that large electrical generating facilities would be necessary on the site. After preliminary designs and operating requirements had been discussed and plans had been formulated for the gaseous diffusion plant, it was found that an electrical power supply on the site would be necessary, and at this time a decision was made to install coal-fired boilers due to the availability of coal.

The gaseous diffusion plant actually got under construction later than the electromagnetic plant and the X-10 laboratory. A stock pile of coal was built up for the operation of the K-25 steam plant prior to the actual operation of the plant, so that in March 1946, the stock pile was approximately 190,000 tons. A coal-mine strike took

place in March 1946, and affected the delivery of coal to the plant over a period of approximately 60 days, which caused the stock pile to drop to a low of approximately 97,000 tons in May 1946. The stock pile was then built up to approximately 235,000 tons by August 1946.

Mr. COLE. Mr. Chairman, may we have a confirmation in the record of the amount at the lowest point in the stock pile? Which in the report is specified at 92,000.

Mr. WILLIAMS. This is another time. I will get to that, sir.

Mr. COLE. What is the lowest point?

Mr. WILLIAMS. Ninety-two.

Mr. COLE. Ninety-two?

Mr. WILLIAMS. Approximately 92.

Mr. COLE. I think your statement should identify the amount of tons which were present at the lowest point.

Mr. WILLIAMS. I did not get to the lowest point yet, sir. I will get to it in the next sentence.

From August 1946 to August 1947 there was a deficit between coal consumption and coal deliveries, which resulted in reduction of the stock pile to about 92,000 tons. This situation brought forcibly to the attention of the Oak Ridge office the critical situation which could occur if coal deliveries could not be built up.

Now, at the same rate of use as we had experienced over the previous period, if conditions continued to pertain, we would have been out of coal in about 9 weeks and, depending on the approximately 80 percent of requirements which could be delivered.

On August 12, 1947, this information was furnished the Washington office, with the further explanation that the deficiency in replacements was primarily due to the shortage of coal cars, arising from the fact that large shipments of coal for export were requiring the use of many of the cars which otherwise would be available for delivery of coal to Oak Ridge. The Washington office interceded with the Transportation Corps, United States Army, the American Association of Railroads, and the Office of Defense Transportation in an effort to obtain assignment of cars to the Oak Ridge area, for use in delivering coal to Oak Ridge. These efforts were unsuccessful, except to the extent that ODT issued an order providing for the return of coal cars to southern railroads, which counteracted a previous order requiring coal cars to be returned to northern railroads.

On September 11, 1947, TVA was advised of the critical situation of the coal pile at Oak Ridge, and advised that a reduction would be made in power generation on September 18.

We were intending to cut back the power generation and take a slight loss in production, using TVA power if it were available.

At this time TVA was critically short of power, and water storage in three reservoirs had been reduced to a dangerous level. TVA was extremely anxious for us to continue to generate power at the same rate as before. A meeting was held with TVA representatives on September 15, 1947, at which time arrangements were made for each agency to issue coordinated telegrams at 2 p. m. on September 16, 1947, to John R. Steelman, urging that 200 coal cars be assigned for use in supplying coal to Oak Ridge. On September 18, 1947, the Washington office advised Oak Ridge that it had received a reply from Mr. Steelman to the request for the 200 coal cars to the effect, that no cars were

available for such assignment, but authorizing the procurement of coal in an unlimited area. This authority was of little real value, because the shortage of railroad cars rather than the supply of coal was the controlling factor.

Because of the critical situation, Oak Ridge arranged for the procurement of approximately 1,500,000 gallons of fuel oil to augment the fuel stock pile. This action was taken even though the purchase price for the fuel oil was equivalent to purchasing coal at \$17 per ton, and even though fuel oil was in critically short supply at the time.

On September 25, 1947, S. R. Sapirie, Chief of the Operations Division, Oak Ridge, reported that the results of the investigation by Carbide and Carbon Chemicals Corporation regarding the availability of oil for use in operating one or more boilers at the K-25 power plant had disclosed that a firm commitment could not be secured from any major oil companies. The investigation included the following companies; Standard Oil, Gulf Refining, Texas Oil, Shell Petroleum, Pure Oil, Southern Oil Co. of Chattanooga and Ashland Oil & Petroleum Co. of Ashland, Ky. All of the oil companies, with the exception of Ashland, indicated they were oversold and could not make commitments for any additional supplies of fuel oil. Ashland indicated that they could deliver 750,000 gallons per month for September and October, at the unit price of \$0.1031 per gallon, and 500,000 gallons per month after November 1 for the balance of the year. They would make no commitments beyond that time. The Texas Oil Co. representative in Knoxville referred the matter to H. B. Wiley, in charge of their office in New Orleans, who advised that he could make no oil available. The amount of oil required at that time for the operation of one boiler was approximately 3,500,000 gallons per month. At that time the cost of operation of additional boilers on oil was reported to be three times as much as for coal-fired operations.

It should be pointed out here that during the period of August, 1946, to August, 1947, every effort was made to purchase additional coal, but in spite of these efforts approximately 10,000 tons of coal per month had to be taken from the reserve stock pile.

As a result of our experience, the Manager of the Oak Ridge Operations began considering very seriously a dependable alternate supply of fuel for the operation of the K-25 steam plant. On January 6, 1948, the Commission considered recommendations by the Manager of Oak Ridge Operations concerning approval of natural gas as the major fuel at Oak Ridge. The Commission deferred action on this proposal, requiring further staff study and investigation as to the cost of the proposal and as to certain of the proposed contract terms.

At its meeting on January 27, 1948, the Commission again considered this matter, together with supplementary information prepared by the Director of Production. The Commission noted with approval a proposal for the use of natural gas as a fuel at Oak Ridge. The Commission also noted that the Manager of Oak Ridge Operations would proceed with the selection of a contractor and negotiation of a suitable contract if that proved feasible. Following this Commission action, the Oak Ridge office pursued negotiations with a potential supplier. These negotiations culminated in a contract with the East Tennessee Natural Gas Co., which was approved by the General Manager on June 23, 1948.

Senator MILLIKIN. Where is the source of the gas?

Mr. PIKE. The gas comes through the Tennessee Gas Transmission lines, Senator Millikin. It comes from the lower Texas Gulf coast. There is a string of fields down there, most of which produce gas along with oil. The Tennessee Gas Transmission, as you know, is a fairly new company. It has very large supplies of gas, and this is a stub line that comes over and runs 180 miles from that.

Mr. WILLIAMS. The Joint Committee on Atomic Energy has been kept advised of our general plan to bring gas into Oak Ridge, and of our progress. Letters on this matter were addressed to Senator Hickel on February 9, 1948, March 18, 1948, June 23, 1948, and October 5, 1948. The Military Liaison Committee was advised of this matter on June 18, 1948, and concurred in our action by letter dated July 2, 1948.

It is believed that the members of the joint committee are cognizant of the fact that the coal-fired steam power plant at Oak Ridge is essential to the operation of K-25. The Commission gave careful consideration to this matter and decided that a dependable alternate supply of fuel is essential to the national defense and security. The gas line to Oak Ridge has been the subject of many informal discussions and considerations by the Commission and its staff for approximately 18 months.

There are a couple of other bits of information which I believe are pertinent. The supply of natural gas is not being wiped out at the present time. I have here a publication of the Standard Oil Co. of New Jersey, which they label the Lamp, and which comes out monthly. This is for June 1949.

They show that in 1930 there was a production of  $1\frac{1}{2}$  trillion cubic feet of gas and that there were reserves of 46 trillion.

In 1934 there was a production of  $1\frac{1}{2}$  trillion and reserves of 62 trillion.

In 1940 there was a production of  $2\frac{1}{2}$  trillion and reserves of 85 trillion.

In 1945 there was a production of approximately 4 trillion and reserves of 148 trillion.

In 1947 there was a production of  $4\frac{1}{2}$  trillion and reserves of 166 trillion.

This is quoting from a paragraph of this article, which states:

The Nation's proved reserves of natural gas—

that is, the gas already discovered and awaiting production—

rose from 15 trillion cubic feet in 1919 to almost 166 trillion in 1947. Thus, reserves have been increasing at a rate of more than 5 trillion cubic feet a year. The deeper drilling for oil that is now widespread is opening vast reserves of gas, for deeper formations tend to have more gas than oil. Economists estimate that by the end of 1955 we will have proved reserves of perhaps 200 trillion feet, even if consumption continues to rise as in the past few years.

Senator MILLIKIN. Mr. Chairman, may I ask: What are the reserves of this particular source of supply?

Mr. WILLIAMS. We were given to understand in conversation that the reserves were good for 20 years.

Senator MILLIKIN. Did you make any check on that?

Mr. WILLIAMS. We talked with the Federal Power Commission. Mr. Pike, I believe, is somewhat familiar with the reserves in that area, and that is where we got it.

Senator MILLIKIN. Was an expert appraisal of the reserves made on behalf of the Commission?

Mr. PIKE. There was not, Senator. You see, with the expansion of the Tennessee Gas Transmission lines going on now, they will have at the end of next year a capacity of around a billion feet a day. Our use will be about 6 percent of that.

Expert analyses of their reserves have been made for the all-over reserves of gas down there. I am quite familiar with the district, and it is a district where oil and gas are both being found frequently and where you can depend not only on the known reserves, but on the rate of discovery.

Let me give you an example, Senator Millikin. We do not have any question about our oil reserves, or at least at times we do not.

We are using around 2,000,000,000 barrels a year of oil. Yet our known reserves of oil are around 23 to 25 billion, say 11 or 12 years' supply if we keep on discovering every year more than we use.

That is even more true in the case of natural gas. Our year's supply in sight of natural gas in the country is about 29 times annual consumption.

Senator MILLIKIN. I am not directing my attention to general reserves. I am directing my question to reserves basic to this particular source of supply.

Mr. PIKE. Yes, sir.

Senator MILLIKIN. I will ask you again: Was an expert appraisal of those reserves made on behalf of the Commission?

Mr. PIKE. Not by us, Senator. Of course, the Federal Power Commission has the duty of looking into these reserves whenever one of these pipe lines comes up for permission to move additional gas to the North and East, and we are one of the, you might call them, subsidiaries of one of those applications.

Each time the gas company has to prove to the Federal Power Commission that it has enough gas to fill their contracts for a reasonable time; and I rather think they call a reasonable time around 20 years.

Frankly, if we can save a million and a quarter dollars for 20 years and then are cut off, we would feel that we had done a good deal.

Senator MILLIKIN. Certain economic dislocations are involved if you are making a revolutionary change of that kind. You are naturally affecting the existing coal economy, and it is a relative question.

Mr. PIKE. Yes, Senator. As near as I can estimate, the change from coal to oil will probably mean 300 or 400 coal miners out of work. I hope they will sell the coal somewhere else.

If you will pardon me, sir, in managing an enterprise, it seems to me that you buy the lowest cost fuel that will fill your bill. We have dropped, for instance, in this same plant at Oak Ridge through better economy of operation—we have dropped 5,000, and more, men off.

As a person, I am sorry they had to go out and find other jobs. Trying to run a business, you get your supplies at the best possible price, and I think here—and I am leaving out the matter of precautions for the fuel—just as a matter of business, we are saving a million and a quarter a year on what is practically a guaranteed price over a period; and if the recent history of coal prices is any good, I may feel even happier as time goes on.

Senator MILLIKIN. My point was directed to how soundly you had estimated your gas supply, which would go to how soundly you had

estimated the pros and cons of the economic disbalances that might result from what you are doing.

Mr. PIKE. No, sir. Unless I am very much mistaken, we did not make an independent estimate of the supplies of the Texas Gulf Coast.

However, I think this is fair to say: There are generally accepted figures, which both the oil and gas industries accept, and, as you know, in that area the two are inextricable because most of the gas comes along with some oil, and practically all the oil has some gas coming out of it.

So, it is very much to their advantage to keep running estimates of what the productive facilities are, and I have been quite familiar with oil and gas estimating for 20 or 25 years.

There are two things in looking back, you almost always find. One is that while you are estimating your reserves here, they are finding some more reserves there. So that your estimates are all low for that purpose.

Then, the other one is that, due to the natural conservatism of engineers, in regard to the reserves you already have in sight, the estimates prove to be inadequate. You have more gas than is estimated.

Senator MILLIKIN. Who did you say is the proposed supplier of the gas?

Mr. PIKE. Tennessee Gas Transmission Co. is the main pipe line.

Senator MILLIKIN. You say that is a new company?

Mr. PIKE. I think it first went into operation in 1943 or 1944.

Senator MILLIKIN. What I am driving at, Mr. Commissioner, is the general over-all statistics on gas reserves may be entirely worthless for your purpose.

Mr. PIKE. That is right.

Senator MILLIKIN. The question is: What reserves—I may add that I have a little experience with this, too—what reserves are available to the fellow supplying you with gas?

Mr. PIKE. Tennessee Gas Transmission line has to make that proof every time they go up to the Power Commission, as you know. We are quite familiar with the proofs they made, and I would stake what little reputation I have as an oil and gas expert that those estimates are underestimates.

Mr. WILLIAMS. I would like to continue with a further note which I believe is pertinent. This data was taken from table E, page 13, of the Federal Power Commission report for 1947, entitled "Consumption of Fuel for Production of Electric Energy, 1947."

This report shows that gas was consumed in 33 States of the Union in a total of 373,000,000,000 cubic feet in 1947 by electric utilities for the production of electric energy.

We discussed with the Federal Power Commission, since we did not have a report for 1948, this matter; and we asked for the figures for 1948.

It was stated over the phone that the total gas consumed in production of electric energy in 1948 was 478,000,000,000 cubic feet. This amounts, I believe, to about 15 percent of the electric energy generated by fuels in the United States.

So, the use of natural gas for the generation of electric energy is not something new.

Senator HICKENLOOPER. Mr. Williams, further referring to the report of the subcommittee, they state there that the Federal Power

Commission states in its certification for this line that it is based solely on the basis of the strong representations made by the Atomic Energy Commission that natural-gas service in its Oak Ridge facilities is necessary for the common defense and security of the Nation. Then, further:

The subcommittee waited until the Federal Power Commission made its determination in this case in order not to interfere with the normal quasi judicial procedure. The Federal Power Commission stated that its decision rested solely on this certification by the Atomic Energy Commission. Therefore, the subcommittee has examined the situation with particular concern about the validity of the certification by the Atomic Energy Commission that this pipe line is necessary for the interest of the common defense and security, within the meaning of section 5 (b) 5 of the McMahon Act.

Then, in a letter which Mr. Durham, who was chairman of the subcommittee, addressed to Mr. Lilienthal on the 2d, he states, among other things, as follows:

Since the recent hearing did not satisfy me or the other members of the subcommittee on the security question, I would very much appreciate a letter from you, preferably one suited for publication, stating why enlargement of the coal stock pile would not furnish as much, if not more, security with respect to K-25 as the planned pipe line.

A letter was written on May 9 in reply to that, signed by Mr. Sumner T. Pike, Acting Chairman, discussing the question raised in Mr. Durham's letter to Mr. Lilienthal.

Now, I presume that these matters were canvassed with the subcommittee, were they not, Mr. Pike, as hearings were had by the subcommittee with the Commission representatives?

I believe, Mr. Pike—did you not testify before the subcommittee?

MR. PIKE. Yes, sir; I was over there.

Senator HICKENLOOPER. Did you, Mr. Williams?

MR. WILLIAMS. No, Senator; I was away at the time. I believe Mr. Bloch was present.

Senator HICKENLOOPER. I notice the reference to Mr. Bloch, but it did not indicate that you were not there, and I did not know whether you were present or not.

So that these matters were gone over with the subcommittee, and the subcommittee came to a unanimous conclusion that this line, in its opinion or the opinion of each of its members, was not necessary and that the coal situation was adequate.

I merely call attention, Mr. Chairman, to the fact that, whereas, some suggestion has been made in the past that because the joint committee did not specifically insist on other action being taken, the action that was taken therefore must be O. K., that in this case, where there is positive and unanimous action, not only of the subcommittee but of the full joint committee, nevertheless, it had no influence on the going ahead with this project and the expenditure of \$10,000,000, which this committee came to the conclusion, unanimously, was not in the best interests of the program and should not be done.

MR. PIKE. May I comment, Senator, on four or five of the comments?

Senator HICKENLOOPER. Just one statement to clear that up. The law does place the legal responsibility and the authority for the decisions in the Commission. The committee does not have authority under the law to order or direct or stop or compel—

MR. PIKE. You have made that clear.

Senator HICKENLOOPER. The Commission to do anything. I am trying to emphasize that point, and in this case, apparently the unanimous opinion of the joint committee had no influence whatsoever on the Commission's action.

Mr. PIKE. Senator, if I may speak as an individual here, if there had been relevant points in the joint committee's report of force enough to have convinced us that our decision was wrong, I would have been the first one to have said "We should reverse the decision."

Now, I am not of that opinion, and if you have time for me to point out two or three of the items in the subcommittee's report, I should like to show you why. I really believe, in this case, the Commission is right and the committee is wrong. That could happen, and I think you are wrong here.

Senator MILLIKIN. The reverse could happen.

Mr. PIKE. Yes, sir; it has, many times probably.

Mr. COLE. It never has been admitted, has it, by the Commission? This is the first time I ever heard the Commission admit it was wrong with respect to any recommendation that had come out of this committee. It is not important at the moment, but I am surprised to hear you say it.

Mr. HOLIFIELD. Mr. Chairman?

The CHAIRMAN. Mr. Holifield?

Mr. HOLIFIELD. I think that this is the kind of a thing which should be done by the committee under its present legal limitations; that is, to hold hearings on specific things and make recommendations.

I recognize the validity of Senator Hickenlooper's statement that we do not have the power to compel the Commission to do certain things, but I submit that this is a unique case here where the committee did proceed, as I think it should proceed, and came out with a definite recommendation.

Now, after the committee has discharged its duty along that line, then, certainly, the Commission knows how the committee feels on it. It has taken formal action.

Then, if the Commission goes ahead on its own and does what it thinks to be best, it assumes that responsibility openly, knowing that it is in disagreement. It, at least, has had time to consider our objections.

Now, I participated in these hearings. I do not entirely agree with the report of the subcommittee personally, because I think that Mr. Pike made perfectly clear in his testimony that this would save the Government a million and a quarter dollars a year at present prices of coal and gas. I think he made perfectly clear that the contract which they had signed brought to this community at a cost of approximately 22 cents as against 30 or 40 cents in surrounding cities, gas, which was an advantageous contract as far as the Commission was concerned. So I believe that you were on sound economic grounds.

Now, as to your position that this pipe line should be certified on the basis of national defense needs, I frankly think that your Commission is weak on that point. I believe that doubling the stock pile—and I so proposed myself at the hearings—at the cost of \$7 a ton—and I believe you are using about 50,000 tons a month.

Mr. WILLIAMS. Sixty-four, approximately.

Mr. HOLIFIELD. That is at the rate of about 200,000 tons, which is roughly \$1,400,000 investment in an additional stock pile, and that

would have given you an additional 90 days' stockpile over the 90 days that you carry, and I think that would be sufficient for any strike that might occur.

So I think that the Commission did choose between an investment of \$1,400,000 in additional stock-piling and going to a means of fuel which in the long run will be much more economical to the Government.

So it is a matter of judgment, as I see it, and I know the Commission can make its own case.

The CHAIRMAN. Mr. Holifield, regardless of the merits of this particular controversy, as to whether the joint committee was right, or the Commission was right, I take it that it is your thought that an amendment to the act is in order to provide that projects which shall exceed a certain dollar value, without trying to set it at the moment, should be authorized by the joint committee in much the same fashion that the military has to get the clearance of a committee of Congress before proceeding.

Mr. HOLIFIELD. I agree with you 100 percent. I think it is clearly indicated that the joint committee, in order to discharge its function properly, should be given the same power of authorization as is given other committees of the Congress preceding the Appropriations Committee's action.

The CHAIRMAN. You take the reactor site, for example. That is going to run into over a half-billion dollars. Of course, we had hearings, quite extensive hearings, in regard to the reactor site; but if we had found ourselves in disagreement on it, we would have found ourselves powerless to do anything about it. That is the situation.

Mr. HOLIFIELD. Yet we are responsible to the taxpayers of the United States for being a so-called watchdog committee; and yet the act as it is now constituted does not give to this committee the power to function and discharge its responsibility to the taxpayers properly, in my opinion.

Senator MILLIKIN. Mr. Chairman?

The CHAIRMAN. Senator Millikin?

Senator MILLIKIN. What is the length of this line, 180 miles?

Mr. PIKE. Yes, sir.

Senator MILLIKIN. What is the size of the line?

Mr. PIKE. 22 inches in diameter.

Senator MILLIKIN. How many tons of steel will be used?

Mr. PIKE. My memory is it came out first as 28,000. I think it was cut to about 25,000 tons.

Senator MILLIKIN. Does that come out of a short market?

Mr. PIKE. Quite short at the time.

Senator MILLIKIN. That was a factor to be considered.

Mr. PIKE. Yes.

Senator MILLIKIN. It had national economic significance.

Mr. PIKE. Yes, sir.

Senator MILLIKIN. Does that have any relation to a point that was made that the National Resources Board was not considered? Did someone make the point that the——

Senator HICKENLOOPER. The report states that.

Mr. PIKE. I could not relevance there. We did go before the Department of Commerce, which had the, I believe they call it, voluntary allocation function and stated our views and our needs. There was a lot of pipe going to one gas line or another.

Since then, I might say, the whole steel situation has loosened up very much, and I believe the delivery of the first lot of pipe was made around in the last 2 or 3 weeks.

Senator MILLIKIN. So far as the timing of the line is concerned, that would be a very important factor.

Mr. PIKE. We wanted to get the line in as soon as possible.

Senator MILLIKIN. Everybody else wanted steel at the same time.

Mr. PIKE. There was a scramble for steel pipe.

Senator MILLIKIN. From an over-all standpoint, there was a question of priority.

Mr. PIKE. Yes, sir. We got into the scramble.

Senator MILLIKIN. What will be the length of the life of Oak Creek?

Mr. PIKE. I wish I knew.

Senator MILLIKIN. The subject is highly evolutionary, is it not?

Mr. PIKE. I suppose it is. It is highly evolutionary, but I would suspect that a great deal of the evolution would take place right there. I cannot predict very well on that.

Senator MILLIKIN. There is a speculation at that end of the line?

Mr. PIKE. Yes, sir; so I cannot appraise that.

Senator MILLIKIN. You might be committing yourself to a bail-out operation that might surpass the life of the enterprise at that point.

Mr. PIKE. Well, I do not believe, Senator, since, as I remember it, our commitment only runs for 4 years—it may run as high as 7. I wish I had that.

Mr. COLE. Three years, is it not?

Mr. PIKE. Possibly, sir. I think we can see ahead that far.

Senator MILLIKIN. I think so, too.

Mr. PIKE. I think it is a good bet.

Senator MILLIKIN. What about strikes shutting off the source of your supply of gas?

Mr. PIKE. Well, I will say this: that we have two rather unrelated sources here. Gas comes from an area down in Texas and goes through one method of transportation. Coal comes from nearby and goes over railroads.

I suppose there is a possibility of a strike on all of them. The history of it is that there is a much higher probability of strikes and other work stoppages, such as the one that is going on now, in the coal business than there is in either the oil or the gas business.

Senator MILLIKIN. I would say that is true, but strikes have been known in oil and gas fields.

Mr. PIKE. In oil refineries; yes, sir. They are almost unheard of in oil fields and gas fields.

Senator MILLIKIN. Gas is a byproduct of an oil refinery. A strike at an oil refinery affects the supply of gas.

Mr. PIKE. None of it will be a byproduct of oil refineries. Some of it will be a byproduct of oil production in the field. As you know, when oil comes up, gas comes out in solution.

Senator MILLIKIN. Is there any reason why there could not be a strike at the well?

Mr. PIKE. No, sir; none at all, except they are usually about as well paid as anybody in the business, and I think that, perhaps, is a factor.

Senator MILLIKIN. I want to say I cannot recall a strike of that kind, as far as gas is concerned.

Mr. PIKE. There may have been a wildcat strike.

Senator MILLIKIN. Is there any reason why there might not be if a wage dispute or other labor dispute might develop?

Mr. PIKE. I think you can say this: that the oil companies have been as intelligent cooperators with the labor force as any group in industry in the country.

Senator MILLIKIN. That is true.

Mr. PIKE. And then to take it from the point of view of the poor fellow who wanted to organize a union. In trying to organize an oil field you have to go over a tremendous territory, whereas in a refinery or a coal mine he has the boys right there.

Senator MILLIKIN. The aggregate of the employees who look after the gas field is quite sizable.

Mr. PIKE. Yes.

Senator MILLIKIN. And, even though the distances between the places of work of the employees may be great and the places may be somewhat scattered, yet I should think that might be organized as well as any other branch of industry.

Mr. PIKE. I suppose it could happen. I figure as a businessman first that it is a low-rate risk.

There is another point here, too. Coal, when it comes to the top of the ground, is about 60 to 70 percent labor. Any change in the hourly wages of labor means a distinct change in the cost per ton of coal. This is in the nature of things. There is no way to get around it.

I had the ill fortune of having to price the oil, coal, and natural gas in the United States during the war for OPA, and I hope that never happens again.

In the cost of gas at the top of the ground is roughly about 5 percent labor. Oil is 10 or 11 percent; coal is 60 or 70. So, frankly, if I were an industry running a natural-gas company, I could be fairly generous with my wage rates and working conditions, and it would not cost me very much.

Senator MILLIKIN. Especially if your purchasers are generous.

Commissioner, what are you paying for this gas?

Mr. PIKE. This gas will cost us between 20 and 22 cents a thousand of between 1,000 and 1,100 B. t. u. gas delivered at Oak Ridge. It is a good price.

Senator MILLIKIN. What is the field price of gas?

Mr. PIKE. The field price runs around 5 cents.

Mr. HOLIFIELD. The comparison, as far as the local area is concerned, in the cost of fuel should be with the towns of Knoxville and Chattanooga and other towns that are now paying 30 to 40 cents, as I understand.

Mr. PIKE. That is a typical gas rate as you go into a city. The comparison that hits us is this—the equivalent costs of the two. The coal is costing just about \$7 a ton, and at the rate we are getting the gas it is the equivalent of about \$5 a ton.

Mr. HOLIFIELD. And your computation of saving a million and a quarter is not on a price of \$7.14, but on an average price of \$6.50, is it not?

Mr. PIKE. I think that is right.

Mr. HOLIFIELD. That is your testimony before our committee. So actually your saving of one million and a quarter is based on a 64-cent-per-ton conservative calculation.

Mr. PIKE. I think we were conservative. I would like to go over the whole calculation and make absolutely sure.

The CHAIRMAN. Mr. Elston has a question.

Mr. ELSTON. There is one matter you have not touched upon, and that is the possible scarcity of gas in cold weather. Now, the States that are now using natural gas, such as Ohio, Indiana, Illinois, and some of the other States—and they derive their gas from this same source—suffer from a very severe shortage of natural gas in the wintertime.

Mr. PIKE. Yes, sir.

Mr. ELSTON. When the temperatures are very low.

Mr. PIKE. Yes, sir.

Mr. ELSTON. Now, what assurance have you got that you will not suffer in a similar manner at K-25?

Mr. PIKE. Well, of course, one reason, Mr. Elston, for the shortage of gas in the communities is a very simple one, which we are all used to. When it is very cold in a community, you use a great deal more gas than you do on a normal day, so that a pipe line which is used for the supply is very heavily drawn upon.

In this case, our requirements will be the same on cold days and hot days, so that this line should give us a pretty good supply. Our demand will not fluctuate the way domestic demand does.

As you know, in your area, up until a very, very few years ago, you got most of your gas from a West Virginia-Kentucky area nearby. If you ask me, as a matter of management, I would say that in your area the Columbia Gas people waited too long before they went out and got extra supplies of gas; and you, as consumers, have suffered a little bit on cold days from that. They are using some gas from this very group. They also use gas from the Panhandle.

Now, there is a very clear thing in the economics of natural-gas use and transmission. The longer your line, the greater amount of investment per unit of gas moved. But, no matter how big your investment is, a line of a given diameter will not move any more gas if it is a thousand miles long than if it is a hundred miles long.

When Cincinnati first went to mixed gas, they used manufactured gas to fill in on the cold days. People up at Detroit are now bringing gas in in the summer and putting it back into an old depleted gas field to fill in on cold days. Other people use propane and butane. Just as much gas will move through the lines.

Now, in this case, our demand will be a steady demand. Our chances of running short of gas, I would say, would be quite small. If we do, however, we will have the stock pile there. I would figure that a stock pile of coal for emergency use should always be handy.

Mr. ELSTON. How long does it take you to change back from gas to coal?

Mr. PIKE. It can be done within 24 hours.

Mr. ELSTON. So that there is the possibility that you may suffer from a shortage of natural gas as well as users in the North.

Mr. PIKE. I would say that the chances were extremely remote, Mr. Elston. One reason I like a completely independent source of fuel, a completely independent kind of fuel, and a completely in-

dependent method of transportation—Mr. Williams tells me that the way our burners will be set up it will take no time at all to change, and we can actually burn both coal and gas in the boilers at the same time—so technically it is an easier problem than I had thought.

Mr. ELSTON. If you are going to be assured of a supply, it follows as a matter of course that domestic and industrial users in other areas would suffer even more than they do now.

Mr. PIKE. I do not think so, Mr. Elston. As you know, there is a tremendous lot of gas pipe line mileage being put in this year and is under construction for next year. The gas we are using is excess gas that is coming up from Texas. We will not dip into gas that was available last year.

Mr. ELSTON. You brought out that transportation was a serious problem so far as coal was concerned, and you only mentioned the lack of cars. Now, as a matter of fact, you can transport coal to Oak Ridge by both truck and by barge as well as by railroad, can you not?

Mr. PIKE. I suspect you could. I am not an expert on barge transportation. I think we have one here, an expert on barge transportation on the Tennessee River.

Mr. Lilienthal would know about that, probably. Obviously, it could be brought in by truck if the mines were working. I suspect it would be a costly job to do. It would be the kind of thing you would do if you could.

Mr. ELSTON. How close are the mines?

Mr. PIKE. Mr. Williams knows more about that than I do?

Mr. WILLIAMS. There are mines that supply coal within 50 miles.

Mr. ELSTON. Is that the only source of your coal supply?

Mr. WILLIAMS. Well, we have the United States, but we have been buying, of course, our coal in an area of approximately 100 miles.

Mr. ELSTON. So that you have gotten all your supply of coal within an area of 100 miles?

Mr. WILLIAMS. I think, when we were in such dire straits we, as I indicated in my remarks in the beginning, the limitation on the purchase of coal was taken off, and we did get some at a greater distance during that period in order to build up our stock pile.

Mr. ELSTON. Now, there is no shortage of space at Oak Ridge for stock piling of coal; is there?

Mr. WILLIAMS. We have a great deal of space at Oak Ridge.

Mr. ELSTON. So that is not a problem at all?

Mr. WILLIAMS. It is not a problem if you forget economics completely.

Mr. ELSTON. Now, let me ask you this: When was this committee first notified of the Commission's intention to enter into a contract for the supply of natural gas to Oak Ridge?

Mr. WILLIAMS. February 9, 1948, the committee was notified. And then there was a letter from Senator Hickenlooper to Mr. Carroll Wilson on February 17, 1948, and then there was a letter from Mr. Wilson to Senator Hickenlooper, marked "Confidential," on March 18, 1948, giving some technical reasons which required that classification.

Mr. ELSTON. After this committee took action disapproving of this contract, what action did the Commission take?

Mr. PIKE. Perhaps I had better answer that, Mr. Elston.

We had a meeting, went over the criteria and considerations on which we decided to have this line built. It seemed to us that the considerations were even more compelling than they had seemed in the first place. We looked over the report of the subcommittee and found what seemed to us to be obvious errors in it or magnifications of rather trivial items into large ones.

So, in the balance, our judgment remained about the same. At least, mine did. I do not think we took an actual revote on the thing, but we did have a considerable reweighing conversation about the line.

Mr. ELSTON. In other words, you simply discussed it?

Mr. PIKE. Yes, sir.

Mr. ELSTON. And the Commission actually took no action one way or the other?

Mr. PIKE. We had already taken the action.

Mr. ELSTON. You had taken the action before this committee made any recommendations.

Mr. PIKE. Signed the contract, I think, last summer, Mr. Elston.

Mr. ELSTON. Did you take any action at all to suspend the operation of the contract after this committee began its investigation of the matter?

Mr. PIKE. I am sorry, sir, I did not get that.

Mr. ELSTON. Did your Commission take any action at all to suspend the operation of the contract?

Mr. PIKE. No, sir.

Mr. ELSTON. After you knew that this committee had begun an investigation of the entire matter.

Mr. PIKE. No, sir. I will tell you what ran through my mind. We thought that probably we should have a hearing before the whole joint committee on the matter.

Now, it had been a fairly hectic several weeks, and the first thing I knew was that we got a note saying that the whole joint committee had adopted the report of the subcommittee. I think, perhaps, we should have requested formally a hearing before the joint committee of the whole matter. I do not think we did.

Mr. ELSTON. You did not even request that kind of hearing, did you?

Mr. PIKE. Mr. Elston, I do not think we did.

Mr. ELSTON. You did not give the subcommittee any indication that you wanted to call any additional witnesses or present any more testimony, did you?

Mr. PIKE. I do not remember that we did; no, sir.

Mr. ELSTON. In other words, the subcommittee had every reason to feel that you had presented all the testimony you cared to present.

Mr. PIKE. Our General Counsel informs me that we had a letter all ready to send to you and then we got the report.

Perhaps, Mr. Volpe could explain it. He knows more about that than I do.

Mr. ELSTON. I hope so.

Mr. VOLPE. Mr. Elston, the subcommittee report was issued and, apparently, approved by the committee within a matter of a day or so.

Mr. COLE. Four days.

Mr. VOLPE. The Commission, when the report was received, asked the Director of Production, Mr. Williams, to restudy the matter and to bring the matter again before the Commission. This was done.

Following that discussion, the Commission asked for a letter to the joint committee, requesting an opportunity to be heard and advising the committee that it had reviewed the matter; it was still of the view that the action which had been taken was right. Before this letter could be sent, we were advised that there would be an open hearing on natural gas within a matter of a day or so, and the letter was not sent.

Mr. ELSTON. You did have a hearing before the subcommittee and considerable time elapsed between the hearing and the making of the report. That was more than 4 days.

Mr. PIKE. That is true, Mr. Elston. If you ask me, I thought we had made our case. The chairman, Mr. Durham, sent us a letter stating some defects in that he thought we did not make a complete presentation. We sent a letter to him in reply, and we had no notice that you were not completely satisfied with our presentation until we got the report of the subcommittee.

Mr. ELSTON. You yourself were satisfied with your own presentation, were you not?

Mr. PIKE. I thought we had convinced you that we had done the proper thing.

Mr. ELSTON. Although you knew the matter was under investigation and it was a pretty serious matter, the Commission took no action whatever to suspend the operation of the contract until this committee could decide what it wanted to do about it?

Mr. PIKE. No, sir. That is correct.

Mr. ELSTON. Then after the report was made and the full committee had concurred in it, the Commission did not even have any formal meeting, but simply discussed the matter and took no action whatever.

Mr. VOLPE. Mr. Elston, may I comment on that, sir?

Mr. ELSTON. Yes.

Mr. VOLPE. We notified the joint committee that the Commission was considering a gas line at Oak Ridge on February 9, 1948. There was again correspondence on February 17, 1948, and again on March 18, 1948, on June 23, 1948, on October 5, 1948, on December 13, 1948, and hearings before the Federal Power Commission.

A contract had already been made, the Federal Power Commission had already issued a certificate, when the subcommittee of the joint committee decided to hear this matter. At that time we presented our case, which had been previously presented to the joint committee in correspondence, and it was not until after the subcommittee had issued a report that we had any indication that the subcommittee or the joint committee disapproved of what the Commission had done more than a year ago.

So that this is not a matter of our being advised in advance of action that there was disapproval on the part of the joint committee. This was more than a year after the action had been taken and it was subsequent to the issuance of a certificate by the Federal Power Commission.

Mr. ELSTON. Well, the fact that you entered into the agreement a long time ago did not alter the fact that you could not go ahead with the agreement until the Federal Power Commission had acted.

Mr. VOLPE. That is right, sir.

Mr. ELSTON. And the Federal Power Commission did not act until when?

Mr. VOLPE. I do not have the date handy, but that can be checked.

Mr. COLE. May 3.

Mr. ELSTON. May 3, 1949. They did not act until May 3, 1949.

Mr. VOLPE. That is right, sir.

Mr. ELSTON. And the hearings before the subcommittee were held on Monday, May 2, 1949.

Mr. VOLPE. But the contract, Mr. Elston, with the East Tennessee Natural Gas Co. to build this line to supply natural gas to the Atomic Energy Commission was executed in the summer of 1948, and this we informed the joint committee on.

The CHAIRMAN. May I see that correspondence?

Mr. ELSTON. I grant you the contract was entered into, but nothing was done to carry out the provisions of the contract and could not be done until the Federal Power Commission had acted.

Mr. VOLPE. That is right.

Mr. ELSTON. So that you could, if you had seemed disposed to do so, have tried to suspend the operation of the contract, and nothing would have been done.

Mr. VOLPE. Mr. Elston, as the subcommittee well knows, a great deal happened between the time the contract was executed and the time the Federal Power Commission issued a certificate.

Mr. ELSTON. But no work was done.

Mr. VOLPE. No work was done, but the East Tennessee Co., on the basis of a contract which it had made with an agency of the United States Government, took steps to fulfill that contract if and when a certificate was issued by the Federal Power Commission.

Mr. ELSTON. Yes, in other words, everything was contingent upon action of the Federal Power Commission.

Mr. VOLPE. That is right, sir.

Mr. ELSTON. And that did not take place until in May of this year.

Mr. VOLPE. That is right.

Mr. ELSTON. Now, the point I am making is that the Commission did not do a thing during the pendency of this hearing before the subcommittee to suspend the operation of the contract until this committee had decided the matter.

Mr. VOLPE. Well, Mr. Elston, I assume that the question is to indicate that the Commission ignored the fact and was not reasonable in its behavior because a subcommittee had decided to hold a hearing; and what I am suggesting, sir, is that the committee had knowledge of this since February 1948, and the committee could have raised these questions which have now been raised prior to any hearings before the Federal Power Commission.

The questions that the committee has raised go to the question of whether or not this line is needed in the interest of the common defense and security of the United States; and for this committee to make inquiry into that question, this committee did not have to await the ruling of the Federal Power Commission.

Mr. ELSTON. Never mind criticizing this committee.

Mr. VOLPE. I am not criticizing, sir.

Mr. ELSTON. This committee did not have to have any hearings until the Federal Power Commission had acted. If the Federal Power Commission had denied your application, there would not be any

reason for any hearings, and it was only after the Federal Power Commission granted your application and granted it solely on the ground that it was in the interest of national defense, that there was any necessity for a hearing by this committee.

And when this committee proceeded immediately—in fact, started even before the decision of the Federal Power Commission—and rendered a unanimous report condemning the entire project, or at least disapproving of it, the Atomic Energy Commission did nothing more than have a discussion about it and did not even go through the formality of passing upon the report of this committee.

Now, that is true, is it not?

Mr. PIKE. We reviewed the situation, Mr. Elston, pretty completely.

Mr. COLE. What was done with respect to a review?

Mr. PIKE. Well, we set Mr. Williams to work going over all the criteria and considerations that we had gone over in deciding to get this other source of supply. We met. I cannot remember exactly what was said, but we went over the thing pretty well in our minds. We did not think, frankly, that the reasons that the committee gave for disapproval were very good ones.

I still think they are not very good ones. We did figure this—and this I do not think was given sufficient weight by the subcommittee—that this is a highly essential plant, there is no need of my emphasizing to this group how essential its continuous operation is. This is an instance where a risk of shutting down was pretty unthinkable.

Here we get a completely independent source of supply—again, at a saving of over a million dollars a year to the Government—and when we can remove a risk and save money, too, it seemed to me that we had something we ought to go right ahead with.

There is not a bit of use of our thinking if an emergency should come along and we wished we had done it, that we could get gas immediately. It takes a long while to get a new gas line through. You have to go, as you say, before the Federal Power Commission, you have to arrange for your gas supplies, you have to arrange for your pipe, you have to arrange for building. It is a long road.

We would rather be ready for an emergency, whether or not it appears, than to have an emergency hit us and not be ready.

Mr. ELSTON. Mr. Pike, was the subcommittee wrong in saying that you did have ample facilities to build up a stock pile of coal?

Mr. PIKE. No, sir; it was not completely wrong. I do not think it is a terribly revelant point. My feeling is this:

That the gas is a better thing because it is completely independent, both in transportation and form of fuel. To stock-pile more coal is a possible thing. It is pretty expensive, it would cost the Government a great deal more and would still tie us to an annual expense of a great deal more than we will be tied to here.

Mr. ELSTON. You cannot stock-pile gas, can you?

Mr. PIKE. No, sir; not to any great extent. You can stock-pile gas a little.

Mr. ELSTON. Was the committee wrong in pointing out that a pipe line was more susceptible to sabotage?

Mr. PIKE. Than what?

Mr. ELSTON. Than using coal.

Mr. PIKE. Well, I think that is arguable. A pipe line is not much more susceptible to sabotage than a railroad. Rails break every now

and then and you get wrecks. You do get pipe-line breaks. It takes about the same time to repair them.

There is no great history of sabotage of pipe lines in this country. There are histories of pipe lines leaking, and they use regular patrol and section people, the way the railroads do, to see that their stuff is in running condition.

Mr. ELSTON. Now, a great deal of the pipe line is up through the mountains and country that is not patrolled like a railroad is patrolled.

Mr. PIKE. It is patrolled, Mr. Elston; a main pipe line is always patrolled.

Mr. ELSTON. Not the same as a railroad.

Mr. PIKE. I do not suppose you have a man every mile, but it is pretty efficiently patrolled, and you can catch, incidentally, a pipe-line accident much more quickly than you catch an incident of railroad stoppage, which you do not catch, probably, until either the next train or section hand comes along.

If there is a leak in the pipe line, you will get it in a matter of minutes through a drop in pressure at the station.

Mr. ELSTON. You say the committee was inaccurate. In what respects were they inaccurate?

Mr. PIKE. For instance, in saying we might have used the facilities of an oil pipe line that went 17 miles away. That is a crude-oil pipe line, and crude oil is completely unadaptable for burning in a boiler. That is one point.

Now, I do not say that it made inaccurate statements, but now the statement that we did not go before the National Security Resources Board—it is not inaccurate. We did not. I still have to find out why we should have. We have never found out why we should have.

The statement at the end that substantial improvement was not given full weight; well, it is not inaccurate, but it is not complete. We did look at a lot of things which had happened. We looked at what had happened to the price of coal in the meantime. We also recognized that the coal business is a business that is subject to a great many hazards of delivery, and we do not need to develop the point. You know it as well as I do.

Mr. ELSTON. When you have built up a stock pile of coal, you have a stock pile of coal for how many days?

Mr. PIKE. I would say about 90 days.

Mr. WILLIAMS. We have at the present time 180,000 tons.

Mr. ELSTON. Is that 90 days' supply?

Mr. WILLIAMS. Well, it takes 64,000 tons a month. So that is about 3 months or 90 days for two boilers.

Mr. ELSTON. About a 90-day supply.

Do you know of any coal strike that has lasted 90 days?

Mr. WILLIAMS. We were affected, I believe it was in March 1946, for a period of 60 days.

Mr. ELSTON. How were you affected?

Mr. WILLIAMS. We were affected in that we did not get any coal. Our coal deliveries were cut way down.

Mr. COLE. To the extent of 20 percent of your requirements, was it not?

Mr. WILLIAMS. No, sir; it was cut more than that during this period. It was during the period August 1946 to August 1947, when

there was no strike, that it was cut down, where we were getting all the coal we could get.

Mr. ELSTON. You do not mean you had to stop your facilities from operating?

Mr. WILLIAMS. No, sir; because we had stock-piled some coal, but I was just answering a question, sir, that we were affected at this time for a period of 60 days. That is, the delivery of coal was affected for a period of 60 days.

Mr. ELSTON. Were there any other inaccuracies?

You have accused the committee of being inaccurate. I wish you would cite them.

Mr. COLE. I wish you would include the items characterized as trivial by Mr. Pike in the committee report.

The CHAIRMAN. We are running over our stated time. I do not wish to cut you off in the middle of your questioning, Mr. Elston.

Mr. ELSTON. These gentlemen will both be here again, and I can continue at a later time.

The CHAIRMAN. I think we must adhere to the rule.

Mr. ELSTON. I do, too.

The CHAIRMAN. We will recess until Monday morning at 10:30.  
(Whereupon, at 1:05 p. m., a recess was taken until 10:30 a. m., Monday, June 20, 1949.)

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# INVESTIGATION INTO THE UNITED STATES ATOMIC ENERGY PROJECT

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## HEARING BEFORE THE JOINT COMMITTEE ON ATOMIC ENERGY CONGRESS OF THE UNITED STATES EIGHTY-FIRST CONGRESS FIRST SESSION ON INVESTIGATION INTO THE UNITED STATES ATOMIC ENERGY PROJECT

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PART 11  
JUNE 20, 1949

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# INVESTIGATION INTO THE UNITED STATES ATOMIC ENERGY PROJECT

MONDAY, JUNE 20, 1949

CONGRESS OF THE UNITED STATES,  
JOINT COMMITTEE ON ATOMIC ENERGY,  
*Washington, D. C.*

The joint committee met, pursuant to adjournment, at 10:35 a. m., in the Caucus Room, Senate Office Building, Washington, D. C., Senator Brien McMahon (chairman) presiding.

Present: Senator McMahon (chairman); Representative Durham (vice chairman); Senators Connally, Vandenberg, Millikin, Knowland, and Hickenlooper; Representatives Holifield, Price, Cole, Elston, Hinshaw, and Van Zandt.

Also present: David E. Lilienthal, Chairman; Sumner T. Pike, Commissioner; Lewis L. Strauss, Commissioner; Gordon E. Dean, Commissioner; Henry D. Smyth, Commissioner; Carroll L. Wilson, General Manager; Carleton Shugg, Deputy General Manager; Frances Henderson, Assistant to the Chairman; Brig. Gen. James McCormack, Jr., Director, and Capt. James Russell, Deputy Director, Division of Military Application; Walter J. Williams, Director, Division of Production; Joseph Volpe, Jr., General Counsel; Bennett Boskey, and Everett L. Hollis, Office of the General Counsel; Morse Salisbury, Director, Shelby Thompson, and Rodney L. Southwick, Division of Public and Technical Information Service; Edward Brosnan, Division of Security; all of the United States Atomic Energy Commission.

G. R. Prout, president and general manager, Nucleonics Department; H. A. Winne, vice president in charge of engineering; and Forrest D. Baker, comptroller, nucleonics department (Hanford works), of the General Electric Co.

The CHAIRMAN. Come to order, please, gentlemen.

When we finished on Friday, Commissioner Pike and Mr. Williams were answering some questions from Mr. Elston regarding the pipeline at Oak Ridge.

Will you gentlemen come forward, Mr. Pike and Mr. Williams?

**STATEMENTS OF SUMNER T. PIKE, COMMISSIONER, AND WALTER J. WILLIAMS, DIRECTOR, DIVISION OF PRODUCTION, ACCOMPANIED BY JAMES VOLPE, JR., GENERAL COUNSEL, UNITED STATES ATOMIC ENERGY COMMISSION**

The CHAIRMAN. Mr. Elston will proceed.

Mr. ELSTON. Mr. Chairman, at the time we adjourned on Friday, I had not quite completed asking Mr. Pike and Mr. Williams some questions about the natural-gas line to Oak Ridge.

I believe you stated, Mr. Pike, that you saw no particular reason for contacting the National Security Resources Board.

Mr. PIKE. Yes, sir; I did not, and I am still unclear as to why we should have.

Mr. ELSTON. Did you ever read the National Defense Act?

Mr. PIKE. No, sir.

Mr. ELSTON. You did not read it?

Mr. PIKE. No, sir.

Mr. ELSTON. Well, if you had read it, you would have found out that section 106 requires that Board to coordinate all demands on critical natural resources. Now, of course, the pipe that is used in this project is critical, is it not?

Mr. PIKE. Yes, sir.

Mr. ELSTON. As a matter of fact, this pipe line will take 6 percent of Tennessee Gas Transmission Co.'s supply to the Ohio Valley; will it not?

Mr. PIKE. If you use the 60,000,000 feet—and that is the plan, Mr. Elston—it will use about 6 percent of the billion feet toward which Tennessee Gas Transmission is building. That is as far as present plans go. They are not transmitting that much yet. They did not last year.

As you know, it is a very rapidly growing enterprise, and we will be using some of the additional gas which is coming through.

Mr. ELSTON. Then, you are not entirely correct in saying it would not take anything from the Ohio Valley.

Mr. PIKE. I meant it would take nothing from what they had before. We would be using gas, and obviously it is gas nobody else will be using if we use it.

Mr. ELSTON. I think you also indicated that this committee, which made its report, was incorrect with respect to the suggestion that fuel oil might be used for stand-by purposes.

Mr. PIKE. I did not say that fuel oil could not be used, but my own feeling is that it would be a bad third choice.

Mr. ELSTON. Why would it be bad?

Mr. PIKE. It was in pretty short supply last year, Mr. Elston.

Mr. ELSTON. Of course, you do not know whether or not gas itself would be an item that the National Security Resources Board should consider.

Mr. PIKE. Frankly, I do not know their complete duties, so I really don't know.

Mr. ELSTON. Who took the responsibility of not contacting that Board?

Mr. PIKE. I think I should, perhaps, defer to counsel, because it never occurred to me that we should have, until it was brought up in this report; and I still do not know why.

Mr. ELSTON. Notwithstanding section 106, you still do not see why?

Mr. PIKE. I never heard of section 106 until this moment. On matters of legality, we have to depend on the counsel.

Mr. ELSTON. Did you ask counsel for an opinion about it?

Mr. PIKE. I did not, because I never heard of the section until this morning. I do not know whether it is apposite or not.

Mr. ELSTON. You also stated the other day that you thought the gas that would go to Oak Ridge would not take anything from the Ohio Valley or from other sections because it was an additional supply.

**Mr. PIKE.** In the first place, at the time we worked out the contract oil was in extremely short supply, going back to that period. At the time it is not in short supply. It still is extremely expensive. It had to come in by tank car, which means railroad transportation; and, as I remember it, the cost would be equivalent to about \$17 per ton of coal as against about \$7 per ton, and the equivalent of about \$5 if we get gas as fuel.

**Mr. ELSTON.** That would be an item if you were counting on it all the time, but considering it solely from the stand-by position, you would not have to bring it in, in cars, because there is an oil pipe line just 17 miles from Oak Ridge, is there not?

**Mr. PIKE.** It is pretty close by, but it does not carry fuel oil. It carries crude oil.

**Mr. ELSTON.** It carries highly refined petroleum products, not crude oil.

**Mr. PIKE.** It does not carry residual fuel oil, which is what we would burn:

**Mr. ELSTON.** Are you certain that line does not carry fuel oil which you could use?

**Mr. PIKE.** No, sir; I am told so, and I suspect my information is correct.

(The following was later submitted for the record:)

The fuel oil line referred to does not and cannot carry bunker C fuel oil.

**Mr. ELSTON.** You said at one time there was a shortage of coal cars, did you not?

**Mr. PIKE.** There had been, yes, sir.

**Mr. ELSTON.** Was it so short that it impaired any of your operations?

**Mr. PIKE.** I think it did. Mr. Williams, of course, can answer that directly from first-hand information.

**Mr. ELSTON.** Well, did you do anything about getting a sufficient coal-car allocation?

**Mr. PIKE.** We tried pretty hard. Again, Mr. Williams has the background. I think he did some of that himself.

**Mr. ELSTON.** Whom did you contact?

**Mr. WILLIAMS.** This was covered in my statement on Friday. I can refer to it here and give the information again.

On April 12, 1947, information was furnished to the Washington office with the further explanation that the deficiency in replacements was primarily due to the shortage of coal cars, arising from the fact that large shipments of coal for export were requiring the use of many of the cars which otherwise would be available for the delivery of coal to Oak Ridge.

The Washington office interceded with the Transportation Corps, United States Army; the American Association of Railroads; and the Office of Defense Transportation in an effort to obtain assignment of cars to the Oak Ridge area for use in delivering coal to Oak Ridge.

These efforts were unsuccessful, except to the extent that ODT issued an order providing for the return of coal cars to the southern railroads, which counteracted a previous order which required that coal cars be returned to northern railroads.

On September 11, 1947, TVA was advised of the critical situation of the coal pile at K-25 and advised that a reduction would be made

in power generation on September 18. At this time TVA was critically short of power, and the water storage in three reservoirs had been reduced to a dangerous level. TVA was extremely anxious for us to continue to generate power at the same rate as before.

Meetings were held with TVA representatives on September 18, at which time arrangements were made for each agency to issue a coordinated telegram at 2 p. m. on September—this was September 15, the other day—on September 15, 1947, to John R. Steelman, urging that 200 coal cars be assigned for use in supplying coal to Oak Ridge.

On September 18, 1947, the Washington office advised Oak Ridge that it had received a reply from Mr. Steelman as to the request for the 200 coal cars to the effect that no cars were available for such assignment, but authorizing the procurement of coal in an unlimited area.

Mr. ELSTON. So you just took Mr. Steelman's decision and did not go any further?

Mr. WILLIAMS. He happened to be the one that we considered was in charge of this determination as to where the coal cars would go. We had contacted these other agencies before and had no success.

Mr. ELSTON. Well, the principal reason for not getting the cars was foreign export. They were needed for the foreign export of coal.

Mr. WILLIAMS. Well, that was the assumption. I do not know. The fact of the matter is that we did not have any cars.

Mr. ELSTON. So that if the matter became critical and cars were absolutely necessary, it would simply mean cutting down on the supply of coal cars used for the foreign export of coal?

Mr. WILLIAMS. That may have been. I am in no position to say because I do not know that those were the actual facts.

Mr. ELSTON. You did not consider it of sufficient importance to take it to the President, did you?

Mr. WILLIAMS. Well, I do not know what the Washington office considered. Mr. Steelman was the representative of the President, his office, and we did check with him.

Mr. ELSTON. All right. Now, you also stated the other day, did you not, that the subcommittee failed to give sufficient weight to the need for continuous production at K-25; is that right?

Mr. WILLIAMS. I do not recall saying that. I feel that probably the subcommittee gave less weight to it than I would. I happen to have been responsible directly for the Corps of Engineers for the construction of the plant, so I have somewhat intimate knowledge of the construction of the plant and also of the importance of the plant to the national picture. It may be that being so close to the picture, I am unduly cautious. I do not think so.

Mr. ELSTON. The report actually gives as its first conclusion a statement of the absolute requirement for continuous production. That is the report of the subcommittee. Do you remember that? It is the first thing the committee considered?

Mr. WILLIAMS. I do not disagree with it. I am in full agreement with that.

Mr. ELSTON. Now, Mr. Williams or Mr. Pike, either one, you stated the other day there would be a saving of money, I believe, over a million dollars a year.

Mr. PIKE. Yes, sir.

Mr. ELSTON. That is based on present rates?

Mr. PIKE. That is right.

Mr. ELSTON. Now, as a matter of fact, if there was an increase of just 3 cents in the gas rate, it would wipe out that \$1,250,000, would it not?

Mr. PIKE. No, sir.

Mr. ELSTON. How much would it have to be?

Mr. PIKE. I will have to give you my best guess and supply the figure. It would have to be around 10 cents.

Mr. ELSTON. Ten cents?

Mr. PIKE. Yes.

(The following was later submitted for the record:)

The gas contract has a two-part rate; (1) Demand charge of \$2.64 per 1,000-cubic feet per month; (2) commodity charge of 12.1 cents per 1,000-cubic feet used. At an average rate of use of 50,000,000 cubic feet per day the commodity charge would have to increase 6.85 cents per 1,000 cubic feet to wipe out the \$1,250,000 savings, or an increase of 56½ percent in the commodity rate. The demand charge does not change under the terms of the contract.

Mr. ELSTON. Did you in your fiscal year 1950 budget not provide for \$5,610,000 for conversion of facilities to gas?

Mr. PIKE. I do not think so, but I would have to have the budget in front of me.

(The following was later submitted for the record:)

This is essentially correct, the actual figure is \$5,613,000. This total appeared in the 1950 budget but was over a 3-year spread, fiscal years, 1949, 1950, and 1951.

Mr. ELSTON. What figures do you provide for? What do you think it will cost the commission?

Mr. PIKE. It will cost the Commission in dollars, the Government will pay out about \$240,000. I think you are probably referring to the fact that we do practically guarantee to continue to buy gas at this price over a period long enough to amortize out part of the cost of this line. This will come in the cost of fuel and that price is figured in the savings. I think technically we do have to set aside money to meet what you might call a contingent liability in case we do not use the gas. However, I do not have the budget figures at hand, and I am not quite sure that is what you mean.

Mr. ELSTON. Did you in figuring the difference in cost take into consideration the interest on the amount of money that the Commission would spend for conversion purposes?

Mr. PIKE. I do not believe we did because all we have to do is spend \$240,000, which would be wiped out in less than 3 months' saving.

Mr. ELSTON. Whatever you spend, regardless of whether it is \$240,000 or some other amount, proper bookkeeping would require you to take into consideration the interest item; would it not?

Mr. PIKE. That may be true, Mr. Elston. I am not quite clear on that.

For instance, in the suggestion that the subcommittee made of building up, doubling the coal stock pile, that would mean a permanent investment of around \$1,400,000, and I do not remember that interest was taken in on that. No; I do not believe we usually do figure interest, Mr. Elston, in the budgetary things. I am not a budget expert, as is very clear to you.

Mr. ELSTON. Where did you get your figures?

Mr. PIKE. From our own estimating people, who run the Oak Ridge plant.

Mr. ELSTON. Are they auditors?

Mr. WILLIAMS. These figures came from engineers and operators.

Mr. ELSTON. They did not take into consideration interest?

Mr. WILLIAMS. Well, if you took into consideration interest on this, you would also have to take into consideration the interest on the overcharge for coal, which we would be paying, and it would certainly be more than wiped out. An engineer's estimate does not ordinarily take into account interest on the money on Government work.

Mr. ELSTON. I wish you would check your figures on the amount of increase in the gas rate it would take to wipe out the savings to which you have referred.

Mr. PIKE. That will be easy to work out. I just do not have the figures.

Mr. ELSTON. I do not believe your figures are correct.

Mr. PIKE. My memory is it would take about 10 cents.

(The following was later submitted for the record:)

Six and eighty-five one hundredths cents per 1,000 M c. f. used, or  $56\frac{1}{2}$  percent of commodity rate.

That would give us the equivalent of about \$7 coal, and an increase of 10 cents would mean the tripling of the prices in the field, practically, which seems to me a very, very high expectation.

Mr. ELSTON. Now, Mr. Pike, there is nothing in your contract that prevents either the supplier or the distributor from increasing the price of gas.

Mr. PIKE. I think we are protected for quite a period. That is one thing about gas prices, Mr. Elston. You can contract ahead at practically a fixed price for quite a while. You cannot do that in either oil or coal usually beyond the current year. It is one good feature. You can protect yourself in gas prices in pretty good shape.

Mr. ELSTON. In article IX, section 4a (1) of your contract, there is a provision—is there not?—that, if the supplier sees fit to increase rates, those rate may be passed on to the Commission.

Mr. PIKE. I do not remember that it reads just like that.

Mr. ELSTON. Put it in the record exactly the way it is.

Mr. PIKE. Mr. Williams has the contract.

Mr. WILLIAMS. Article IX, Charges To Be Paid by Government; Section 4a, Adjustments. Is that the section, Mr. Elston?

Mr. ELSTON. Yes.

Mr. WILLIAMS. (reading):

The demand and commodity charges provided for in paragraphs 1 and 2, above, shall be subject to the following adjustments.

(1) Plus or minus the amount of any increase above or decrease below such charges exacted from the Gas Company by the Tennessee Gas Transmission Company for gas and gas service furnished hereunder. The amount of increase or decrease shall be determined by calculating the difference in the charges for gas and gas service furnished hereunder which are purchased by the Gas Company from Tennessee Gas Transmission Company under its 1947 charges applicable to sales within the State of Tennessee on file with the Federal Power Commission and any new authorized charges for such gas and gas service payable by the Gas Company to Tennessee Gas Transmission Company or any other supplier.

Mr. ELSTON. There is nothing ambiguous about that; is there?

Mr. WILLIAMS. We feel fairly safe for the first 3 years. We have a fairly sound contract. At the end of 3 years we can negotiate.

Mr. ELSTON. What assurance have you got that the rate cannot be increased immediately upon the beginning of this service?

Mr. PIKE. The Tennessee Gas Transmission Co., Mr. Elston, is engaged in interstate commerce, and its gas rates are, of course, regulated by the Federal Power Commission. I think we are in pretty good shape.

Mr. ELSTON. Here is a provision on your contract, the AEC contract, which Mr. Williams just read, and it very definitely and clearly provides that the supplier may increase the rate and pass it on to AEC.

Mr. PIKE. I believe it reads that the supplier may pass on to us either any increases or any decreases in what he has to pay to the primary supplier, which is the Tennessee Gas Transmission line.

Mr. ELSTON. That is right. Assuming they want to charge more, there is nothing in your contract that prevents them from doing it; is there?

Mr. PIKE. I would have to examine the contract again pretty thoroughly on that. I think there is, Mr. Elston.

(The following was later submitted for the record:)

Before the contract rates can be increased, approval of the Federal Power Commission must be obtained.

Mr. ELSTON. Did you understand the provision Mr. Williams just read?

Mr. PIKE. Yes; I think I do.

Mr. ELSTON. Is there any uncertainty in your mind after hearing it?

Mr. PIKE. Well, I am pretty clear that there is no opportunity for a gratuitous, frivolous increase in rate just because they want to increase the rate. This is a pretty strictly regulated industry.

Mr. ELSTON. I am not saying it could be frivolous. But suppose they offer substantial reasons to justify the rate. If they did, it could be passed on to AEC, and AEC would have to pay it.

Mr. PIKE. I think, if the cost went up to East Tennessee, we would have to pay the difference, just as we do in the case of coal when the costs go up. I think we are in better shape than in depending on the prices of coal.

Mr. ELSTON. They could also pass on increases in taxes; could they not?

Mr. PIKE. That is correct.

Mr. ELSTON. Read subsection 2, Mr. Williams, so that that will be in the record.

Senator HICKENLOOPER. While he is finding that, I wonder if Mr. Pike could tell me the present contract rate, how much it is per cubic foot.

Mr. PIKE. It is made of two parts, a so-called demand rate and a per foot rate. As we figured it, it ran from a maximum of about 22 cents a thousand down to a minimum of about 20 cents. As near as you could get.

Senator HICKENLOOPER. A thousand cubic feet?

Mr. PIKE. A thousand cubic feet at somewhere between a thousand and eleven hundred British thermal units per cubic foot.

Mr. WILLIAMS. Article IX, Charges To Be Paid by Government; Section 2, Commodity Charge and Payment:

(a) Commodity charge hereunder is 12.1 cents per thousand cubic feet. The Government shall pay the Gas Company, for each month of the calendar, a commodity payment in an amount equal to the commodity charge multiplied by the number of thousand cubic feet of natural gas actually received by the Government at all points of delivery during such month of the calendar or the commodity payment provided for in subparagraph (b) below, whichever is greater.

(b) Except as otherwise provided in this agreement, the Government shall pay the Gas Company, for each month of the calendar, a minimum commodity payment in an amount equal to the commodity charge multiplied by 40,000 M c. f. multiplied by the number of days in the month of the calendar. This monthly payment shall be made irrespective of the actual volume of gas deliveries. It is understood that said minimum commodity payment shall become applicable on the day of commencement of delivery of natural gas to the Government hereunder and shall cease to be applicable upon expiration or termination of this agreement. It is further understood that said payment shall be prorated, on the basis of the number of days in the months of the calendar involved for the months of commencement and expiration or termination if less than a full month of the calendar. If, subject to the allowable variations provided for in Article III, the Gas Company fails to deliver the volume of natural gas that the Government has given the Gas Company notice it desires to receive of less than 40,000 M c. f. on any day or days, then the charges set forth in the first sentence of this subparagraph (b) shall be reduced by an amount equal to the commodity charge multiplied by the volume of gas the Gas Company failed to deliver. Refusal by the Government to accept gas pursuant to the provisions of paragraph 1 or paragraph 3 of Article VI shall be deemed a failure to deliver within the meaning of this subparagraph (b).

(c) In the event the Commission estimates that the Government will not require the minimum of 40,000 M c. f. of natural gas on any future day or days, and the Commission notifies the Gas Company in writing, mailed at least ten days prior to the day or days referred to above, that on such day or days the Government will require such volume of natural gas less than 40,000 M c. f. per day, then the Gas Company will use due diligence to attempt to sell to others the volume of natural gas representing the difference between 40,000 M c. f. per day and the volume that the Commission specified. The Government would require on such day or days, *provided* such sale or sales shall not interfere with sales or prospective sales by the Gas Company to other customers (but the Gas Company shall not increase its demand requirements from its supplier after such notice from the Commission for the period of time specified therein) and, *provided further*, the Commission and the Gas Company agree upon the terms of such sale or sales and upon the credit to be derived therefrom by the Government. This credit shall apply only to the extent that the average volume of gas delivered by the Gas Company during a given month of the calendar shall be less than 40,000 M c. f. per day.

Mr. ELSTON. Did you have any more questions, Senator?

Senator HICKENLOOPER. No. The amount of gas, as I figure it, if they used a maximum of 60,000,000 feet a day, an increase of 5 cents, I believe, would be \$1,095,000 a year. If they used a minimum of 40,000, I have not figured that out yet.

Mr. ELSTON. I thought the figure of 10½ cents was much too high, but I believe it could be put in the record exactly the way you figure it.

Mr. PIKE. Yes, sir.

(The following was later submitted for the record:)

At 5-cents-per-1,000-cubic-feet increase for an average use of 60,000,000 cubic feet per day equals \$1,095,000 per year. A 5-cents-per-1,000-cubic-feet increase for average use of 40,000,000 cubic feet per day equals \$730,000 per year. A 5-cents-per-1,000-cubic feet increase is equivalent to a 41.3-percent increase in the commodity rate and does not appear within the realm of possibility.

Mr. ELSTON. Just another question or two, Mr. Pike.

Your contract, of course, was with the East Tennessee Natural Gas Co.

Mr. PIKE. Yes, sir.

Mr. ELSTON. That company does not of itself have any gas. They obtain it from others and simply transmit it to you?

Mr. PIKE. That is correct; yes, sir.

Mr. ELSTON. And most of the supply comes from down in Texas?

Mr. PIKE. Texas and Louisiana, yes, sir; mostly in Texas, I think.

Mr. ELSTON. So that the companies down there that do the supplying may have all sorts of labor trouble and other troubles that would prevent a delivery of gas.

Mr. PIKE. I expect they will have the same troubles that any business would have from time to time. They are not immune, but they are not particularly subject to labor troubles either, Mr. Elston.

Mr. ELSTON. But it is not confined to one company. It is confined to a number of supplying companies.

Mr. PIKE. I think that is correct. My memory is not completely clear. I do not think the Tennessee Gas Transmission owns directly much of its own supply. It contracts for it from producers there. Of course, in all this thing we are going at the protection of the completely independent source of supply at the lowest possible price to the Government. That is what we think we have got.

In having the two completely independent sources, naturally we think we are better off than depending heavily on any single source.

Mr. ELSTON. Now, of course, you realize that the supply of gas is quite limited. I believe it is estimated there is a 25- or 30-year supply.

Mr. PIKE. That is, I do not believe, quite accurate, Mr. Elston, in this: That if we knew where all the gas in the United States was, if we had it all discovered, that would be about it. There is about 30 years' supply of gas, known gas, in the United States, known and delimited.

We are, however, finding gas each year to the point that, to the best of my memory, there has been no year in the last 15 or 20 that there has not been more gas in sight at the end of the year than there was at the beginning, even allowing for all consumption.

Mr. ELSTON. But at the present time there is only a 30-year supply.

Mr. PIKE. That we can see.

Mr. ELSTON. As to coal, there is a supply that is almost inexhaustible.

Mr. PIKE. There is a lot of coal. Coal is such that we probably know about all our coal resources, but the supply of coal is for our purposes quite unlimited.

Mr. ELSTON. It would last hundreds of years?

Mr. PIKE. Yes, sir.

Mr. ELSTON. Now, on the matter of costs again—and I would like to get this in the record—as I understand it, the annual total cost of the gas would be about \$4,960,000 estimated, to include charges for depreciation and interest at 4 percent. Now, you can check these figures later and see if they are correct.

The coal would be \$5,650,000 on the basis of \$7.25 a ton.

The oil delivered price of 4 cents per gallon yields a figure comparable to coal.

Now, on the basis of those figures, an increase of 3 cents in the gas rate would wipe out the estimated saving given by AEC, but I wanted you to know where I got my figures and what my estimate was based upon, and I would like to ask you to check those figures and report later on.

Mr. PIKE. That should be very simple. The price you quote for oil, I think, is lower than any price we could reasonably expect to get. As to the other costs, I just will have to look at the figures.

(The following was later submitted for the record:)

Five million, six hundred and fifty thousand dollars of \$7.25 per ton coal would equal 780,000 tons of coal. An equivalent amount of gas per year at the contract rate would cost \$4,170,000. Depreciation and interest are not included because they are covered by the contract price for the gas. The contingent liability assumed by the AEC is covered by an obligation of \$4,400,000 of contract authority which will not be converted to cash unless the contract is canceled in less than 20 years. This contingent liability will reduce by one-twentieth each year gas is consumed at Oak Ridge.

As to the cost of oil, the price paid by Carbide & Carbon Chemicals Corp. for 1,500,000 gallons of bunker C fuel oil in October 1947 was 11.03 cents per gallon, f. o. b., Blair siding, which is equivalent to coal at \$18.20 per ton. Present price quoted on fuel oil is 7½ cents per gallon delivered in tank-car loads to Blair siding or 8 cents per gallon delivered to K-25 siding. This is equivalent to coal at \$13 per ton.

Mr. ELSTON. The other day I asked you about what action the Commission took with respect to the subcommittee report, which was approved by the full committee, and you said there was some discussion about it.

Mr. PIKE. I have checked my memory since, Mr. Elston. We had in preparation a letter to the committee asking for a discussion with the full committee on the subject. I think that letter came up to the Commission last Monday, and, I believe, needed some revision. But as soon as we heard from the committee, we felt that our original decision was really in accordance with the facts and we wanted to discuss it with the committee. It has happened, I suspect, probably—we have been pretty busy the last several weeks, and I do not know whether that letter has been sent, frankly.

Mr. ELSTON. So we have not even as yet gotten the letter.

Mr. PIKE. That I do not know. I would have to check. That is an easy factual matter to find out.

Mr. COLE. May I interrupt to inquire: What was the purpose of the letter?

Mr. PIKE. The purpose of the letter, as I remember it, was to ask if we could have the opportunity of discussing with the full committee this whole situation, because we felt, at least I felt, that the committee in adopting the report of the subcommittee had not given enough weight to several facts that weighed very heavily with us.

Mr. COLE. What would be the purpose of a conference with this committee, since the Commission had already decided to go ahead with the project in spite of the report of the committee?

Mr. PIKE. You see, we were already going ahead with the project before the subcommittee report was made known to us. We felt that we had sound reason for feeling it should be continued, and we wanted to lay the facts before you and we thought you probably would agree with us when you saw the problem we had and the way we were trying to solve it.

Mr. COLE. Announcement was made on June 2 that the construction of the project was going to go forward in spite of the report of this committee, which was made on May 27, an interval of working days of only 2 or 3 days.

Mr. PIKE. I think that was about when the pipe was delivered. I do not believe we made that announcement.

Mr. COLE. The announcement came from the gas pipe-line contractor. That announcement must have been made after consultation with the other party to the contract, in other words, the Commission.

Mr. PIKE. That I do not know, Mr. Cole.

Mr. COLE. I fail to understand what would be the basis of any conference with this committee in view of the fact that the Commission had apparently decided to go ahead irrespective of this report.

Mr. PIKE. You might have said——

Mr. COLE. I want to emphasize that this committee did not recommend against building the line, did not report adversely. It simply said that the basis upon which the Commission reached a determination to build the line was unfounded.

Mr. PIKE. Of course, that is where we disagree.

Mr. COLE. Those are the bases which in your opinion are trivial.

Mr. PIKE. I still do not think they are as good as the bases on which we are going ahead and building it.

Mr. COLE. It is understandable that since the report lay on the desk for only 2 or 3 days before announcement was made that the Commission was going ahead with the construction of the line, irrespective of this committee's attitude, it is understandable why you would characterize the report as being trivial.

Is it not a fact that this is the first report this committee has ever sent to the Commission on any of its projects, on any of its operations?

Mr. PIKE. I do not think so, Mr. Cole. There was a subcommittee report on Du Page, one on Los Alamos, one on Oak Ridge housing. I think my memory is correct on those. There may be some others.

Mr. COLE. Does your memory serve you well enough to tell me what reaction the Commission had with respect to those reports?

Mr. PIKE. They were very helpful reports, very helpful reports.

Mr. COLE. Those were all subcommittee reports, however.

Mr. PIKE. Yes, sir. You mean from the whole committee?

Mr. COLE. This is the first report from the full committee, is my understanding.

Mr. PIKE. I think that is probably right.

Mr. ELSTON. Mr. Pike, was the action of the Commission reflected in your minutes?

Mr. PIKE. I think so; yes sir.

Mr. ELSTON. Can you produce the minutes?

Mr. PIKE. I do not have them; no, sir.

Mr. ELSTON. Will you produce those minutes and read them into the record, showing what action the Commission took on the report of this committee and when it was done?

Mr. PIKE. I will have to look and see; yes, sir. I will have to give that.

Mr. ELSTON. Now, there is a motion for a rehearing pending before the Federal Power Commission, is there not?

Mr. PIKE. I do not know, sir.

Mr. ELSTON. Do you know, Mr. Volpe?

Mr. VOLPE. I have not heard about it, Mr. Elston.

Mr. ELSTON. I think you will find there is a motion for a rehearing pending before the Commission.

Mr. VOLPE. On whose part, Mr. Elston?

Mr. ELSTON. I do not know who filed it, but I was informed there was such a motion pending. Of course, it would follow as a matter of course, since your contract is contingent upon approval by the Federal Power Commission, that if the motion for rehearing were granted, you would be relieved of all obligations under your contract. That is correct, is it not, as a matter of law?

Mr. VOLPE. Under the contract, Mr. Elston, the contract is made subject to the issuance of a certificate by the Federal Power Commission. The Federal Power Commission has issued a certificate. Now, I have not heard about a motion to reopen.

Mr. ELSTON. Well, if a certificate were issued and a motion were pending for a rehearing, and on rehearing they did decide not to grant the certificate, the Commission would be relieved of legal responsibility under the contract.

Mr. VOLPE. That is correct, sir.

Mr. ELSTON. You have not considered, not even knowing about the motion, the matter of holding up the contract until this committee had the opportunity to respond to the letter which you say is coming to us.

Mr. VOLPE. Mr. Elston, perhaps I can help clarify that a bit. When we received the subcommittee report, inquiries were made by the press and the Commission as to what action the Commission would take upon the subcommittee report. I do not recall the date offhand, but I believe it was shortly after the report was issued.

The Commission announced that it had received the report and was giving the report careful consideration. No action was taken by the Commission to suspend work.

A reason for that is the fact that a good deal of work had already gone on over the period of the last year and a half or so. The East Tennessee Co. had acquired a substantial amount of steel, they had made many arrangements for financing, and they were moving ahead, in other words, in a very substantial way to get in this line.

After the report was received and it was in the midst of these various hearings, the Commission asked the Director of Production to prepare a report to the Commission on the subcommittee report and to report to the Commission whether or not, in the view of the Production Division, there had been a change in circumstances or whether there had been overlooked certain matters which should in the view of the Director of Production require a change in what the Commission had done.

A meeting of the Commission was held last week, I believe, or it may even have been the week before—so many things have been happening that I am kind of faulty as to dates—and the Commission discussed this problem quite thoroughly. The Commission came to the view that there was not, in their view, any reason for changing their initial decision.

However, they did express a good deal of—I was going to say concern, but perhaps “concern” is not the right word—but they did express a good deal of interest in the subcommittee report, and the question was what to do about it.

The Commission suggested that a letter be drafted to be forwarded to the joint committee, asking the full committee for an opportunity to discuss the problem. I mention this, Mr. Elston, only to point out that the report was considered very seriously. The report was given a good deal of attention.

The fact that no action was taken to stop the work was only because a great deal of work had already been done over the past year and a half.

Mr. ELSTON. Mr. Volpe, you know that if the East Tennessee Gas Co. assumed any obligations at all or did any work over the last year and a half, it was all contingent upon getting a certificate from the Federal Power Commission to go ahead.

Mr. VOLPE. That is right, sir.

Mr. ELSTON. And they were not obligated to perform one single provision of their contract until that certificate was granted.

Mr. VOLPE. That is right.

Mr. ELSTON. And that certificate was not granted until what date?

Mr. VOLPE. I believe June 3.

Mr. ELSTON. June 3, which was just about the time——

Mr. VOLPE. I am not sure whether it was June 3 or May 3, but I believe it was the day after your subcommittee started hearings that the Federal Power Commission issued a certificate. I believe it was May 3, Mr. Elston.

Mr. ELSTON. All right.

Mr. VOLPE. Mr. Elston, you asked questions about what action the Commission took to clear this matter of natural gas with other agencies of Government who were concerned with this matter. I would like to tell you just briefly what was done.

The Commerce Department, under the law, has responsibility for allocation of steel. In connection with the allocation of steel for the natural gas line, there were very extensive discussions with the Commerce Department and, as a matter of fact, if my memory serves me right, there was also some discussion of taking the matter up with the National Security Resources Board. But this again, if my memory serves me right, was the responsibility of the Department of Commerce, because they had to make an allocation here.

In addition to the Department of Commerce, we also discussed this with the Bureau of Mines, and the reason we discussed it with the Bureau of Mines was at the time there was an Executive order directing the Bureau of Mines to coordinate among Government agencies the use of oil and natural gas in certain localities in the country. Under this Executive order we were required to coordinate this matter with the Bureau of Mines, and this we did.

Mr. ELSTON. You do not know that the Commerce Department took it up with the National Security Resources Board; do you?

Mr. VOLPE. I do not know whether they did or not.

Mr. ELSTON. For all you know, they may have anticipated that you would do it.

Mr. VOLPE. I do not believe that is right, Mr. Elston, because my recollection is that they felt it was their responsibility to do that.

Senator HICKENLOOPER. Mr. Chairman, I would like to ask is there not a record some place? Do we have to go on uncertain recollection here on a suggestion of that kind? Can we not be more specific about whether these things were actually done?

Mr. VOLPE. Senator Hickenlooper, the discussion with the Department of Commerce on allocation was definitely done. The conferences with the Bureau of Mines were definitely done. As to whether or not the Department of Commerce in carrying out their responsibility

discussed this matter with the National Security Resources Board, this would have to be determined from the Department of Commerce.

The CHAIRMAN. Mr. Hinshaw?

Mr. HINSHAW. Mr. Chairman, for the purpose of the record I would like to get some figures from one of the gentlemen here and some facts.

First, who operates the K-25 steam plant, the AEC or Carbide?

Mr. WILLIAMS. Carbide & Carbon Chemicals Co.

Mr. HINSHAW. Do you supply the fuel?

Mr. WILLIAMS. The Carbide & Carbon Chemicals Co. obtains bids for the fuel. Of course, we reimburse them for the payment.

Mr. HINSHAW. But they are the ones who actually conduct the negotiations?

Mr. WILLIAMS. Yes, sir.

(The following was later submitted for the record:)

Carbide & Carbon Chemicals Co. do obtain bids for coal and oil and of course the AEC reimburses them for the payment. However, the natural gas contract is a prime AEC contract and the procurement of gas is a direct AEC function.

Mr. HINSHAW. What is the capacity of the K-25 steam plant?

Mr. WILLIAMS. About 238,000 kilowatts.

Mr. HINSHAW. And how many units are there?

Mr. WILLIAMS. As I recall, 14.

Mr. HINSHAW. That is 14 boilers or 14 generators?

Mr. WILLIAMS. Fourteen generators.

Mr. HINSHAW. Is the capacity equally divided among the 14?

Mr. WILLIAMS. No; it is not.

Mr. HINSHAW. What is the capacity of each?

Mr. WILLIAMS. I could furnish you that. I do not know if I have it here. I am quite certain I do not have it here.

Mr. HINSHAW. Please furnish it for the record.

(The following was later submitted for the record:)

Number	Size	Total capacity
	<i>Kilowatts</i>	<i>Kilowatts</i>
1	35,000	35,000
6	25,000	150,000
1	20,000	20,000
1	12,500	12,500
1	10,000	10,000
3	3,000	9,000
1	1,500	1,500
Total		238,000

What is the fuel consumption of the K-25 plant at normal load?

Mr. WILLIAMS. We average on three-boiler operation approximately 16,000 tons a week.

Mr. HINSHAW. That is 64,000 or 65,000 tons a month?

Mr. WILLIAMS. That is  $4\frac{1}{3}$  times 16, which would be roughly 68.

Mr. HINSHAW. 68,000 tons. What is the generating cost per kilowatt-hour?

Mr. WILLIAMS. As I recall, it runs about 5 cents.

Mr. HINSHAW. Not 5 cents.

Mr. WILLIAMS. Five mills.

Mr. HINSHAW. That is better. Does that include depreciation?

Mr. WILLIAMS. No; that does not include depreciation. That includes the cost of fuel and all of the charges of the operation of the plant, handling of the fuel, freight, everything that is connected with the operation of the plant.

Mr. HINSHAW. It does not include any interest on the investment either?

Mr. WILLIAMS. No interest on the investment.

Mr. HINSHAW. And, of course, it does not include any taxes.

Mr. WILLIAMS. No taxes.

Mr. HINSHAW. 68,000 tons per month provides what constant load?

Mr. WILLIAMS. I would have to furnish you those figures. I can tell you the capacity of the boilers—750,000 pounds per hour of steam. That is per boiler, and there are three boilers. The load varies somewhat with the condition.

Mr. HINSHAW. Could you estimate what load 68,000 tons per month would provide?

Mr. WILLIAMS. Well, if you wanted to use all the steam for power generation, you could run all your turbines.

Mr. HINSHAW. Will you supply that figure for the record?

Mr. WILLIAMS. Yes, sir.

(The following was later submitted for the record:)

Average is approximately 183,000 kilowatts net or 198,000 kilowatts gross; 15,000 kilowatts is required for operation of power-plant auxiliaries.

Mr. HINSHAW. Now, I presume that that load is divided between the AEC load, the community facilities load, and at times the TVA load; is that not correct?

Mr. WILLIAMS. The load at the power plant?

Mr. HINSHAW. Yes.

Mr. WILLIAMS. The power plant; generally we consider it just for the plant. It has a possibility of interconnecting with the TVA system of a portion of the plant, but it is used primarily for the K-25. In fact, I think it is used completely for the K-25 plant.

Mr. HINSHAW. But you do sell power to the TVA; do you not?

Mr. WILLIAMS. We generate power at low water to help the TVA. That is, they have a contract with us to furnish, I believe it is 225,000 kilowatts, something like that, and any power that we generate would help their system in times of emergency.

Now, when we generate power to help their load conditions, they pay us for the cost of the generation.

Mr. HINSHAW. You mean they pay you 5 mills?

Mr. WILLIAMS. I would have to check that exactly. It is my understanding that they pay the increment of costs between what we pay them and what it costs us to generate. I would have to check that exactly.

Mr. HINSHAW. Would you put that figure in the record, please, because I think it is important.

(The following was later submitted for the record:)

TVA credits the AEC account with approximately 3.9 mills per kilowatt-hour for power furnished by AEC. This is approximately 0.43 mills more than AEC pays TVA each kilowatt-hour purchased from them.

Now, may I ask: During this period of August 1946 to August 1947, when you were overdrawing your coal stock pile in the AEC yard by 10,000 tons a month, were you delivering power to the TVA?

Mr. WILLIAMS. We were generating power at that time to about capacity, not essentially for the TVA, but due to the low water in the dams of the TVA system in order to keep the plant running and in order for TVA to balance their load it was necessary that we run our generators.

(The following was later submitted for the record:)

During the period of August 1946 to August 1947, AEC furnished power back to TVA for only a portion of 2 months. These were as follows: July 1947, 30,000 kilowatts or 12,213,000 kilowatt-hours; August 1947, 55,200 kilowatts or 38,411,000 kilowatt-hours.

Mr. HINSHAW. Would you place in the record the kilowatt demand or the average demand being furnished to the TVA during that period of August 1946 to August 1947?

You say that is on the basis of sale to the TVA and you are going to put the basis of that sale into the record, I take it.

Mr. WILLIAMS. Yes, sir.

(The following was later submitted for the record:)

The average being generated for the account of TVA during the 13-month period August 1946 through August 1947 was approximately 5,200 kilowatts.

Mr. HINSHAW. Do you have an arrangement for the purchase of TVA power?

Mr. WILLIAMS. We have a contract for the purchase of power from TVA; yes, sir.

Mr. HINSHAW. At what rate do you purchase it?

Mr. WILLIAMS. As I recall, about  $3\frac{1}{2}$  mills.

Mr. HINSHAW. Would you check that figure and be sure that it is accurate in the record, please?

(The following was later submitted for the record:)

AEC's purchases from TVA are on the basis of \$1 per kilowatt-hour per month for maximum demand during the month and 2.0 mills per kilowatt-hour for power used during the month. Average experience for recent typical months is as follows:

March 1949—3.465 per kilowatt-hour.

April 1949—3.497 per kilowatt-hour.

May 1949—3.465 per kilowatt-hour.

Mr. HINSHAW. There is no basis of exchange of power between the K-25 steam plant and the TVA; is there? Do you exchange kilowatt-hour for kilowatt-hour, or do you charge both ways?

Mr. WILLIAMS. We charge both ways, as I recall, sir. I might point out also, because there might be a misconception on the part of someone reading this record, that it would be possible for us to buy all of our power from TVA, since it is cheaper, and that is not the case, as I believe this committee is aware.

Mr. HINSHAW. Three and one-half mills is obviously cheaper than your generating cost if your generating cost is 5 mills.

Mr. WILLIAMS. Yes, sir; and there would have to be a reason why we generate any at all, and there is a good reason, and I believe this committee is fully informed on that reason.

Mr. HINSHAW. Now, I would like to know from the Commission or from its representatives as to whether or not this 10,000 tons per month during August 1946 to August 1947 period was drawn down for the benefit of firming up TVA power, or furnishing power to TVA, or whether it was required by the AEC itself.

Mr. PIKE. I think, Mr. Hinshaw, although again we should go to the record on that to be exact, I think we were buying power from TVA on a net balance all the time during this period, but when we could get a little bit more out of that power plant, it could be used in such a way as to take part of the load off them. We were still buying power from TVA net all the time.

Mr. HINSHAW. You were buying power net?

Mr. PIKE. Yes, sir.

Mr. HINSHAW. You say you bought a million and a half gallons of fuel oil at 10.31 cents per gallon during that period; is that correct?

Mr. WILLIAMS. That was the price quoted. I would have to check the record to be sure that is what we paid for every gallon. I believe that is right.

(The following was later submitted for the record:)

Carbide purchased, in October 1947, 1,500,000 gallons of No. 6 bunker C fuel oil from the Ashland Oil & Refining Co. for 11.03 cents per gallon, f. o. b., Blair Siding, which is 14 miles north of the K-25 power plant.

Mr. HINSHAW. Did you buy a million and one-half gallons, or did you buy more than a million and a half gallons?

Mr. WILLIAMS. As I recall, we bought 1,500,000 gallons. We had some fuel oil that had been left over from another operation.

Mr. HINSHAW. It is my understanding that in Washington during that same period fuel oil was being sold to domestic consumers at about 6 cents a gallon.

Mr. PIKE. I do not think that is true, not at that time.

The CHAIRMAN. I wish that were so.

Mr. HINSHAW. I guess I mean 10,000 gallon lots, barrel lots, tank-car lots.

The CHAIRMAN. When was that, Mr. Hinshaw?

Mr. HINSHAW. August 1946 and 1947. At the present time it is my understanding that bunker C is at the rate of 4 cents a gallon in 10,000 gallon lots in Washington.

Mr. PIKE. There has been a sharp decrease in bunker C in the last 5 or 6 months. There are two things. Of course, from August 1946 to August 1947, a real shortage was developing all through the oil area, and there were several very sharp increases, as you probably remember, in the price of oil. I think you would have to work out an average for the period. When you come to a place very close to water transportation on the Atlantic coast, you are apt to get better prices for fuel oil than at an inland point.

Mr. HINSHAW. You do not mean to say they do not have water transportation to Oak Ridge, do you?

Mr. PIKE. I would not call it the cheapest kind of water transportation, although I wish I was more of an expert on it.

Mr. HINSHAW. It is inland waterway transportation?

Mr. PIKE. Yes, sir.

Mr. HINSHAW. And I just want to say for the record that my information is that Bunker C during 1946-47 was \$2.45 per barrel, or 6 cents a gallon in Washington.

Mr. PIKE. That sounds about right.

Mr. HINSHAW. So that you were overcharged some 4.3 cents per gallon for the fuel.

Mr. PIKE. We would have to look back on the record to make it clear on that, but oil was in extreme shortage, as you will remember, particularly the latter part of that period.

Mr. HINSHAW. It would seem to me that the cost of transportation by inland waterway to Oak Ridge would hardly be any more than the cost of the ocean-borne transportation.

Mr. PIKE. That would be a matter of checking rates, but I suspect it would be much higher inland.

Mr. HINSHAW. On inland water?

Mr. PIKE. Yes, sir.

Mr. HINSHAW. I wish you would check the rates by inland waterway to Oak Ridge.

(The following was later submitted for the record:)

Since there is no barge line operating to Oak Ridge there are no published inland-waterway rates. However, quotations have been received from the A. L. Meckling Barge Line of Joliet, Ill., on the shipment of Grade 6 bunker oil from Memphis, Tenn., to Oak Ridge. The quoted rate was \$2.80 per ton river-freight which is equivalent to 1 cent per gallon, f. o. b. barges, Oak Ridge. Bunker C oil has been quoted at 4.14 cents per gallon at Memphis. Thus the delivered price to Oak Ridge is 5.14 cents per gallon. This is equivalent to \$8.40 per ton coal.

Mr. PIKE. That is quite a long way from any refinery; whereas, from here you have refineries all along the coast.

Mr. HINSHAW. Where did the 172 miles of East Tennessee Gas Co. pipe line cut into the main line of Tennessee Gas Transmission Co.?

Mr. WILLIAMS. As I recall, it is near Mitchellville, Tenn.

Mr. HINSHAW. Does this East Tennessee Natural Gas Co. have another application in for a pipe line?

Mr. WILLIAMS. I do not know.

Mr. PIKE. I think it does, Mr. Hinshaw.

Mr. HINSHAW. I believe it does, to furnish Knoxville, Tenn., and intervening cities.

Mr. PIKE. That is my understanding.

Mr. HINSHAW. Has a permit been granted yet for that line, do you know?

Mr. PIKE. I do not know.

Mr. HINSHAW. Has the East Tennessee Natural Gas Co. heretofore engaged in any sales of natural gas?

Mr. PIKE. I believe this is a fairly newly formed corporation.

Mr. HINSHAW. Now, the Tennessee Gas Transmission Co. owns the main line of transmission, does it not?

Mr. PIKE. That is correct, sir.

Mr. HINSHAW. What does it propose to do in order to furnish this additional gas to the East Tennessee Natural Gas Co.?

Mr. PIKE. They are laying additional pipe, and I think they have plans as far as 18 months or 2 years ahead. They have plenty of supplies in the field, and they are putting additional pipe in about as fast as they can get it to bring more gas up here.

My memory is that it is part of the additional gas which they can transport that we are going to get for this pipe line.

Mr. HINSHAW. Is it correct to state that the Tennessee Gas Transmission Co. will spend \$13,350,000 to expand its trunk line facilities from Texas to Tennessee?

Mr. PIKE. I would think they would probably spend a good deal more than that. They have a very large expansion program under way.

Mr. HINSHAW. Then, in addition, there is the approximately \$9,400,000 to build a 22-inch line 172 miles from Tennessee Gas Transmission trunk line to Oak Ridge, is there not?

Mr. PIKE. I believe that is about the cost.

Mr. HINSHAW. And your fiscal year 1950 budget provides the following figures, as I have them:

Oak Ridge municipal gas system, \$2,470,000; is that correct?

Mr. PIKE. That is my memory, yes, sir.

Mr. HINSHAW. And the gas heaters in all town buildings in Oak Ridge, \$2,350,000.

Mr. PIKE. I do not remember that one.

Mr. HINSHAW. Gas pipe lines to supply production plant, \$430,000; and to convert the K-25 boiler plant to gas, \$260,000.

To convert the boiler plant No. 2 to gas, \$100,000.

There is an estimated net cost to the AEC to convert to gas of \$5,610,000. Is that correct?

Mr. PIKE. I see what you mean now. That proposal to put gas in the town is a pretty different thing from what we have been talking about, and I can see where all of them put together would add up.

Mr. HINSHAW. It was in your fiscal year 1950 budget.

Mr. PIKE. I think we proposed to do that.

Mr. HINSHAW. So that is additional cost.

Mr. PIKE. And an additional saving, incidentally. It would be a tremendous saving to get natural gas in the housing there. As I remember it, coal delivered to the houses cost us the equivalent of nearly twice what it does in the cars there. I think it costs \$13 or \$14 a ton when it gets to the houses and then, of course, we have the ash disposal problem, too.

But they are rather different. As I remember it, we figured we would save three or four hundred thousand dollars a year on the domestic operation. This is in addition. This is a rather different thing from the thing we have been talking about here.

Mr. HINSHAW. In answer to a question by Mr. Elston a few moments ago, you mentioned \$260,000 would convert the K-25 boiler plant to gas, but failed to mention the other item in the fiscal year 1950 budget.

Mr. PIKE. I did not quite understand the question, and I am sorry, Mr. Elston, that I did not realize you were bringing in the proposal to pipe gas through the town.

Mr. HINSHAW. You state that the additional investment in doubling the stock pile of coal in Oak Ridge would be about  $1\frac{1}{2}$  million dollars; is that correct?

Mr. PIKE. In that neighborhood. We figure 200,000 tons at around \$7.

Mr. HINSHAW. So that the additional investment required to convert Oak Ridge to gas is \$4,000,000 in excess thereof, at least.

Mr. PIKE. If you bring in the domestic side of it. This is the first time it has been brought up.

Mr. HINSHAW. That is contained in the budget, so we were interested in finding out.

Mr. PIKE. Yes.

Mr. HINSHAW. Now, the East Tennessee Natural Gas Co. owns no gas wells at all, does it?

Mr. PIKE. I am sure it does not.

Mr. HINSHAW. Does the Tennessee Gas Transmission Co. own its wells or does it purchase?

Mr. PIKE. I think it purchases. I remember when that thing was started, the same group of people apparently were starting the pipe line and owned some very large gas-producing areas in Texas. My memory is that in the very early days of that line ownership of the gas properties was split from that of the pipe line, and I expect they are not in common any more.

Mr. HINSHAW. You mean the same owners own the well as own the transmission lines, but they are split from it?

Mr. PIKE. My memory is they owned or controlled these gas fields when they started to put the line in, and I suspect for legal reasons they did split ownership. I am sure, of course, that the areas from which the Tennessee Gas now gets its supplies are very much more extensive than those gas lines which the original promoters owned.

Mr. HINSHAW. Does the East Tennessee Natural Gas Co. have the right to reduce the delivery of gas from 60,000,000 cubic feet per day to 40,000,000 cubic feet per day?

Mr. PIKE. I do not think so.

Mr. HINSHAW. Must they furnish you the full demand?

Mr. PIKE. I believe 60,000,000, they are on the line. I think we have the privilege to go to 40.

(The following was later submitted for the record:)

The East Tennessee Natural Gas Co. is required to supply firm supply of 60,000,000 cubic feet per day. The Commission has the privilege of going down to 40,000,000 cubic feet per day.

Mr. HINSHAW. Is 60,000,000 cubic feet per day sufficient to sustain the 238,000-kilowatt capacity of the Oak Ridge plant?

Mr. PIKE. I think so, but I think Mr. Williams' answer would be more first-hand.

Mr. WILLIAMS. That is our estimate: that that amount of gas would completely replace the coal which we have been using at the power plant.

Mr. HINSHAW. Now, do you propose to furnish power from this source to the TVA after the pipe line is put in?

Mr. WILLIAMS. If it were necessary to use our boilers and our generators to assure the continuous production of K-25, we would.

Mr. HINSHAW. I do not get that clear at all. What your main job is is furnishing production to the K-25 plant. What has the TVA got to do with it?

Mr. WILLIAMS. We have a contract with the TVA to furnish a certain block of power.

Mr. HINSHAW. That is what I want to get at. What is that block of power?

Mr. WILLIAMS. As I recall, it was 225,000 kilowatts.

Mr. HINSHAW. You said a while ago that the capacity of your plant was 238,000 kilowatts.

Mr. WILLIAMS. That is what the TVA furnishes us, 225,000 kilowatts.

Mr. HINSHAW. When I asked you the question, what is the capacity of the K-25 steam plant, you answered 238,000 kilowatts.

Mr. WILLIAMS. That is approximately correct. It is either 232 or 238. I would have to add up the capacities of all generators, but

that is our generating plant, and that is the capacity which that plant has.

As to the TVA, we have a contract with the TVA to furnish us, in addition to our own generation, I think it is 225,000 kilowatts. I have to check the contract.

Mr. HINSHAW. The TVA furnishes you. I was asking you about your furnishing TVA.

Mr. WILLIAMS. I said I did not know, sir, the exact amount of power we furnish them. I will have to check the records.

(The following was later supplied for the record:)

The maximum rate at which AEC has furnished power to TVA has been 55,800 kilowatts which was furnished in December 1947. This is considerably less than the amount of power being purchased from TVA at the same time and it in effect only reduces the amount of electric power TVA would otherwise be obligated to furnish under their contract demand. The cost of generating power for the TVA account at the K-25 steam plant is slightly higher than the average price AEC pays TVA for power. That is because of the fact that most of the TVA power is hydroelectric which is less costly to generate. TVA therefore pays AEC the incremental cost for any power generated for their account and AEC continues to buy from TVA at the rate stipulated in the contract. There are definite advantages to both agencies in this arrangement.

Advantages to AEC are:

(a) The optimum amount of special-process power required by the gaseous diffusion plant is slightly more than the capacity of the two boilers in the K-25 steam plant but less than the capacity of three boilers. Whenever all three boilers are available for use it is more economical to operate all three of them if TVA is willing and able to take the excess power at the incremental cost of producing it.

(b) It takes approximately 8 hours to start up another boiler so with the three boilers on the line there is more control for the stabilized operation of the gaseous diffusion plant since the TVA load can be dropped at any time that our power plant equipment must be shut down.

Advantage to TVA is that the electrical power demand in the Tennessee Valley exceeds the available capacity and any excess generation that we can supply can be used by TVA particularly at a time when their water reservoirs are low.

Mr. HINSHAW. Mr. Chairman, when I visited the K-25 steam plant a year ago, they were furnishing 50,000 kilowatts to the TVA, according to the statement of the manager and that, of course, is quite a sizeable chunk out of the 238,000.

Mr. WILLIAMS. At one time we were furnishing that much. I remember that figure.

Mr. HINSHAW. Mr. Chairman, I think it would be important to know what the average demand furnished to the TVA during that period of 1946-47 and 1947-48 has been on a monthly basis in order that we may understand who is furnishing power to whom and how much.

(The following was later submitted for the record:)

During 1947 AEC furnished TVA power in the following amounts:

	Kilowatts	Kilowatt-hours
January through June: No power furnished TVA.		
July.....	30,600	12,213,000
August.....	55,200	36,411,000
September.....	55,200	22,011,000
October.....	55,200	1 24,621,000
November.....	53,400	1 39,267,000
December.....	55,800	1 40,718,000

<sup>1</sup> TVA furnished coal during these months.

During 1948 AEC furnished TVA power in the following amounts :

	Kilowatts	Kilowatt-hours
January.....	54,600	<sup>1</sup> 30,230,000
February.....	55,200	34,048,000
March.....	None	-----
April.....	None	-----
May.....	None	-----
June.....	48,000	17,431,000
July.....	54,000	29,113,000
August.....	25,000	8,488,000
September.....	27,000	19,490,000
October.....	27,000	325,000
November.....	27,000	16,054,000
December.....	27,000	16,882,000

<sup>1</sup> TVA furnished part of coal during this month.

NOTE.—During the period July 1947 through February 1948, because of extremely low water levels in the reservoirs, TVA desired that the K-25 power plant be operated at full capacity in order to relieve TVA of the need for furnishing part (approximately 55,000 kilowatts) of the firm supply of 225,000 kilowatts they are required to furnish Oak Ridge under their contract.

Previous arrangements whereby TVA and Carbide did not compete with each other for the purchase of coal were amended so that Carbide could purchase coal for the additional generation from dealers in western Kentucky who had previously supplied TVA but not Carbide. This arrangement helped some but did not prove adequate and on September 11, 1947, TVA was notified that because of the shortage of coal it would be necessary to discontinue the operation of the third boiler on September 18, 1947, at 9 a. m.

The TVA water situation did not improve and an understanding was reached on October 9, 1947, whereby the third boiler would be started again with coal for its use to be furnished by TVA by truck to the K-25 power plant. This arrangement was continued until early in January 1948 when the size of the K-25 stock of coal became adequate and truck delivery of coal by TVA was discontinued.

It is further suggested that the remarks "TVA furnished coal" be added opposite the months of October, November, December 1947, and the notation "TVA furnished part of coal" be added opposite January 1948.

Mr. PIKE. During all this period, Mr. Hinshaw, it is very clear that they were furnishing us net power. Here is the situation as I see it:

We have three boilers there. When normal operation takes about two boilers and because we have to arrange for periodical maintenance work, we figure one boiler out of commission a good deal of the time. Now, there are times of the year when you can run three boilers maybe for 2 or 3 months at a time. During those periods, particularly when the TVA is short of power, we can run the whole thing all out and take the load off them somewhat, but even when we are furnishing them some power, they are still furnishing us a lot more power, so that they are always supplying us net. It merely takes some of the load off their back when all our equipment can run.

Mr. HINSHAW. You mean to say that you furnish TVA—you furnish to the TVA at the same time they furnish power to you?

Mr. PIKE. I think that is right. I think that is the way the transmission lines are set up. We can pump a little back into their lines and take the load off them some.

Mr. HINSHAW. That is a curious arrangement to me.

Mr. PIKE. That is quite a usual arrangement.

Mr. HINSHAW. To transmit power from one power company to another, when the demands upon the power at the local source are greater than the supply available? I just do not understand it, but then perhaps it can be explained.

Mr. WILLIAMS. Mr. Congressman, I think it would be hard to determine whether the electricity we generate goes back to TVA or goes over to the K-25 plant. It is fed into the distribution system, and it is merely running our plant to help out the total picture, the over-all load picture, in that particular region.

Mr. HINSHAW. What is the total generating capacity of the TVA?

Mr. WILLIAMS. That I do not know.

Mr. HINSHAW. I am sure Mr. Lilienthal would know. He managed it for a great many years. I wonder if he could answer what the total capacity of TVA is.

Mr. LILIENTHAL. I am retired from that business, but my recollection is it is in excess of 2,000,000 kilowatts, but I do not know the up-to-date figures.

Mr. HINSHAW. So that the demand of the AEC would constitute about 10 percent of the total generating capacity of the TVA.

Mr. LILIENTHAL. No; I think that is oversimplifying it. You ought to get an electrical engineer to explain the relation between this installed capacity and the demand used. It is more complicated than that. We have got some around here.

Mr. HINSHAW. I would like to ask you why the TVA is not the best alternate source of power in the interest of national security?

Mr. WILLIAMS. You mean to replace—well, the answer is, we use TVA to the extent possible, but there is still a block of power which we have to generate, and I believe this committee is familiar with the reason for the generation, and that we have to continue to generate. We cannot buy it from TVA.

Mr. HINSHAW. I believe I understand that will not require a further answer. Nevertheless, TVA through converters could be used; could it not?

Mr. WILLIAMS. We looked into that. I cannot speak personally, because that happened before I came to the project, but I understand it was investigated earlier and it was found that it was quite costly and might not prove fully reliable.

Mr. HINSHAW. Are you aware of the installation of Johnsonville steam plant in the TVA?

Mr. WILLIAMS. Yes, sir; I am aware that there is a plant and that they did get some money. That is about the extent of my awareness.

Mr. HINSHAW. Do you happen to know that the distance from the Johnsonville plant site to the Tennessee Gas transmission line is 12 miles?

Mr. WILLIAMS. I do not.

Mr. HINSHAW. An examination of this map will indicate to you the location of the Johnsonville steam plant, which is approximately, as I gathered, about 12 miles, as it appeared to be on the map, from the Tennessee Gas transmission lines.

Mr. WILLIAMS. That would not meet our requirement, even if they had a gas line over there. We still require generation in our own power plant, even though the TVA were assured of all the generating capacity possible.

Mr. HINSHAW. That is not the purpose of my question.

Mr. WILLIAMS. Maybe I was anticipating it.

Mr. HINSHAW. I will arrive at the purpose of my question now. It is my understanding the the Johnsonville steam plant is to use coal. Do you know whether that is correct or not?

Mr. WILLIAMS. I have heard that is true.

Mr. HINSHAW. They are 12 miles from the Tennessee Natural Gas transmission lines.

Mr. WILLIAMS. I have heard that is true.

Mr. HINSHAW. I wonder why they would use coal if gas was found to be so much cheaper.

Mr. WILLIAMS. That I do not know.

Mr. HINSHAW. Do you not think it might be worth investigating from the Commission standpoint? The Commission makes the claim that gas is so much cheaper, and yet the Johnsonville steam plant, 12 miles off the transmission line, not 172 miles, is going to use coal.

Mr. WILLIAMS. I have an idea that at the time—this plant has probably been under consideration for some time—and at the time it was designed and plans made, I have an idea that there was a freeze order on gas and oil and so on. It has probably been under consideration for some time.

I do not know the reasons for using coal. It was probably the same reason they used coal in the K-25 plant in the beginning—that there was coal available.

But the Johnsonville steam plant is probably being put in to firm up hydroelectric power, and I do not know how continuous the operation will have to be. There are a lot of factors that have to come into this in order to get a complete picture.

Mr. HINSHAW. I may say to you that during the debates on the question of the Johnsonville steam plant on the floor of the House of Representatives it was pointed out that owing to the special requirements of the AEC, the Johnsonville plant was a very great necessity, and that was the reason for the building—that was a strong reason for building the Johnsonville steam plant.

Mr. WILLIAMS. We do plan to get additional power from the TVA.

Mr. HINSHAW. And it can be gotten from the Johnsonville steam plant, as I understand it, over the transmission lines of the TVA.

Mr. WILLIAMS. In an emergency, in low-water periods, I suppose that would be true. I do not know all the details.

Mr. HINSHAW. So it was stated for the record, and I presume the AEC must have made some recommendations to the TVA concerning the need for the Johnsonville steam plant insofar as the AEC was concerned. Do you know about that?

Mr. WILLIAMS. In fact, we had plans to enlarge our generating capacity unless TVA could assure us of furnishing this additional power.

Mr. HINSHAW. Then it is not your plan to further enlarge the present facilities for generation of power at K-25 steam plant?

Mr. WILLIAMS. Not for the present addition of the plant.

Mr. HINSHAW. I hope we do not duplicate facilities too much.

That is all, Mr. Chairman.

The CHAIRMAN. Mr. Van Zandt?

Mr. VAN ZANDT. Mr. Williams, on Friday last did you include among the many elements that were available in the vicinity of Oak Ridge gas that caused the location of the installation there?

Mr. WILLIAMS. No, sir.

Mr. VAN ZANDT. I mean coal. I should have said coal.

Mr. WILLIAMS. I did not.

The CHAIRMAN. You included coal.

Mr. WILLIAMS. I said that coal was not a major reason, I believe.

Mr. VAN ZANDT. I checked over the week end, and I found that coal was a factor, one of the factors that served as a basis for the location of the installation in that vicinity.

Now, if the Commission were to be guaranteed the necessary coal, would that be satisfactory for the installation there?

Mr. WILLIAMS. I do not know, sir, if you can consider this a hypothetical question or not that you are asking me, but if we could be definitely sure that every day we would have enough coal to run the boilers, that is our intention. That is our requirement.

Mr. VAN ZANDT. Now, during the consideration of the question of shifting from coal to gas, did you approach the coal operators in the South in an effort to work out an agreement that would guarantee you the necessary stock pile of coal?

Mr. WILLIAMS. Not that I know of.

Mr. VAN ZANDT. Did Mr. Pike?

Mr. PIKE. I do not think so, Mr. Van Zandt. They were well aware that this proposition was up and appeared in opposition to our application at the Power Commission.

If anybody in the coal business had come up and made a livable, workable guarantee of sufficient supply of coal at a price which is competitive with what we are going to get the gas for, we certainly would study it. Nobody did.

Mr. VAN ZANDT. We will hold the question of prices until later. Did you approach the southern operators?

Mr. WILLIAMS. No, sir.

Mr. VAN ZANDT. In an effort to provide a guaranteed stock pile of coal?

Mr. PIKE. No, sir; we did not.

Mr. VAN ZANDT. Did you talk to the United Mine Workers in an effort to work out a moratorium on strikes?

Mr. WILLIAMS. No, sir; we did not.

Mr. VAN ZANDT. In your consideration of the shifting from coal to gas—

Mr. PIKE. I would love to see that done, incidentally.

Mr. VAN ZANDT. Is it not true that during the war they had such a moratorium on strikes?

Mr. PIKE. They had plenty of work stoppages during the war. I do not know whether you call them strikes or not, but when I had to handle pricing of coal during the war, there were plenty of times we had work stoppages. I think they were given a different name.

Mr. VAN ZANDT. Is it not true that during strikes hospitals are furnished coal and other institutions that require coal?

Mr. PIKE. I have heard they were, Mr. Van Zandt.

Mr. VAN ZANDT. And my understanding is that during the war all the labor leaders gave to the Government assurance that they would get the products that were necessary to prosecute the war.

Mr. PIKE. There was real cooperation, of course.

Mr. VAN ZANDT. This is a national defense item, is it not?

Mr. PIKE. We think so.

Mr. VAN ZANDT. Now, when you gave consideration to the shifting from coal to natural gas, did you take into consideration the impact upon the jobs of the railroaders and coal miners in the vicinity of Oak Ridge?

Mr. PIKE. Yes, sir; but we did not weigh it very heavily, and I will be glad to tell you why, because we are spending Government money. Generally speaking, when we get several alternate sources of supply, we take the supply that will give us what we want at the best possible price.

During this last several years at that plant alone employment has run down from 11,000 to about 4,800, a drop of over 6,000 people. It would be quite an intolerable burden on management, it seems to me, when it makes an economy, to have to follow through to the ultimate effects. This is a competitive economy and I realize that 300 or 400 coal miners would probably have to peddle their wares in some other manner, but I do not think it can weigh as heavily with us who have the responsibility of economizing with Government money.

Mr. VAN ZANDT. You realize that the coal business of the Southern Railroad and L. & N. in that vicinity amounts to quite an item?

Mr. PIKE. Yes, sir; my firm used to control Southern Railway at one time, and we are pretty well aware that it hauls a lot of coal.

Mr. VAN ZANDT. In addition to the destructive effects on the jobs of coal miners, it also destroys the jobs of railroaders.

Mr. PIKE. It will cut down a good many cars a day.

Mr. VAN ZANDT. Of course, you realize that the coal miner very seldom shifts his location. He generally stays in one area.

Mr. PIKE. That is right.

Mr. VAN ZANDT. So, while you are talking about saving on one hand, you are destroying the job of a coal miner on the other, and probably forcing the taxpayers of the country to take care of him on relief; so is that a saving to the American taxpayer?

Mr. PIKE. Well, I suppose in the long run it is. This goes to a very tough question, Mr. Van Zandt, as you know very well. You create technological unemployment because you go to a better and cheaper source of supply, and somebody has to absorb those workers who were laid off. I doubt if it is primarily the responsibility of us as managers of an enterprise to carry through in every one of those cases. That is my personal opinion.

Mr. WILLIAMS. If I might, I would like to add a personal remark here. I worked in the coal mines 3 years and I know what it is. I personally feel that you are doing a man a favor if you do something to get him out of the mines and get him into some other business, after my experience in the mines. This is just a personal remark and I say this from experience. I worked 3 years in the mines when I was getting through high school.

Mr. VAN ZANDT. I appreciate the position of the gentleman, but still it is not saving the jobs that are being destroyed by this shift from coal to gas.

Now, a moment ago you talked about the pipe-line certificate that was granted by the Federal Power Commission to the East Tennessee Co. to provide gas, I think, for the city of Knoxville. Is it true that the Commission granted the certificate or did they not?

Mr. PIKE. I do not know, Mr. Van Zandt. It is a completely different application. I have not followed it.

Mr. VAN ZANDT. Is it not correct for me to say that you should have taken that into consideration? You should have checked with the Federal Power Commission to ascertain whether or not they had granted a certificate for this pipe line into Knoxville.

Mr. VOLPE. May I answer that, Mr. Van Zandt?

As I understand there were two applications before the Federal Power Commission by East Tennessee. One was an application for piping gas into Knoxville, which would have been a separate route; the other was to pipe gas into Oak Ridge. The East Tennessee Co.

could not go ahead with their application for piping gas into Knoxville, but did go ahead on their application to pipe gas into Oak Ridge.

Now, at the time the application was heard for piping gas into Oak Ridge, the Federal Power Commission did consider the question of whether or not if this certificate was granted there would be a supply of gas for the pipe into Knoxville and the other communities, and the Federal Power Commission was assured by Tennessee Gas & Transmission that there would be a supply of gas, so that, in brief, they did not go ahead with their application for piping gas into Knoxville but went ahead with their application for Oak Ridge.

Mr. VAN ZANDT. We have here evidence of the fact that the certificate was granted and since the AEC came along with this new pipe line they have abandoned the construction of the pipe line for which they have been granted the certificate.

Now, getting back to the coal miners, again: Mr. Williams, if we are to follow your observations, I would like to ask you the question of who is going to mine the coal that is necessary for the country?

Mr. WILLIAMS. Well, the demand for coal, in spite of temporary discontinuances here and there, I believe, has been mounting steadily, and I think that the men will have work—all those who want to work—and I think that possibly if you got into all the details of putting men out of work in the mines, that if you looked at some of the mines in West Virginia that I am somewhat familiar with, that I worked in, that there probably have been some men displaced, quite a few, by the mechanization of the mines.

Mr. VAN ZANDT. But still we have unemployed miners today.

Mr. WILLIAMS. That is probably the reason—I mean for a large number of them.

Mr. VAN ZANDT. Well, in Pennsylvania we have unemployed miners because the demand for coal has fallen considerably.

Mr. WILLIAMS. The demand has fallen considerably at the present time. The demand for coal, I suppose, is seasonal; but the over-all demand, from year to year, I believe has gone up.

Mr. VAN ZANDT. One more question, Mr. Chairman.

I would like to ask, Mr. Pike, whether or not a message had been conveyed to you from the chairman of this committee in which the Commission was asked that they should delay—or that it was suggested, rather—suggested that they should delay any further action on the construction of this pipe line?

Mr. PIKE. The chairman of the committee did not speak to me, sir.

Mr. VAN ZANDT. I wonder if Mr. Shugg is present?

Mr. PIKE. That is right.

Mr. SHUGG. Yes.

Mr. VAN ZANDT. Mr. Shugg, is it not correct that the chairman of the congressional committee suggested to you that it might be wise for the Atomic Energy Commission to stop the construction of this pipe line immediately?

Mr. SHUGG. I received a telephone message on that, Mr. Van Zandt, and passed that up to the Commission.

Mr. VAN ZANDT. Up to the Commission? You mean Mr. Lilienthal?

Mr. SHUGG. And——

Mr. PIKE. To me.

Mr. SHUGG. (continuing). One other member.

Mr. PIKE. I know what you mean.

Mr. VAN ZANDT. What consideration did you give to that request or to the suggestion of the chairman of this committee?

Mr. PIKE. We immediately got to work trying to get up a letter to obtain a reconsideration, but frankly there were so many things happening in such a short time that I am not very clear—

Mr. VAN ZANDT. You received the suggestion and apparently did nothing about it?

Mr. PIKE. I took it up with the Commission, I think, the next time we met; whether it was the next morning or not, I am not sure. We had several days go by without doing it at a Commission meeting at all. I would have to check the record on that, Mr. Van Zandt.

Mr. VAN ZANDT. Well, apparently the Commission disregards entirely the suggestions of this committee, and—

Mr. PIKE. I do not think that has been our policy, Mr. Van Zandt.

Mr. VAN ZANDT. Apparently; no action was taken. You must understand that we, the members of the committee, represent various sections of the country, and we have the economy of this country at heart just the same as you people should have, and our suggestions are apparently tabled; period.

Mr. PIKE. We have the economy of the AEC at heart, and as Mr. Williams has said, and Mr. Volpe, here is a contract on which work was not stopping. They had been very busy raising finances, they had been very busy getting their pipe; pipe was just being delivered; they had what they believed was a valid contract with us, and they kept on at work. I seriously doubt if we should stop that, Mr. Van Zandt. I do not mean that means any disrespect to that committee at all. I certainly am sure that none was ever intended.

Mr. VAN ZANDT. That is all, Mr. Chairman.

The CHAIRMAN. Mr. Elston?

Mr. ELSTON. Mr. Chairman, I just want to refer to the application for a rehearing before the Federal Power Commission. I have now been handed a copy of the application. It is dated June 1, 1949, and was filed by the National Coal Association, United Mine Workers of America, and the Railway Labor Executives Association, and, according to the application, the East Tennessee Natural Gas Co. was served with a notice of the application for a rehearing, and the Atomic Energy Commission was also served with a notice of this application for a rehearing.

Senator HICKENLOOPER. What was the date of service, Mr. Elston; does it show there?

Mr. ELSTON. The date of service does not appear.

It simply is a certificate—yes, certificate states:

I hereby certify that I have today served a copy of the within application and memorandum upon the following-named parties to the proceeding by depositing the same in the United States mail—

and the certification is dated June 1, 1949, and is signed by Tom J. McGrath, 324 Shoreham Building, Washington, D. C., who is the attorney for the parties asking for the rehearing.

Mr. VOLPE. Mr. Chairman?

The CHAIRMAN. Mr. Volpe.

Mr. VOLPE. I recall now the motion Mr. Elston had reference to. There has been no action taken, and you will recall that the coal association intervened in the application by East Tennessee, and they

participated in the proceedings, which took place before the Federal Power Commission on their request for a certificate.

The application now referred to for rehearing was made by the National Coal Association after the certificate was issued, and I do recall now that we have received a copy of it.

Mr. ELSTON. Do I understand you paid no attention to the application?

Mr. VOLPE. Mr. Elston, it is not for us to pay attention to the application of the National Coal Association. This is a problem for the Federal Power Commission.

Mr. ELSTON. If the Federal Power Commission grants the application for a rehearing and turns down the certificate which has already been granted, it seems to me that you would be very much interested in it.

Mr. VOLPE. Mr. Elston, whether the Federal Power Commission will take any action to hold matters in status quo, I do not know. They have issued a certificate to East Tennessee and, so far as I know, the Federal Power Commission has not advised Tennessee or the Atomic Energy Commission that they intend to disturb that certificate.

Now, they may want to, on their own motion, direct East Tennessee not to take any further action; but the proceedings in connection with the certificate are entirely in the hands of the Federal Power Commission.

Mr. ELSTON. If the certificate is granted, the application is granted, and the certificate is refused on rehearing. Then, of course, your contract does not mean anything; does it?

Mr. VOLPE. That is right. The contract is made subject to East Tennessee's getting a certificate from the Federal Power Commission.

Mr. ELSTON. Notwithstanding the fact that the refusal now to go ahead and grant a certificate might stop all the work, are you going ahead with the contract just the same?

Mr. VOLPE. Mr. Elston, we have at the present time a legally binding contract with East Tennessee. At the present time, in view of the fact that the Federal Power Commission has issued a certificate, if we stop work under that contract the United States Government is liable to East Tennessee for damages, because East Tennessee has complied fully with the terms of the contract since they have obtained a certificate.

Mr. ELSTON. Well, the certificate might be recalled, and if the certificate is recalled by the Federal Power Commission there would be no liability; would there?

Mr. VOLPE. That is true, sir, but that is not true of the present position, because they do have a certificate at the present time.

Mr. ELSTON. Yes, but there is an application for a rehearing pending before the Federal Power Commission.

Mr. VOLPE. Well, as Mr. Elston well knows, an application does not in any way minimize the Government's responsibility under this contract for damages in the event that the Government took action to rescind the contract.

Mr. ELSTON. If the Federal Power Commission rescinded the certificate, there would be no obligation on the part of the Commission.

Mr. VOLPE. That is true, but that is not the situation at the present time.

Mr. ELSTON. You do not know that they will not rescind it.

Mr. VOLPE. I do not, sir.

Mr. ELSTON. And yet you are going ahead with all the terms and provisions and conditions of the contract.

Mr. VOLPE. We have an enforceable contract at the present time, and what I am saying, sir, is that in the present state of affairs with a valid certificate issued by the Federal Power Commission, if we interrupt the contract—I mean if the Commission were to find that there was some reason for interrupting the contract at the present time—we would be liable to East Tennessee for damages.

Mr. ELSTON. Even though there is application for a rehearing pending?

Mr. VOLPE. Yes, sir. The application in no way affects that contract.

Mr. ELSTON. That is all.

The CHAIRMAN. It is correct to say that this is in line with respect to the present controversy, but I think it is worth while pointing out for the future that there is a provision in the act that, whenever atomic energy is developed far enough to be useful in our national economy, a license cannot be granted by the Commission for its use as a motive power, or any other way, until the Congress had an opportunity of 90 days within which to approve that proposed permit or license. I just want to make the observation.

Along the lines of Congressman Van Zandt's statement of displacing the coal miners, I imagine the hearings, if and when they come at some future time, will provide a most interesting time for the Congress in making such a determination. We do not have to worry about it, I am very happy to say, in one respect right now, but someday we are going to have to face that.

Now, if we are through with this phase of the matter——

Mr. WILLIAMS. Might I say something?

The CHAIRMAN. Yes.

Mr. WILLIAMS. I would like to point out, as a last remark, that on the question of laying people off or having people out of work, since about August 1945 we have laid off in the interest of economy at Oak Ridge, in the interest of economy to the taxpayers, something over 20,000 people. I could give the exact figures, but I know it is well over 20,000 people, and we have done it in the interest of economy.

Mr. COLE. Mr. Chairman?

The CHAIRMAN. Mr. Cole?

Mr. COLE. I would like to inquire of Mr. Pike whether he knows anything about the corporate structure, the incorporation, the incorporators, the stockholders, of the East Tennessee Co., which was, I understand, organized solely for the purpose of building this line.

Mr. PIKE. I have not had that in my head, but I think it is very easily available. We can furnish it very quickly.

(The information referred to above is marked "Exhibit 16" and will be found in the appendix.)

Mr. COLE. Was any inquiry made by the Commission?

Mr. PIKE. Yes, sir; we took a look at it. Very briefly, they seemed to be adequately financed. Of course, that is really up to them, and I believe the thing—and, of course, the Federal Power Commission in

its hearings goes into the ability to perform. They got their money; I believe they are quite adequately financed. I do believe it was formed very largely for these two purposes. It is a new company. I do not happen to know the people in it very well. I have met them at one or two of the hearings.

Mr. COLE. Are any of the people connected with East Tennessee in that venture connected by employment or relationship or kinship with anybody in the Atomic Energy Commission?

Mr. PIKE. Not that I have heard of.

Mr. COLE. Or in the Commission's enterprises?

Mr. PIKE. Not that I heard of. I would be very much surprised.

Mr. COLE. Do you know that the East Tennessee Co. is getting its financing from Government sources or not?

Mr. PIKE. I understand it is not. The record ought to be pretty clear. I understand they got their finances in New York; I think from some insurance company.

Mr. COLE. Do I understand that in your opinion this pipe line will pay off its cost in 10 years' time?

Mr. PIKE. I am not quite sure about the time. I think we sort of know semiofficially that they are putting in a line that will carry about 100,000,000 feet. They plan, as I have been told, to extend this line farther east into Tennessee to—let me see, I think Bristol—Johnsonville.

Mr. COLE. Whether it pays off in 10 years then will depend on the extension and the consumption out of the extensions, or will the 10 years' pay-off be reached through AEC consumption?

Mr. PIKE. Well, it would be reached quicker, of course, if they could fill the whole 100,000,000 feet, but I think they have figured that they can amortize this line selling gas by reason of the saving over the present cost of coal, and I do not know the time in which it will pay off.

Mr. COLE. Did the Commission give any consideration to the idea of building this line itself in view of the fact that it was apparently so profitable?

Mr. PIKE. Yes; we did think of it. We did think of it. I do not know how formal the thinking was, but I remember in several of the early discussions there was a real question as to whether we ought to put up 8 or 10 million dollars of the Government's money and go over there and tie into the East Tennessee line.

Mr. COLE. If it would pay off in 5 or 6 years, I think you would be amply justified in doing that.

Mr. PIKE. I think the "5 or 6 years" statement was an optimistic statement.

Mr. COLE. You say you are saving a million and a quarter each year.

Mr. PIKE. For us, yes. I think we could have shown a bigger saving, but one reason I would have rather been against it—one reason is that we are in every kind of business, and we have to be; and the second thing is, while this initially comes over with us as the only customer, it is completely obvious, with the history of the natural-gas business, that, when you run a line through, eventually people along the line will want gas from it, and you run extensions, and in

the long run this will probably be as much of a utility line as it will a line for us. We did think of it, and we made the decision not to go forward with that piece of Government construction. I am inclined to think that I would still——

Mr. COLE. You are satisfied that there is nobody connected financially or interested financially with the East Tennessee Co., who is directly or indirectly connected with the atomic energy program?

Mr. PIKE. I have never made any investigation, but I would certainly be very much surprised to find that anything of the case were true.

The CHAIRMAN. Now, if there are no further questions on this matter, we can proceed to another matter which Senator Hickenlooper wishes to inquire into.

I will say to the Commission, and its Chairman, that Senator Hickenlooper intends to inquire into the matter of the school at Hanford, the high school.

Will you please come forward and bring your witnesses.

**STATEMENT OF DAVID E. LILIENTHAL, CHAIRMAN, ACCOMPANIED BY CARLETON SHUGG, DEPUTY GENERAL MANAGER, AND JOSEPH VOLPE, JR., GENERAL COUNSEL, UNITED STATES ATOMIC ENERGY COMMISSION; AND H. A. WINNE, VICE PRESIDENT IN CHARGE OF ENGINEERING, F. E. BAKER, CONTROLLER, AND G. R. PROUT, VICE PRESIDENT, NUCLEONICS DEPARTMENT, GENERAL ELECTRIC CO.**

Senator HICKENLOOPER, Mr. Chairman, just for the sake of the record and without engaging in any controversy on this point, I would like to again recall that at the beginning of these hearings I wanted to use a substantial number of investigative cases to illustrate the mechanics of the procedure, but there was considerable objection raised, and the objection of civil rights and exposure, danger of exposure, of things was brought up.

But it is interesting to note that when the Bulletin of the Atomic Scientists in September of 1948 wants to take the case of Dr. A and abstract it, very favorably to Dr. A, the case of Dr. B and abstract that with favorable comments toward Dr. B, and the case of Dr. C, and a column or two about the alleged information contained in the file, the case of Dr. D and alleged information that is contained in the file, the case of Mr. E, the case of Dr. F, the case of Mr. G, with alleged statements of information contained in the investigative file, I heard no objection to the fact that civil liberties were being invaded; and I may also call your attention to the fact that I had no intention in the cases I was using of even attempting to abstract the information which was in the file.

It has caused some considerable editorial comment, these particular cases, and I would like, just for the sake of the record, to have this article called Some Individual Cases of Clearance Procedures, beginning on page 281 of the Bulletin of the Atomic Scientists for September 1948, be placed in the record at this point—just for the information therein contained.

(The article referred to is as follows:)

SOME INDIVIDUAL CASES OF CLEARANCE PROCEDURES

(By Committee on Secrecy and Clearance, Federation of American Scientists)

[This report illustrates in greater detail some of the findings of a survey on clearance procedures reported by the federation's committee on secrecy and clearance in the April and June issues of the Bulletin. Members of the committee are: S. H. Bauer, chairman, H. A. Bethe, L. M. Brown, P. J. W. Debye, G. K. Fraenkel, A. R. Moore, P. Morrison, R. S. Rochlin, and R. R. Wilson]

In previous articles 7, 8, this committee has reported the results of a questionnaire survey designed to obtain information on loyalty clearance procedures affecting scientists. These questionnaires were sent to the directors of representative Government and non-Government laboratories. We have, in addition, received many reports from individuals giving accounts of their personal experience with these procedures, and it is a sample of these reports which we present here.

This committee mailed in November 1947 a general request to members of the Federation of American Scientists to inform us of any cases known to them of allegedly unfair clearance procedures. In this manner we learned of 76 cases, of which 56 involve scientists.

In general, it is difficult to obtain such information. If an individual is denied clearance, he hesitates to inform even his friends because of the implied reflection on his character, however unwarranted the clearance denial may be. Therefore, the response to our request probably represents a small fraction of the total number of cases.

In view of the widespread interest in clearance problems, this committee has felt it desirable to make public a selected number of these individual cases in detail. We have, of course, no way of checking the veracity of each letter sent to us. We can state only that, in each case described below, the facts are taken directly from a letter in our files, signed by the individual concerned, and that specific permission to publish this information was obtained from each individual. For obvious reasons we have eliminated any details which would identify these persons.

THE CASE OF DR. A

Dr. A was offered a post as physiologist P-6 in an Army laboratory. He was informed that he had been cleared by Military Intelligence. Turning down other offers, he moved to the east coast from California, where he had been living for 20 years, to assume his duties. Prior to this, he had had 15 years of research experience at universities.

Dr. A. reports in a letter to this committee:

"\* \* \* Two months after I arrived here I was abruptly informed that the clearance I had received was only an interim one and that I was not cleared. I was offered the alternative of resigning 'without prejudice' or of being suspended. I was curtly informed an appeal would be fruitless and if suspended I would be ultimately dismissed 'with cause' and it would be so entered into my record. That evening, at the quarters of a representative of the Military Intelligence, where I demanded to know the reasons, I was told that there were no charges against me but that Military Intelligence considered me a potential 'risk' for the following reasons:

"(1) The birthplace of my parents.

"(2) I was a member of the Federation of Atomic Scientists.

"(3) I was a member of the Independent Citizens Committee of the Arts, Sciences, and Professions.

"(4) I knew too many left-wing people like the late ———.

"All the above information was, of course, incorporated in the PSQ form on which I had been given my original clearance. On the basis of the above, I was considered to be either a Communist or a 'fellow-traveler.'

"For your information, I am a Democrat, considered liberal by those who know me. I am not now, nor ever have been, a Communist or 'fellow traveler' (whatever the latter means). Furthermore, I view with equal repugnance dictatorships of either the left or the right. In addition to a good academic research reputation I have a 4½-year record of accomplishment as responsible investigator for OSRD-cmr and BuMed and Surgery projects. These were carried on during the war while I was at ———, and were highly classified."

Dr. A decided against resigning and so was suspended "in the interests of national security" without a hearing. Five months later, the Secretary of the Army ordered his reinstatement and stated that the "action taken was unjustified." He received his back pay and an apology. He then resigned to accept a better position.

#### THE CASE OF DRS. B.

Drs. B, husband and wife, had worked for a large electrical company as physicists, for 5 and 10 years, respectively. In October 1946 they were persuaded to accept positions doing nonsecret work at the Brookhaven Laboratory of the Atomic Energy Commission and made arrangements to leave:

"We purchased a house \* \* \* and in January 1947 we moved \* \* \* to Long Island. On our moving day we heard for the first time that our clearances were being held up. We were given no reason and could think of none. Dr. ——— was sure that the matter would be cleared up shortly although he wrote us saying that he could not make any commitment concerning our possible connection with Brookhaven later. In our conversation he requested us to refrain from any discussion of our case since he felt that publicity might be prejudicial to us. We could see that it would be undesirable from the laboratory's viewpoint and we agreed to this procedure.

"We then entered upon a period of uncertainty and virtual isolation which was to last until the middle of August, although periodic calls to Dr. ——— and other Brookhaven personnel elicited assurances that the matter would be settled in a week or two. Early in March we were visited by two representatives of the FBI who questioned us for an hour or so. Some of their questions concerned a college friend whom we had not seen for 6 years, and who was arrested during the Canadian spy scare. We attributed our difficulties to this connection for 2 days, but then our friend was acquitted, completely exonerated, and reinstated in his job at Queen's University. This apparently had no effect on our case. The FBI were also interested in our acquaintances among the UERMWA, the union under which the ——— workers were organized. They probed into our opinions and activities during the ——— strike and questioned us regarding our opinions of communism, international control of atomic energy, and the appropriate treatment for spies and saboteurs. In spite of the unpleasant implications of such questions we tried to cooperate as thoroughly as possible and to make it obvious that no reason existed for questioning our loyalty and integrity.

"Nothing further happened until July 9 when we were invited at 7 a. m. to go to Washington that same day at our own expense for a 'hearing.' One of us flew to Washington where he was questioned by a three-man group which was willing to identify itself to us only to the extent of stating it was not part of the AEC organization. The hearing covered exactly the same ground as had been covered 4 months before by the FBI.

"This expedition also produced no visible results. By this time even Dr. ——— agreed that no further purpose was to be served by reticence and we brought our situation to the attention of the Federation of American Scientists. The Federation wrote to the AEC early in August in our behalf making a strong request that our case be decided one way or the other. Perhaps as a result of this letter, or possibly by coincidence, we were granted provisional clearances on August 14 and shortly after started work at Brookhaven.

"We still have had no explanation of the delay. We are still working under provisional clearances. And we have had no compensation for the half-year period when we were without income."

#### THE CASE OF DR. C

Dr. C is a biologist of 19 years' experience who has published more than 60 papers. In 1946, he was made chief of a section at a United States Army research laboratory. This position terminated without notice or explanation after he had been there for several months. He gives his story as follows:

"\* \* \* Colonel X, the director of the Y laboratory, called me into his office, closed the doors, brought in Lt. Col. ——— as a witness, and told me he had received an order from the commanding general of Y to terminate my services, because I could not be cleared for access to classified documents. I explained that I had already been cleared during the war, had read numerous secret documents in the course of my work, and was myself author of a number of classified publications, and the holder of patents pending with the Army and

Navy, likewise classified. Col. X then said that if I resigned straightaway, nothing further would be said about the matter. I replied at once that I would do nothing of the sort, as it would be tantamount to an admission of guilt concerning charges of which he refused to apprise me, and of which I was ignorant (and still am).

"I made preparations for leaving early the following morning to look for a job in Washington, and returned late the following night to my quarters in one of the officers' barracks \* \* \*. The next day a GI entered my bedroom at 6:20 a. m. without knocking and ordered me to report to the kitchen. He returned a short time later, and said he had orders personally to conduct me there, and that a civilian on a military reservation had no civil rights, but was subject to military discretion. By this time I was fully roused and half dressed, and telephoned the officer in charge at the mess to inquire what he wanted. He said that he had been looking for me all the previous day, and ordered me to vacate my room at once. I explained that in the course of 2 months I had brought many of my personal effects, books, and some paintings, and it would take some time to pack them. He replied that if I did not follow his orders he would send over some soldiers, and throw the stuff out.

"With the aid of a number of friends, and a borrowed car, I managed to collect cartons, and pack my things \* \* \*. At lunch time I ran into Colonel X, who was accompanying a civilian who was considering a job at Y. The latter asked me how things were. I felt obliged to tell him frankly what had transpired and in the presence of Colonel X, who did not contradict a single word. In the presence of this person Colonel X also suggested that I explain to anyone inquiring why I had left Y. that I had done so because I did not like the place. I replied that I would tell no such untruth to anyone."

Dr. C then spent several weeks trying vainly at various places, including the Pentagon building and the Civil Service Commission, to ascertain the charges presented against him.

"\* \* \* At G-2 HQ (military intelligence) in ———, I had rather a unique interview with Colonel ———, who refused to tell me what charges were preferred against me (even though as I subsequently learned this is required in the Civilian Personnel Regulations), denied some of the basic principles of civil service, and blew up because I recorded his statements in a notebook. I even showed him what I had written.

"I might state here that I have never been a member of the Communist Party, and know practically nothing of their activities. \* \* \* Why I was denied clearance at Y, after having (previously) been cleared at the ——— laboratory, I have been unable to ascertain. Both my parents were born in Kovno, Lithuania (formerly Kovno, Russia). I subscribe to PM, In Fact, The New Republic, Consumers' Union, and receive about a dozen scientific publications. After the war I received a letter of commendation from the group leader and a certificate of effective service from the OSRD."

After 5 months of unemployment, Dr. C secured another position doing unclassified work. In spite of the fact that he was not able to learn the charges against him, much less contest them, he is apparently not to be given the chance to be judged on his merits in his new job.

"\* \* \* After having been at the Z laboratory about 6 months, I was informed only recently that the Army's Central Intelligence Bureau, unsolicited, sent representatives to the Assistant Director of Z, and to the chief of the laboratory I have been working in, to make representations concerning me. It appears that the Army proposes to 'hound' me out of any position I may succeed in obtaining. There is no question that the Y dismissal has made it difficult for me to obtain another job, as my subsequent attempts demonstrated. This is true despite the fact that the report of the President's Scientific Research Board \* \* \* bewails at great length the shortage of adequately trained and experienced personnel to attack the Nation's urgent health problems. \* \* \* It may be appropriate to point out at this juncture that these health problems are as yet unclassified projects."

#### THE CASE OF DR. D

Dr. D, a young physicist, had recently received his Ph. D. and had been employed in the research laboratory of the ——— Co. at the time he was refused clearance. So sure was he that a mistake had been made in his case, and so important to his future did he consider this action, that he spent a year and a half trying to obtain a statement of charges and a hearing, first from the Man-

hattan District and then from the Atomic Energy Commission. He did not succeed, however, and in a recent letter to this committee, he wrote:

"Frankly, I'm quite discouraged and am ready to give up. I'm looking for a university position now. \* \* \* I hope I never hear the word 'clearance' again. This is probably running away from my problem, but I've wasted enough time here, and I've got to get out and do some physics."

Some of the experiences in trying to find out the reasons why he was not cleared may be of interest:

"On October 14 I spoke to Lt. ———, officer in the area engineer's office here in charge of clearance. He told me some things that were not responsible for my not being cleared, and then lectured briefly on the evils of organization in reference to an organization I had belonged to in ———. However, he would not commit himself to the statement that this was the reason for refusing my clearance. In fact, he said that there was 'something' further about the case that he would like to tell me—for your own good—but that he could not for security reasons. He said that my record indicated no reason to doubt my personal loyalty. In answer to my query as to what I could do, since I did not feel satisfied, he suggested that I ask the ——— Co. to request a review of the case."

This request was made, and clearance was again refused. The organization mentioned above, membership in which was the only specific item mentioned by any official in a year and a half of searching by Dr. D, was described by him as follows:

"[It was] a group whose purpose was to work for equality of opportunity for all people, regardless of race or color \* \* \* The objectives of the organization, \* \* \* were in accord with those of churches and other humanitarian organizations with whom they cooperated \* \* \* Typical examples of things we did are: \* \* \* participated actively in campaigns to try to obtain fair employment practice legislation; visited the mayor of——to urge him to act to stop an upsurge of racial prejudice and discrimination in the city, and made concrete suggestions for a city-wide educational program on racial tolerance; drew up definite plans for public housing programs for low-income groups, into which class most of the people of the organization fell; spoke to managers of establishments known to discriminate against Negroes, and tried to convince them that such action was morally wrong and in violation of existing \* \* \* State laws. \* \* \*"

In addition to the above, Dr. D points out in considerable detail that while he was a member he never had any reason to suspect that any members of this organization were Communists, and that ever since 9 months before applying for clearance he has had no relations with this group or its members.

#### THE CASE OF MR. E

The author of the following letter was refused clearance and dismissed from the research laboratory of a prominent electrical manufacturing company. He writes:

"A year ago [December, 1946] I was summoned to the office of Dr. ———, head of the laboratory, and was abruptly told to submit my resignation because I had not been cleared by the Army for ——— work. This came as a complete shock as I had been employed by the laboratory for seven and a half years, including the war years when I had been covered by security clearance. For these reasons, I was referred to the V laboratories security officer who told me nothing but suggested 'that they know who my friends were.' This may have referred to my personal or my social friends; I do not know. No appeal was possible. I was subsequently informed that the 1-month period initially given me 'to get out' was modified to cover such time, up to several months, as was necessary for me to find employment elsewhere. Dr. ——— and other laboratory managerial personnel had meanwhile received protests of other members of the laboratory who either felt there had been no previous understanding that failure to receive clearance would result in dismissal or who felt that I had been treated too harshly. In no manner, to repeat, was I given either the opportunity to appeal my case or to learn any more definitely the reasons for my failure to receive clearance."

"To make matters worse, the V Co. was able to use me on nonsecret work at their J laboratory, for I was asked to make a visit there for an interview. This interview, however, was canceled by the J people after 'checking with the research lab in——.' Similarly while I was visiting [a separate industrial firm] where clearance was no issue, my interview was abruptly terminated—they informed me they had 'checked with the V research laboratory in——.'"

## THE CASE OF DR. F

Dr. F is a physicist and mechanical engineer who had worked for a number of years in the aircraft industry. In his case failure to obtain clearance has had rather drastic effects. He states that inasmuch as practically all work being done in aircraft research is being financed by the armed services, his clearance difficulties practically eliminate this field of employment for him.

During the war, Dr. F had been cleared by Navy Intelligence, Army Intelligence, and by the FBI (for OSRD). After the war, he was employed by a large aircraft company on an Army Air Force project. Application was made for clearance early in 1946. Dr. F was transferred to other work of a nonsecret nature and when this was completed he was given a leave of absence without pay. Later he received a letter from the company which said in part:

"Notice was received by us in January 1947 that your services could not be used on classified projects, pending complete investigation. Following receipt of this notice, we \* \* \* assigned you to unclassified work. When the unclassified work available was completed, and your clearance had still not been received, there was no alternative but to terminate your employment.

"Your work had been satisfactory, and inasmuch as a large amount of classified work for which you were qualified has continually existed since your termination, it is probable that your employment by us would have continued, provided that your clearance for access to classified information had been received."

In Dr. F's letter to this committee he states:

"The 'complete investigation' is presumably still going on [March 1948]. I am on leave of absence without pay; I am neither cleared nor uncleared.

"Mr. —, the local AAF leg man in such matters, tells me that there are cases in which this indeterminate condition has existed for 18 months and is still going strongly. My offer to aid in the investigation was declined. I voluntarily wrote a long letter giving my views and personal history in practically every category which I thought might have bearing. \* \* \* I have been unable to find the reason for the delay or the nature of the difficulty. \* \* \* I do not know of any action which I can take which will stimulate a decision. \* \* \*

"I applied for a job requiring Navy clearance. The same day the local office of Naval Intelligence was able to inform my prospective employer that, \* \* \* they also would not be able to clear you for confidential work.' Again no hint as to the reasons, no effective method of review.

"I have discussed employment with the head of the mechanical engineering department of — University. I learned that approximately 99 percent of the funds currently being spent on research are supplied by the Navy and that again the Navy clearance is required of all university employees who participate in the spending of this money. Needless to say, my probable difficulty in obtaining this clearance did not enhance my value as a prospective employee."

In the letter mentioned above, which was addressed to the general in command of the AAF project for which clearance was refused, Dr. F' states, in part:

"As opposed to any existing or proposed alternative forms of government, I much prefer our own, I have repeatedly defended its virtues in arguments with people who advocate other systems. By and large, I subscribe to the editorial policies expressed in the Wall Street Journal, Fortune, and Time magazine. I have been a subscriber and reader of all of these publications for several years. \* \* \*

"I view with great apprehension the rising tide of communism throughout the world. I favor all measures, including a vigorous military research and development program which will strengthen us and our Government."

## THE CASE OF MR. G

Mr. G is a chemist who has traversed a complex path of clearances and denial of clearance for a period of 2 years. For 4 years previous to the events described below, he had worked on various classified projects including 3 years during the war with the Manhattan District. During this time, his clearance status was not questioned.

Early in 1946 he was asked to join a group urgently needed at Los Alamos to work on the Bikini atomic bomb tests. Mr. G made immediate plans for leaving, but the day before his planned departure, a telephone message was received stating that he had not been cleared. He writes:

"This came as a shock to my wife and me. \* \* \* I know of absolutely no reason why I should not be cleared. I have never belonged to any subversive

organizations nor taken part in any subversive activities, nor has my wife. \* \* \* The denial of clearance resulted in a series of indignation meetings among my associates. \* \* \* Dr. ——— who had gone on to Los Alamos, had been told that my case had gone up to the highest authorities, who had personally refused my clearance. Accordingly, on February 21, I sent a telegram to Gen. Leslie R. Groves asking either that I be cleared or be told the reason why clearance was refused. \* \* \* On February 26, I received a reply from General Groves:

"Apparently there has been some misunderstanding concerning your clearance status. I have checked into this matter and find that you have been cleared for employment at Los Alamos—Maj. Gen. L. R. GROVES, *Manhattan District, Washington, D. C.*"

Upon arrival at Los Alamos, Mr. G was told to make preparations for going overseas, which he did. Three days before the party left, however, the laboratory director told Mr. G that he was unwilling to request the additional clearance needed for leaving the country, as he anticipated trouble in obtaining it. A few days later the same official told Mr. G that there was not the slightest doubt but that he would have been cleared to go overseas, but that he was needed to take charge of ——— at Los Alamos.

When Mr. G returned from Los Alamos he inquired about the possibility of becoming a consultant-without-pay to the AEC laboratory at which he had been employed during the war. He writes:

"\* \* \* Reasons for doing so were: (1) I had been assured that provided the work was of the proper quality, I could use as thesis material for a Ph. D. degree some of the work I had done for the ——— Laboratory; and (2) some members of the laboratory staff were interested in having me available as a consultant on those problems with which I had been directly connected. \* \* \* Again, it was necessary that I be cleared."

Mr. G waited for 3 months and was then told he could not be cleared. In February 1947 he wrote a long letter appealing his case directly to the Atomic Energy Commission. Twelve months later he was granted partial clearance for "access to files" to complete his thesis. He has not yet been told whether he can be employed again at an AEC laboratory. In his letter to the AEC, Mr. G wrote, in part:

"The clearance difficulties in which [I] have been involved raise a number of questions which seem to lead to inconsistencies. The telegram which I received from General Groves states that 'apparently there has been some misunderstanding concerning your clearance status.' But if the denial of clearance was really the result of a misunderstanding, why should there have been any question concerning my clearance to go overseas [or to work at the] ——— Laboratory? \* \* \*

"The personal results of [my] security difficulties have been many. [I] have suffered financial loss, personal discomfort, and great personal embarrassment. \* \* \* The implications, moreover, are far reaching in their effect and can quite conceivably prejudice one's status for many years. \* \* \* Since being first employed by the Manhattan District, I have planned to make this field my life work and to go back to work in one of the national laboratories concerned with atomic energy when I have obtained my Ph. D. degree. Now, unless a change in decision is made, this is no longer possible. \* \* \*

"However, the broader implications of the denial of clearance are, of course the more important, far-reaching ones. The fact that a man can be judged without knowing what is held against him and without having a chance to clarify his position is intolerable. A security system based upon such false premises seems entirely incompatible with a democracy. It is only reasonable and just that one should know the facts in his own case and have an opportunity to speak in his own behalf. I should welcome an opportunity to do so."

#### REFERENCES

1. Bradley, O. N. Security Clearance of Aliens and Citizens in Plants of Army, Navy, and Air Force Contractors. Official Army Memorandum No. 380-5-10, dated April 2, 1948, 32 pages. (Includes standards for clearance and appeal procedures. Published by Department of the Army, Washington, D. C.)
2. Compton, K. T. Science Fears an Iron Curtain. *Nation's Business*, 36, 47 (June 1948). (A member of the AEC Personnel Security Review Board warns that scientific progress is stifled in an atmosphere of secrecy or witch hunting.)
3. Condon, E. U. Science and Security, *Science*, 107, 659 (June 25, 1948). (General discussion of issues involved.)

4. Davies, T. H. Security Risk Cases—A Vexed Question. *Bulletin of the Atomic Scientists*, 4, 193 (July 1948). (Urges AEC to clarify the criteria used for clearance.)

5. Editorial notes. Restrictions on the Civil Rights of Federal Employees. *Columbia Law Review*, 47, 1161 (November 1947). (Extensive treatise on legal aspects of loyalty order and other restrictions. 29 pages and 90 footnotes.)

6. Ellis, E. D. American Civil Rights in a Revolutionary Age. *Forum*, 109, 65, 129, 193 (February, March, April, 1948). (Discussion of the ideological background, congressional investigations, and loyalty determination.)

7. Federation of American Scientists. Loyalty Clearance Procedures in Research Laboratories, *Science*, 107, 333 (April 12, 1948), and *Bulletin of the Atomic Scientists*, 4, III (April 1948). General survey which includes bibliography supplementary to this one.

8. Federation of American Scientists. "How Far Should Military Censorship Extend?" *Bulletin of the Atomic Scientists*, 4, 163 (June 1948). (Describes interference by the military with attempts to study clearance problems.)

9. Gerson, M. and Lesser, M. L. AEC Loyalty Procedures and Civil Rights. *Bulletin of the Atomic Scientists*, 4, 197 (July 1948).

10. Grisworld, E. N. et al. Letter to the editor, *New York Times*, April 13, 1947. (Dean and several professors of Harvard Law School criticize Truman loyalty order.)

11. O'Brian, J. L. Loyalty Tests and Guilt by Association. *Harvard Law Review*, 61, 592 (April 1948). Reprinted in *Bulletin of the Atomic Scientists*, 4, 166 (June 1948). (Includes 38 references.)

12. Star, S. A. Loyalty Investigations—A Poll of Atomic Scientists. *Bulletin of the Atomic Scientists*, 4, 218 (July 1948). (Surveys attitudes of scientists on Condon case and related issues.)

13. United States Atomic Energy Commission. Interim Procedure (for cases before local personnel security boards). Dated April 15, 1948. 12 pages, mimeographed. Partially summarized in press release of May 20, 1948, which appeared in *Bulletin of the Atomic Scientists*, 4, 1948 (July 1948). (Full text obtainable from United States Atomic Energy Commission, Washington 25, D. C.)

14. White, S. Dispatches on Oak Ridge loyalty hearings, with statements of charges made. *New York Herald Tribune*, May 19, 24, and 29, 1948; editorial, May 20, 1948; letters to the editor, May 27, 28, and 31, 1948, and June 1, 1948. Much of this material is reprinted in *Bulletin of the Atomic Scientists*, 4, 194 (July 1948).

The CHAIRMAN. Senator, it is true that those cases were furnished by the individuals involved, as I understand it.

Senator HICKENLOOPER. I think they were, perhaps, with the consent and cooperation of the individuals, but I was merely attempting to show the American people something about their own business and administrative procedures, and it seemed that I was invading civil rights—I merely call it to the attention of the committee that I have noticed no violent objection to the action of the *Bulletin of Atomic Scientists* when they undertook to abstract those cases.

Now, Mr. Chairman, this morning—this is one of a very substantial number of cases. If we approach these cases as individual cases—I mean, there is a long period of a controversy on each one, if we go through individually each of these cases that have a long period of time on each case, we will be here all summer.

I would, this morning, because I had announced that I would do so, like to go into the matter of the construction of the Hanford Junior High School, called Carmichael School, at Hanford, bearing in mind that this is a reimbursable contract in which the Government reimburses the builder, and there is a cost-plus-fixed-fee item in two or three of the operations.

It is just an example of a number that I went into on explainable costs. Now, the information that I developed on this indicated, first—through Mr. Heller of the joint committee staff—that this junior

high school, Carmichael Junior High School, of Richland, Wash., was originally estimated in the 1949 budget at \$1,786,000. The same figure also appeared in the budget estimate for 1950.

The information Mr. Heller developed through his inquiries for me was that the final cost of the building was \$3,996,000, \$4,000 short of \$4,000,000, on a building that was estimated in the new budget to start, where it ought to be \$1,786,000.

The school was reported to Mr. Heller as being a junior high school for 750 students—I beg your pardon, that is another school.

Then, we checked a little further, and I have this information developed: The high school in question started out, originally started out, with, I believe, well, something less than 100,000 square feet of space, and the information which Mr. Heller finally developed in detail for me on June 16 is that the building finally as completed contains 101,000 square feet of space, and its designed capacity is for 650 pupils, 13 regular classrooms, 15 special-purpose rooms, including cafeteria, auditorium for 700 people, a gymnasium, shops, library, and music rooms.

The actual enrollment on April 27, 1949, was 688 pupils. The original estimated cost was \$1,786,000. The costs as finally developed by Mr. Heller in this last document are \$3,980,000.

This is a reimbursable contract. I am informed that Atkinson-Jones was the over-all contractor, but I do not find Atkinson-Jones' name mentioned in this later information of June 16.

The architect-engineers were J. Gordon Turnbull, Graham, Anderson, Phobst and White, and their lump sum fee was \$68,204.

The construction subcontractor was McNeill Construction Co. of Los Angeles, and they had a fixed fee, as I understand it, on top of all costs of \$60,405.

Now, the overrun on this particular building is over \$2,000,000. It is well over 100 percent of the original; that is, the cost is over 200 percent of the original estimate, which was \$1,786,000, and the final cost being in excess of \$3,900,000.

Now, I submit, Mr. Chairman, that this is merely one of a number of items. As I say, this is one of a number of items which will be cumulative in the long run, but I submit this is an item that is not only difficult for me to understand, but it seems to be a completely inexcusable expenditure of Government money and an overrun that I see no reason for at all, and I will be very glad if there is some explanation for it.

Mr. LILIENTHAL. Mr. Chairman and members of the committee, Mr. Harry Winne and Mr. George Prout, who are vice presidents of the General Electric Co., the Commission's prime contractor at Hanford, and Mr. Shugg of the Commission staff are here; and Mr. Winne and Mr. Prout can supply the facts and circumstances involved in this and in other cases at Hanford to which the Senator may refer.

I think before we are through with this phase of this investigation, I doubt whether this morning is the time, but at some phase in connection both with Los Alamos or Oak Ridge and Hanford, that the committee should hear—perhaps the witnesses this morning can go into this—the special circumstances surrounding the building of facilities for school, for community facilities, and in general the problem of making these sites desirable for the kind of people who are needed for the works themselves.

The Commission, of course, does not authorize the building of communities or community facilities except as they are part of the supporting operation. But perhaps that would come more clearly after some of these particular cases are examined.

I would suggest therefore that Mr. Winne give the committee between now and the noon hour some background on this particular case, and this will probably bring out the general points better than a general dissertation would.

The CHAIRMAN. Mr. Winne?

Mr. WINNE. Mr. Chairman, Senator Hickenlooper, and members of the committee, this high school is one part of a program to provide adequate facilities for the village of Richland in which are housed the workers for the Hanford plants.

Now, in carrying on this operation at Hanford—and this is true, I think, of most of the Commission's operations—a considerable percentage of very high-grade technical people are required, as well as a large number of skilled people in the various production operations.

Those of you who have visited Richland, and I think many of you have, will realize that it is a rather isolated community; that it is a community which was built up on the desert more or less. It is gradually taking the form of a more desirable place to live, and people who have lived there for any length of time, in the majority of cases, are very well satisfied with the location, and like it there. But we have had a considerable amount of difficulty in recruiting the high-grade technical and administrative people which we require there, and one of the inducements which the Commission and we feel, and I think rightly, that it is necessary to offer such people is adequate facilities in the community; that is, adequate schools, adequate so-called commercial facilities, stores, moving picture theaters, and that sort of thing, and adequate housing.

Now, at the time that this school, this so-called Carmichael Junior High School, was authorized and construction started, we could not honestly tell our people that we had at that time adequate school facilities, because we did not. All we could tell them was that they were projected. We were operating in many of the schools on a two-shift basis, with pupils receiving only  $4\frac{1}{2}$  hours of instruction instead of the normal 6.

Senator HICKENLOOPER. Mr. Chairman, perhaps I can shorten this up. I am not raising any question with respect to the construction of the high school. The only objection is why a school which is estimated to cost \$1,786,000 costs \$4,000,000.

Mr. WINNE. Senator, if you will permit me to go along, I will tell you some of the reasons, and they are involved in the matter of speed, and so forth, and I was simply trying to show why we and the Commission felt that speed was necessary, because our schools were overcrowded, and on this two-shift basis, teachers carrying a pupil load on the order of 40, made it difficult for us to get good teachers also. So that this school building, while no plutonium is produced in it, nevertheless it is a part of the whole facility which looks toward the maintaining of satisfactory output of that plant.

Now, the estimate for the school was made by the architect-engineer on the basis of school costs in a normal city, fairly low school costs, at least, as compared to school costs in New York City with which I

am generally familiar, and that estimate was accepted without an extremely thorough review.

Furthermore, it did not—

Senator HICKENLOOPER. Did not the architect-engineer know that the school was to be built at Hanford, Wash.? Did he not know the transportation problems involved? Did he not know the location of the materials that went into the school? Did he figure a Hanford school on a New York basis?

I would think he would have those factors in mind.

Mr. WINNE. Senator, he knew those things but apparently did not adequately weight them, and these factors were not taken—these are some of the factors which apparently were not taken into consideration.

Senator HICKENLOOPER. He got \$68,204 as a fee, according to this report that I have.

Mr. WINNE. Yes, and we do not consider that that fee is out of line with normal jobs.

Senator HICKENLOOPER. It may not be, but he got a professional fee for doing a professional job. Whether it is out of line—

Mr. WINNE. Yes, he did, and the estimate was very low, Senator Hickenlooper; no question about it.

Senator HICKENLOOPER. Therefore, we would have a right to hold him to professional ability and accuracy in making an estimate. Would that not be true?

Mr. WINNE. That is true, but it does not help us any in paying the costs, what the school actually cost, of course. As I say, the estimate was based on too low a fundamental basis. It did not include, as was the practice at that time in making the estimates, the design and construction overhead of the General Electric Co., which was allocated finally to all of those projects on a percentage basis in order to reduce the amount of accounting required. It did not include an adequate amount to allow for the type of site on which the school was located.

The school is on a sloping site, which made it necessary to utilize a number of different levels in the construction of the school.

Now, you may ask why this site was chosen. Well, it was the site at which the surveys made by ourselves and by the Washington State school authorities showed the general location of the school should be in order to adequately serve the population. There was no other suitable site of suitable size in that particular area other than this one on this hillside.

Now, that involved not only additional construction costs—

Senator HICKENLOOPER. Did he not know where the school was to be located when the architect-engineer drew the plan?

Mr. WINNE. He knew approximately where the school was to be located.

Senator HICKENLOOPER. He knew this—

Mr. WINNE. I am not citing this as an explanation for the low estimate. I am citing it as explaining the actual costs of the school which, considering what we have there, we feel, after a thorough investigation not only by our Hanford people but, because of the size of the overrun, by a crew of three people from our General Electric Realty Corp. spend a considerable amount of time at Hanford and made a detailed report on this project, which is available, which

the Commission has, and I presume they would be glad to make it available to you if you desire it.

As I say, this site, the terrain incurred additional costs. Then, also through this same site, there is a large irrigation flue. It was necessary to put that in a steel casing, and it was thought to avoid the possibility of excessive repairs and maintenance sometime in the future, that that should also be encased in concrete. That added considerably to the cost of the school.

The size of the school was increased; the estimate was based on some 86,000 square feet, as I remember it. Actually there was built about 101,000 square feet.

Then again, in utilizing just an average figure of some \$14 per square foot, which, as I understand it, the architect-engineer used in making up his estimate, that would not take into account some of the facilities which were provided to make this a community center as well as a school, such as the rather large, and what would be for a normal school a rather elaborate auditorium with stage and curtains and height for the scenery, and all that sort of thing. Because, you see, we do not have in Richland, other than this school, the normal community facilities which are usually available in a city of that size, and so, in planning this school, we and the Commission felt it advisable to try to make it as much a community center as well as a school.

For example, there is a parking lot for 500 cars. Now, nowhere that I know of, other than there, can you find a school where a parking lot of that size is needed and required, because it certainly is here because this school is used as a community facility. So that all of these things increased the cost very materially above the estimate.

Then, as I say, there is included in the final figure which, according to my figures this is not a great difference at all, but is approximately \$3,800,000, a little less, rather than the \$3,000,000 which you are using—I do not know where that discrepancy comes about, and it is not a very large amount in percentage of the total, anyway—that, perhaps, can be reconciled here.

Senator HICKENLOOPER. There is an item in these last figures, and as I say these were developed by the committee staff for me, presumably from the Commission records—there is an item of reduction or deduction from the \$3,980,000, which is the total cost—there is an item of reduction of \$187,000 for adjustment to indirect costs.

Now, I do not know what that means.

Mr. WINNE. I know what that means.

Senator HICKENLOOPER. That leaves the alleged total of \$3,793,000.

Mr. WINNE. Well, that is the correct figure, Senator, and the reason for that is this: As I say, there is a considerable amount of cost in the so-called design and construction overhead. I can get the details of that if you wish it from Mr. Baker for the whole project. That is the building and operation of the North Richland construction camp, and isolation pay, that is, payment to workers who work at a distance from Richland, of a rate which is higher than the normal rate, and that sort of thing.

Senator HICKENLOOPER. Well, the figures I have here, the figures are the figures that the construction costs with G. E. overhead and distributives show \$37.50 a square foot, as compared to the, I think, \$14.14 a square foot that was the original figure.

Mr. WINNE. Which was used in the estimate, although to that \$14 were added certain percentages.

Senator HICKENLOOPER. Without the G. E. overhead and distributives, the figure I have is \$29.50 a square foot, which is still twice, over twice the amount that the estimate was based on, \$14.

Mr. WINNE. Well, the crew from our General Electric Realty Corp. which investigated the costs on this project, taking out the overhead costs not incurred directly by McNeill, and incidentally, if I may insert there, you apparently received incorrect information, because Atkinson-Jones did not have anything to do with this contract; it was a contract directly between General Electric and McNeill, but against—

Senator HICKENLOOPER. I gave no figures on Atkinson-Jones. That was just a memorandum.

Mr. WINNE. Yes, but I think the record should show that. Taking out the yard work and equipment which ran some \$400,000, overtime premiums, premiums paid for materials, and that sort of thing, in order to get it down more or less comparable to the ordinary production on schools, you might say, or construction our realty people arrived at an estimated net building cost of \$2,467,000, or a cost per square foot of \$24.43, and that compared to schools in New York, ranging up and down from around \$20, so that it is somewhat higher on that basis and, of course, very considerably above the estimate.

Senator HICKENLOOPER. Now, Mr. Winne, I have taken—

Mr. WINNE. I wanted to explain that, if I may, Senator.

Senator HICKENLOOPER. Excuse me.

Mr. WINNE. That reduction from \$3,980,000 to \$3,794,000; that comes about through these General Electric overheads and distributives, which, as I say, include the construction camp and all that sort of thing.

In allocating that to the various projects out there, we have used a flat percentage. Now, that probably results in a book value for cost of this school higher than it should be because this school did not use the same amount of heavy construction equipment and that sort of thing as the other parts of the project. But we have felt, and the Commission has agreed with us, that it was not worthwhile to try to run that down to any finer degree. The over-all money has been spent anyway, and we would simply spend more money in accounting and trying to arrive at a more detailed allocation of those costs.

Now, in first applying that percentage to this school it was applied on top of McNeill's overhead, as well as his direct labor and material costs which should not have been done. That resulted in that \$3,980,000 figure.

Taking out his overhead, and then applying the percentage—it sounds rather complicated—but it is the way of figuring those jobs, that brings it down to \$3,794,000—

Senator HICKENLOOPER. Yes.

Mr. WINNE. Which again is a very large overrun, and is the reason that we sent a team from our G. E. Realty Corp. out there to look into it.

Senator HICKENLOOPER. Yes.

Mr. WINNE. And, as I say, they came back with this report, which indicates that to their minds, in general, we have got what we paid

for, that there was no misuse of funds, no malfeasance or anything like that, that we could find at all.

Senator HICKENLOOPER. I call your attention, Mr. Winne, to a news release of June 14 last, which we were told the other day was a joint news release of the company and AEC, on page 2, in discussing the cost, where it says:

Another Hanford project in which there was a big percentage of overrun was the junior high school where the original estimate was \$1,786,000 and the final cost approximately \$3,800,000. The original estimate was made before designs were at all complete and contemplated a conventional high school of 86,000 square feet of floor area. As finally completed, the school contains approximately 101,000 square feet, and provides facilities to adapt the building for use not only as a junior high school but for many community activities for which Richland did not have other available and adequate facilities.

Then, the last sentence of that paragraph:

Nevertheless the company and the Commission are of the opinion that the costs of school have proven to be high.

Mr. WINNE. That is the reason, Senator, as I say, that we sent this G. E. realty team to investigate because the costs looked high to us. It is a very fine school; it is quite an elaborate school. The Washington State school authorities entered the planning, and included many—caused many of the features to be included in the architectural design.

Senator HICKENLOOPER. I understand.

Mr. WINNE. It is really a fine school. It is a permanent structure, designed to carry on for as long as may be necessary; and some of this cost—and I do not know how much offhand, perhaps Mr. Baker can tell us—is unquestionably due to urgency, to the overtime premiums that were paid, to expressing on material, and that sort of thing, and by hurrying this school along we were able to get by without building a junior high school in North Richland construction camp which the people there wanted very much and were putting pressure on us to build, but by going ahead on this and going ahead without complete designs, again it is one of those cases where construction was right up or ahead of design all the while, we did not have—

Senator HICKENLOOPER. Yes.

Mr. WINNE. That is the reason it was on a cost-plus-fixed-fee contract. Normally if we had time to get complete designs we would have let this on a fixed-price contract, if we could find a contractor to take it that way, and it is quite probable we could have at that time. But the designs were nowhere complete enough, so that any contractor would bid on a fixed-price basis.

Senator HICKENLOOPER. On this information that we developed from the records, it indicates that construction started on May 13, 1948, and the directive completion date for this school was ready for use September 1, 1948.

Mr. WINNE. That is what we endeavored to shoot for, Senator, and we missed it.

Senator HICKENLOOPER. It was ready for use February 28?

Mr. WINNE. That is right.

Senator HICKENLOOPER. 1949?

Mr. WINNE. That is right. That is what we endeavored to accomplish, and it failed. It actually went out into use February 28 of this year, Senator.

Senator HICKENLOOPER. Now, Mr. Winne, I want to call your attention to this: Do you think that it is more costly to get lumber and materials and to build in Hanford than it is in Washington, D. C., or would you have any idea on that?

Mr. WINNE. I do not feel competent to say. I do not know what the costs of building in Washington, D. C., are. I do know that we had difficulty in recruiting labor out there. We had this factor of isolation pay; we had the fact that overtime was used a great deal in order to sometimes speed things along, and other times in order to satisfy the building people, because, of course, with an overtime week they get more take-home.

Senator HICKENLOOPER. Yes.

Mr. WINNE. And even in the East we have had that same condition. We have had to utilize overtime weeks when we really did not need it in order to hold the building trades people on the job.

Senator HICKENLOOPER. Yes.

Now, let me review again just hurriedly, because I want to make some comparisons, that this building eventually was 101,000 square feet.

Mr. WINNE. That is correct.

Senator HICKENLOOPER. Built for 650 pupils. It had 28 rooms, 13 regular classrooms, and 15 special-purpose rooms, including a cafeteria, an auditorium for 700 people, a gymnasium, shops, library and music rooms.

Now, I have undertaken to compare some costs, and I find that the Sousa Junior High School of Washington, D. C., is one of the most modern junior high schools in the United States. It has just been completed. Its estimate, and the amount of the budget for its building was \$1,895,000.

Instead of having 101,000 square feet the Sousa Junior High School has 153,600 square feet. Instead of being built for 650 students, it is built for 1,200 students, almost twice as many. Instead of having 28 rooms, including these rooms, it has 50 rooms, and it has these 50 rooms which include two gymnasiums, instead of one; one auditorium—the seating capacity I do not know, but I presume the auditorium is big enough to take the 1,200 students, so I think it would be fair to say that it has at least a 1,200-seating capacity auditorium.

It has a cafeteria, it has a complete modern central sound system with intercommunication facilities to all classrooms; it has a full community facility for the use of the community as well as for the strict use of the school.

Now, it was built and fully equipped with practically twice the capacity, about 52 percent greater square footage than the one at Hanford, and it was built for \$1,895,000, and completed with its equipment here in Washington.

Now, we developed those figures from the architect, the District architect here, and the comparison is really remarkable to me.

Mr. WINNE. Well, it is remarkable to me because of the extremely low cost which I get from using those figures of about \$12 a square foot.

Senator HICKENLOOPER. Well, the figures are not mine, Mr. Winne. We developed them—

Mr. WINNE. I appreciate it.

Senator HICKENLOOPER (continuing). From the District of Columbia architect, and we asked, "Now, is that all of the cost?"

Mr. PRICE. Senator, are there any real-estate costs involved in there?

Senator HICKENLOOPER. I do not know. We said, "Is that the entire cost of the project? Starting in with the whole ball of wax, and completed, ready to go?" We were told that it did. It was with the community facilities, with two gymnasiums, with the cafeteria, auditorium, with its modern equipment, and, as I say—

Mr. WINNE. Do you know what type of construction was used in this school, Senator?

Senator HICKENLOOPER. I do not know, but they say it is the customary permanent type construction that they have here. I presume it is brick.

Mr. WINNE. I mean it is just inconceivable to me that even knowing as little as I know, and maybe that is the reason, knowing nothing about school costs, that the school could be built in Washington of that size and adequate facilities at \$12 a square foot. I do not mean to question your figures, but it seems to me—

Senator HICKENLOOPER. I am not an engineer.

Mr. WINNE. There must be some unusual circumstance to bring that about.

Senator HICKENLOOPER. But I would suggest those figures came from the official architect of the District of Columbia, from his office, which had charge of these plans. In other words, it looks to me—the building at Hanford, we must recall, on the original estimate was \$1,786,000, which might be considered somewhat comparable to this school, although this school is substantially bigger.

Mr. WINNE. You call this the Sousa—

Senator HICKENLOOPER. It is the Sousa Junior High School in Washington that has recently been completed at that figure.

Mr. HINSHAW. Mr. Chairman, if the Senator will yield a second—

Senator HICKENLOOPER. Yes.

Mr. HINSHAW. It was pointed out by a representative of the General Electric Co. that the basic cost of this school was \$2,400,000, although it actually cost \$3,800,000, and that \$1,400,000, consequently, were spent in overtime and in bonuses and in miscellaneous items, as I understand his reading of the statement. Is that correct?

Mr. WINNE. Well, no, nowhere near all of that \$1,400,000 was overtime and bonuses.

Mr. HINSHAW. Isolation benefits, and so forth?

Mr. WINNE. There were roughly \$750,000 which were the overhead costs allocated to this on the same percentage basis that they are allocated against the production facility built out behind the barricades, and that sort of thing.

Mr. HINSHAW. That was a charge by the General Electric Co. for supervision then, is that correct?

Mr. WINNE. Well, it is much more than just supervision. I will be glad to have Mr. Baker, our controller for the nucleonics department, tell you a little more in detail of what goes into those figures.

Then there was a very considerable expense for taking care of this 60-inch, I think it was, irrigation sluiceway under the school, for new sanitary sewage facilities, which was located under the school, and for various other yard work, and that sort of thing.

Mr. HINSHAW. How much of it was in overtime and in isolation payments, and so forth?

Mr. WINNE. In overtime premiums, it amounted to about \$115,000. I cannot tell you the rest, but perhaps Mr. Baker, if you would care to hear him, can. I think, perhaps, Mr. Baker might go into this whole subject of overhead costs for you, Mr. Hinshaw, if you would like.

Mr. HINSHAW. I would like to know where the difference between \$2,400,000 and \$3,800,000 comes.

The CHAIRMAN. Will you give your name to the reporter?

Mr. BAKER. F. E. Baker.

The CHAIRMAN. What is your official capacity with the company?

Mr. BAKER. Controller, nucleonics department, General Electric.

In establishing a cost-accounting system for the major construction program that began about the middle of 1947, we, in consultation with the Commission decided upon these principles: First, we would account for the direct labor incurred in the construction of each project.

Second, we would account in detail for the cost of materials incorporated in the structure for each one of these jobs.

The other costs involved in this construction program were designated as indirect costs. They included such things as the temporary construction facilities, which include guardhouses, timekeeping stations, movable material shacks, the cost of maintaining and the depreciation of major construction equipment, the cranes, the bulldozers, and so forth; the field expenses, which include employment of people, giving them physical examinations, obtaining security clearance; the cost of the social-security taxes applicable to the wages of those employees; the cost of workmen's compensation insurance applicable to their employment; this item of isolation pay, which is an amount paid to the employee over and above his established rate for traveling to a work area.

The CHAIRMAN. How much did that amount to?

Mr. BAKER. This is approximately for the entire program, \$6,000,000.

Mr. COLE. How do you determine it?

Mr. BAKER. It is determined and set forth in the agreement with the unions under which these workers work at varying amounts from a dollar and a half to \$2 per day.

Senator HICKENLOOPER. Are those items, except the cost of investigation, which runs about \$100 a person, and your policy of isolation pay, the rest of the costs, are they not common? Are they not common to building, whether it is workman's compensation, insurance, and all those things, are they not common to any contractor any place on a big project? There is nothing peculiar about them at Hanford, is there?

Mr. BAKER. I am attempting to answer the question as to how we account for the construction costs at Hanford.

Senator HICKENLOOPER. All right.

Mr. BAKER. The class of costs which I last described was grouped by kind of expense, and no attempt was made during the first few months of the program to allocate those costs to individual pieces of work, individual projects.

The intent was to allocate all of those costs to the individual jobs upon completion of the major construction programs. The exact extent of that program was not known at the beginning; possibly it

still is not. The exact amount of those kinds of costs which would be incurred in total was not known at the beginning.

Senator HICKENLOOPER. Incurred in what?

Mr. BAKER. Incurred in total.

Senator HICKENLOOPER. In total.

Mr. BAKER. Now September of 1948, it was decided to change this practice and attempt to obtain an allocation of this group of indirect costs to individual jobs each month.

For the sake of convenience, and in order to save in clerical work, a simple method was devised of allocating these costs to individual jobs. There are a number of bases used—16 as a matter of fact—and in effect it results in allocating these costs to individual jobs on the basis of the direct labor content of each job. This is a convenient way of doing it, and may not result in an allocation of the exact amount of these costs allocable to any one job.

To determine the exact amount allocable to any one job was thought to require too much clerical at extra cost, whereas the total amount to be distributed would not be affected by the method used in allocating it to any one job.

Senator HICKENLOOPER. Let me ask you: You work for General Electric, do you not?

Mr. BAKER. Yes, sir.

Senator HICKENLOOPER. Does General Electric operate its private business that way, without accurate cost allocations to jobs on projects, or do they just lump the whole thing in a pot and, at the end of the year see how much money they have taken in and see if they can find the money to pay it?

Mr. BAKER. I am sorry if I left the impression that this was an incorrect allocation. We think that it is a correct allocation insofar as being practical in allocating it is concerned. This allocation can in no way affect the total amount of expense incurred.

Senator HICKENLOOPER. That is true. The Government pays the bill, whatever it is.

Mr. BAKER. No; the control of that type of expense comes through controlling it at its source rather than in its allocation to an individual job.

Mr. WINNE. If I may break in, Senator, I think this is an analogy: If in an established plant we are going to build one new building, then we can get very accurately against that one building all the costs that go against it. But if we are building a complete new plant, let us say, consisting of several buildings, as we did at Syracuse not so long ago, then a lot of the allocation of this type of item will be done among the various buildings and facilities in exactly that sort of way.

Mr. BAKER. That is correct.

Mr. WINNE. There, it seems to me, is a point more nearly in point, because we had a lot of construction projects going on all at once.

Mr. HINSHAW. Do I understand that you have allocated \$750,000 to the school building in accordance with that method of allocation?

Mr. BAKER. That is correct.

Mr. HINSHAW. Then, you have an additional \$700,000 approximately to account for in other items over and above the \$2,400,000 that the gentleman stated should be the normal cost of the building.

Mr. BAKER. Part of which was the overtime premium, some \$115,000; premiums paid for materials, \$33,000.

Senator HICKENLOOPER. What do you mean premium paid for materials?

Mr. BAKER. Cost of expediting, getting it to the work site ahead of normal delivery dates.

The CHAIRMAN. What did you do, fly it in?

Mr. BAKER. Yes, and personal expediting of the material at vendors' plants.

The CHAIRMAN. How much of this did you fly in?

Mr. BAKER. I do not know. I do not have that figure.

Senator HICKENLOOPER. Of course, it was not completed on the original directive day.

Mr. WINNE. That is true.

Senator HICKENLOOPER. So that it was not expedited, apparently. According to this report that I have, the directive completion date was September 1, 1948, and it was not—that is ready for use, September 1, 1948, and the actual completion ready for use was February 28, 1948.

Mr. HINSHAW. 1949.

Senator HICKENLOOPER. 1949.

Mr. WINNE. That is true, Senator.

Senator HICKENLOOPER. Some 6 months.

Mr. WINNE. That we did not meet the requested date. We would have been still later if we had not adopted this expediting.

Now, as to what was flown, I am not sure of that, I am not sure whether very much was flown in on this particular job or not. I know a considerable amount was flown in on the 235 project which we talked about the other day, but flying anything in here, I presume, would be some very critical items, and not any heavy, bulky materials, such as bricks, and so on. But without the expedition we would have been farther behind than we were.

Senator HICKENLOOPER. May I ask here—the chairman says that he would like to recess, and I want to cooperate—I would like to ask, was there one contractor who did the entire work on this school?

Mr. WINNE. Well, the McNeill Construction Co. was the over-all contractor on the school. Now he, McNeill, had various subcontracts such as on piping and electrical work and that sort of thing, as is perfectly normal.

Senator HICKENLOOPER. Yes.

Mr. WINNE. In the contracting business, as you well know.

Senator HICKENLOOPER. How much gross was paid to the McNeill Construction Co.?

Mr. BAKER. We cannot answer that question right now because the amount to McNeill includes his payments to his lump sum sub-subcontractors.

Mr. WINNE. Is that what you wanted?

Senator HICKENLOOPER. I want to know how much was paid to the fellow who did this job. I assume that he would pay his subcontractors and be responsible for that, but it is the total amount, unless General Electric or the Commission made direct payments to others than McNeill in the project.

Mr. WINNE. Senator, Mr. Baker apparently is having difficulty in finding that in his figures here. I presume this hearing on some of these matters will go on tomorrow, and we can, if you like, be sure to have this figure for you tomorrow.

Senator HICKENLOOPER. Yes.

Mr. WINNE. I assume, Mr. Chairman, that this particular project or other Hanford items may be the subject of hearing tomorrow; that is, I do not want people to go back to Hanford again, as they did last week?

The CHAIRMAN. I do not want them either. I understand from Senator Hickenlooper that he has three or four matters he wants to inquire about with respect to Hanford, and we will expedite that and clean that up tomorrow.

Mr. WINNE. We will remain on call then tomorrow.

Senator HICKENLOOPER. Mr. Chairman, I would like to talk about and finish this, the river pump house and pipe-line project where a lot of money was spent, and then abandoned; and I would also like to discuss this lumber stock-pile operation which went on at Hanford, and so far as those items are concerned, I think I will leave Hanford then for at least a day or two. I am having trouble getting any understandable data on the whole Hanford situation out there so far as other things are concerned, because the way the books are kept, that is, it is a little different operation from some of the others, and it is not broken down, but if I did go into other things at Hanford, I will give notice.

It is my opinion, Mr. Chairman, and it seems to me to be utterly useless to bring these people from Hanford, fly them over or whatever it is, clear across the United States; it would seem to me on those projects there should be reports within the Commission, reports giving reasons for these things, and those are the things I want to go into.

It seems to me completely needless to bring people from way out there when I think the information should be with the Commission here. The Commission pays these bills, and the Government puts up the money for all these things and reimburses them.

It would seem that the explanation and the details should be in the records readily obtainable here in Washington.

Now, I may be wrong about that.

Mr. COLE. Let me say for the Senator's information, if this inquiry had anything to do with an operation of the National Military Establishment, the people from the Pentagon would come across the river and tell us the story. They would not have to send out to the Pacific coast to get the answer.

Mr. LILIENTHAL. This is a very important difference, and this goes to the very—

Mr. COLE. That may be.

Mr. LILIENTHAL (continuing). Method of operation.

We are trying, as best we can, to have the actual operation of this enterprise which has such a strong industrial flavor, technical and scientific, as much in the hands of American industrial corporations and American scientific and educational institutions as we can.

The only way we can make that effective is to keep the responsibility there as much as we can, and to have these individuals, the very best qualified, to provide the committee with what it is entitled to, that is, first-hand information here.

If this investigation were not regarded by us as the most important matter of business that we have, these people would be at Hanford, and we would give you what information we have here. That is not the way we feel about it.

Senator VANDENBERG. Mr. Lilienthal, that is the question that perplexes me. What is the chain of command in a project of this nature? Does the Atomic Energy Commission authorize the original contract? Do they decide to build this high school? Who decides in the first place to build a high school?

Mr. LILIENTHAL. Well, the Commission—that is, the Commission's management and the Commission decide that upon recommendation, usually from the General Electric Co. in this case, who is responsible for the results.

The General Electric Co.'s judgment that a high school is needed is an appropriate step to take, and then they develop recommendations as to the kind of high school, and these are then reviewed, but we try to keep the responsibility for those matters with the company which is—

Senator VANDENBERG. Excuse me. You say these are then reviewed. Reviewed by whom? By whom, by the Commission?

Mr. LILIENTHAL. By the Commission staff.

Senator VANDENBERG. Commission staff.

Mr. LILIENTHAL. Yes.

Senator VANDENBERG. When and where does the responsibility finally come back to the Commission, (a) for the original contract, (b) for the approval of an overrun on the contract? Does the Commission ever find itself in responsible contact with those decisions?

Mr. LILIENTHAL. Yes. This is by way of report; this is by way of approval of the inclusion in a budget estimate of a project. There are a variety of ways in which the Commission itself is kept in touch with these problems. It is also kept in touch—the Commission itself initiates or is responsible for the degree of urgency put upon various undertakings, realizing that that degree of urgency will affect cost, economy, and so on.

The ultimate responsibility is the Commission's, but the way in which the Commission is kept in touch with developments varies depending on circumstances.

Senator VANDENBERG. Well, who officially decides whether \$1,700,000, a project of that amount, shall become a \$4,000,000 project? Is that the General Electric Co., or is that the Commission?

Mr. LILIENTHAL. Well, that is not the way—what the Commission decides is, or what the Commission approves, its management approves, is that there is a high school needed of a certain kind, and estimates have been provided, which it is hoped will take care of the cost.

Those estimates are provided by the General Electric Co. They are improving this method of estimating. It is obvious that it requires improvement.

I think the important element in all of these decisions as to estimates coming to these particular cases, Senator Vandenberg, is that the Commission made the decision that there was a matter of urgency here; speed was necessary. With that decision went a realization that you could not have a detailed set of drawings, estimates, the way you would carry on a normal undertaking. Therefore, we had to accept the responsibility then for the likelihood that these estimates would not be as close to actual costs as would be the case, say, of the Sousa High School or something else, carried on under different conditions of urgency.

The element of urgency here is as to the schools, example, and was of a piece with the urgency of the plants that we have discussed here, the pressure on the General Electric Co. from its employees and from those whom it was seeking to recruit, which was probably as great in respect to lack of schooling facilities as anything else.

Mr. COLE. Yes; but that did not develop after the first estimate. did it? That urgency existed before the first estimate, I assume.

Mr. LILIENTHAL. That is correct.

Mr. COLE. And the realization that you had to have a little fancier kind of school than in normal places because of the isolation, that realization existed at the time of the first estimate, did it not?

Mr. LILIENTHAL. The condition existed, but it was apparently not given adequate weight.

Mr. COLE. The thing that—that is right; that is the nub of it. Why do you not say that?

Mr. LILIENTHAL. That is what Mr. Winne said.

Mr. COLE. That the first estimate was all wrong.

Mr. LILIENTHAL. Mr. Winne said that.

Mr. WINNE. I said that.

Mr. LILIENTHAL. He did say they did employ a competent architect-engineer, and his first estimate was probably as good as an ordinary architect-engineer would make under any circumstances, because ordinarily they would wait until their drawings were completed, and they would wait and see what they were going to build.

Mr. Winne said, and we certainly said to Mr. Winne, that this original estimate may have been as good as could have been made under the original estimate, but it was an original estimate.

Senator VANDENBERG. I still do not understand about this chain of command, if I can still resolve that, still resolve my own ignorance.

Conceding the urgency, do I understand that having assigned the General Electric Co. to this urgent task, it then becomes exclusively the responsibility of the General Electric Co. to decide how it shall meet the emergency?

Mr. LILIENTHAL. No. We share that responsibility, and we have the responsibility, and there is no way this can be escaped, and we do not try to escape it; but we do delegate to the General Electric Co. the responsibility for carrying out the authorized project, so that the chain of command, Senator, or whatever the places where authority is vested, and responsibility if vested, is something like this: The Commission authorizes a project of several parts of which a school is a part, and authorizes urgency in respect to the carrying forward of that project which includes or certainly carries with it authorization that building shall commence prior to full detailed drawings, and so forth.

Then, the details from that point on are handled in the field, and we get reports, and approve budgets. We have sought to place in the hands of the Manager at Hanford a large part of the Commission's responsibility for supervising the carrying out of this authorized undertaking.

I think the authority runs from the Commission to its field office, thereby to the General Electric Co. under its contract.

Senator VANDENBERG. Is the Commission conscious of the fact that this \$1,700,000 contract is going to run up to \$4,000,000 or there-

abouts in the course of the operation? Is the Commission conscious of that fact?

Mr. LILIENTHAL. The Commission in this case—it is likely the Commission was not, and the Commission field officers are, and I have no doubt its General Manager was.

Senator VANDENBERG. So that the Commission never finally is in a position to exercise final judgment as to whether \$4,000,000 shall be spent or \$1,700,000?

Mr. LILIENTHAL. Yes. In this case that is correct, and it simply goes back to the proposition, I think—at least this is my opinion—that in an enterprise of this kind, the Commission—I should like to say—as distinguished from the institution, must of necessity delegate to management a large share of the authority which it has.

This does not in any way diminish its responsibilities, but it must, of necessity, do that.

The CHAIRMAN. Do you not think, Mr. Lilienthal, that it would be highly desirable if in the event of overruns and overcosts, over original estimates, that there be a requirement by the Commissioners that the Commission be advised of that fact immediately and periodically as the job proceeds?

Mr. LILIENTHAL. Yes; although there are—this, I am sure would be a useful thing to do, but its usefulness would be limited by the fact that the Commissioners cannot do very much about improving a situation where they have authorized the conditions under which it is to be carried out. They can stop the undertaking.

The CHAIRMAN. No; but in addition to stopping it, which would be a very dangerous thing to do, probably, it would be possible to have an inspector general—if you want to call him that—of the Commission to immediately render an independent report to the Commission of the fact that this overrun was taking place.

Mr. LILIENTHAL. This is what was done in the case of the Hanford facilities; a special group of investigators.

The CHAIRMAN. That is what I have in mind.

Mr. LILIENTHAL. But I want to be very candid about this: This operation can be carried on without overrun. The General Electric Co. can get estimates—this is, after all, a great company—and they know how to do business—they can get estimates which will be within a very small percent of the actual expenditures under the ordinary limitations of that expression, and indeed the total expenditures runs within 3 percent of it; but we will have to pay for that in another way.

We realize that, and this is true of all other places: If as a result of, say, criticisms which we make, or criticisms which the General Electric Co.'s internal organization make, you will get an element of caution in here which, under ordinary circumstances would be useful, but you will not get construction started until you have 75 percent of the detailed drawings under way.

The Commission will have this information. We will feel a sense of conservatism—I am not saying this is what you are suggesting, Mr. Chairman, but this is the inevitable course of events, that when overruns are taken, that is to say, where low estimates are taken as an evidence of what a project should necessarily cost, if there is a basis of severe criticism of the company or an agency for having failed to come within an original estimate, people, being human, will

wait until they have detailed estimates. Perhaps, that is what should be done.

The CHAIRMAN. No.; I do not agree, because I can realize and appreciate the necessity for speed, and I certainly was regretful that Mr. Winne said the other day that they were going to change the procedure no matter what the urgency, to see that 75 percent was done. My point is that when these things happen, if we knew that the Commission knew that it was happening at the time and had an independent examination made by a force—for lack of a better word—inspector general, that you would be aware of that fact at the time, and have a perfect record which you could display on request.

Mr. LILIENTHAL. Well, our record would be better, but our meeting the national security requirements would be worse. That is my concern about it.

People, no matter what we do, because of this rather severe criticism of these what are called overruns, will necessarily result in there being an element of caution injected into this enterprise which, if we come into another urgent situation—and your committee has been advised that such a one is in the making—it is just inescapable as long as human beings are what they are, that we will not be much more cautious. We will wait until we have detailed estimates. We ran into this situation—I say this with complete understanding—before the Appropriations Committee, where it was hard for the committee to understand why we made an estimate in respect to a new facility, until the basis for detailed estimates was there.

Now, you would not build a house that way; you would not build a dwelling, I mean. You would not build a commercial establishment that way; you would not know where you are, and this is, I am afraid, going to be very difficult for us, not to proceed with a great deal more caution, and perhaps that is right, but we will pay for it, is what I want to say.

The CHAIRMAN. As long as the money is honestly used, as long as the urgency and necessity of a particular project are established, the fact that an overrun does exist does not disturb me at all. There should be overruns, I think, perhaps, in this business. It cannot be avoided, and, as you say, the price that we might pay for that would be disproportionate, to say the least. I think the point that I want to leave with you is this: That when those overruns are taking place if the Commission itself, instead of leaving it purely to even a good general manager in the installation to O. K. the overrun, was to say to Mr. Schlemmer, if he is the general manager out there, "Well, you have reported an overrun in this school of a couple of million dollars," or which is threatening now, not 2,000,000, it has gone over 500,000, 800,000; we understand that.

It is explicable, it is understandable, and we understand it is a desirable thing to do. I think, Senator Vandenberg, is that your point?

Senator VANDENBERG. Surely. It does not seem to me that it is necessary to involve ourselves in the hazards that Mr. Lilienthal contemplates, the hazards that I would not want any share of, and yet to have a far closer information currently available to the Commission than evidently has been available, and thus a closer Commission responsibility for what happens.

Certainly I am not reflecting on the General Electric Co., which is one of the great institutions of this land, but the General Electric Co. is not the Government of the United States, and the Atomic Energy Commission is, so far as this sort of enterprise is concerned, and it seems to me that when a Member of Congress wants to inquire as to what happened in connection with an overrun of this character, as Senator Hickenlooper indicated, it ought not to be primarily necessary to send to Hanford for the General Electric officials in order to establish the basic facts, because, it seems to me, the Atomic Energy Commission is responsible for the basic facts, and it also seems to me that they have not been intimately responsible for the development of the situations that the basic facts reflect.

Mr. LILIENTHAL. We are getting really down to the kind of fundamental problems we face in your comment. I would like to say this: The reason we rather insist on having the responsible contractor here is what we are trying to do is to develop a sense of that same responsibility for a Government dollar which we ourselves should feel, and one of the ways for the General Electric Co. and the Carbide Co., and the universities to get that is to be right here with the Congress of the United States, with the joint committee, when these things are explored. This is the way to build up that kind of responsibility, because they do not feel that we will become a policing agency rather than one seeking to encourage this company to do the best possible job. This is a fairly fundamental proposition. This is not like, if I may say so, the ordinary contract entered into, let us say, for the building of a bridge in which you build a bridge from A to B, and when you are through, the private company goes out, and that is the transaction which is over.

We are trying to build up something that is between private and public enterprise, as I said the other day, and it helps a great deal to do that to have the University of Chicago and the Argonne National Laboratory director and others, and the General Electric Co. right here while these proceedings are going on, to acquire a greater sense of responsibility.

Senator VANDENBERG. I think that is so, and I agree with you completely, but I do not think it ought to be indispensable.

Mr. LILIENTHAL. It is not indispensable. I think it helps to the extent that these proceedings can be educational, I think it is helpful.

Senator VANDENBERG. Certainly.

Mr. LILIENTHAL. The second concern, the second point I should like to make, because what I think the chairman of the committee and what Senator Vandenberg have said are exceedingly constructive and helpful, is that we should like to have Mr. Schlemmer and some other witnesses—Mr. Schlemmer being the other witnesses—to tell you at another meeting what is being done to improve on these accountability procedures, and a great many things are being done, and I think from these you will see that the direction is in the very direction as has been suggested here by Senator Vandenberg and Senator McMahon.

Senator HICKENLOOPER. Mr. Chairman, may I just call attention to the fact that with respect to notice or information, that the estimate carried in the budget for 1949 was \$1,786,000, and that this same figure of \$1,786,000 was carried in the budget estimate for 1950. In

other words, there was no change whatsoever in those two budget estimates which were furnished by the Commission. I get that assurance from Mr. Heller of the committee staff.

May I just say one more thing. Mr. Lilienthal said something about their becoming a policing agency. I submit, Mr. Chairman, that while I believe that the contractor system of operation has its merits, and I am not opposed to it, nevertheless, I think it is the very function of the Atomic Energy Commission to be a policing agency over seven hundred-and-some million dollars of public funds, and over 400,000,000, let us say, of contract authority.

I feel that there is a definite policing responsibility. Otherwise what would be the use of appropriating these vast sums to the Commission if they are not going to police the general application of the funds to see that they are applied properly and efficiently, and that construction projects in general are carried out in the best interests of public expenditures. To that extent, I think they must be a policing agency just as they must be a policing agency in security and in other matters of that kind.

Mr. LILIENTHAL. I hope there will be an opportunity to discuss this because there is quite a difference of view between us.

Mr. COLE. Mr. Chairman, may I make inquiry of Mr. Lilienthal apropos of this observation that in his opinion it is wholesome to bring these management people, representatives of industry into hearings such as this to impress upon them the importance of the undertaking, and the necessity of the Government's getting a dollar value out of every dollar that is spent, and all that sort of thing?

I wonder if he has that same feeling of wholesomeness with respect to investigations and hearings such as this, so far as impressing upon the Commission itself of the necessity of doing that very same thing?

Mr. LILIENTHAL. To the extent that there are discussions such as of the character we have been having in the last half hour I should say it is extremely helpful, and I am only sorry—after all the committee is a continuing investigating body—that there are not more opportunities with as good an attendance as we have had in these open hearings to discuss in this way for that purpose.

It serves a very useful purpose. There are other things about the investigation that may not be, but I think certainly this is on the credit side.

Mr. PRICE. Mr. Lilienthal, you never at any time have opposed these hearings, have you?

Mr. LILIENTHAL. No, I think my views about the importance of the congressional investigating authority are fairly well known, and over a long period of time. When I said this morning I do not think there is anything that these men could be doing which is more important than what they are doing here, being here and hearing what has gone on at this meeting in the last couple of hours, I meant that literally.

The CHAIRMAN. Well, all right, gentlemen. It is now one-half hour after our time. The committee will meet in executive session at 3 o'clock.

(Whereupon, at 1:30 p. m., the joint committee adjourned subject to the call of the Chair.)



# INVESTIGATION INTO THE UNITED STATES ATOMIC ENERGY PROJECT

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## HEARING BEFORE THE JOINT COMMITTEE ON ATOMIC ENERGY CONGRESS OF THE UNITED STATES EIGHTY-FIRST CONGRESS FIRST SESSION ON INVESTIGATION INTO THE UNITED STATES ATOMIC ENERGY PROJECT

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**PART 12**  
JUNE 21, 1949

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# INVESTIGATION INTO THE UNITED STATES ATOMIC ENERGY PROJECT

TUESDAY, JUNE 21, 1949

CONGRESS OF THE UNITED STATES,  
JOINT COMMITTEE ON ATOMIC ENERGY,  
*Washington, D. C.*

The joint committee met pursuant to call, at 10:45 a. m., in the Caucus Room, Senate Office Building, Washington, D. C., Senator Brien McMahon (chairman) presiding.

Present: Senator McMahon (chairman); Representative Durham (vice chairman); Senators Millikin, Knowland, and Hickenlooper; Representatives Price, Jackson, Cole, Elston, and Hinshaw.

Also present: David E. Lilienthal, Chairman; Sumner T. Pike, Commissioner; Lewis L. Strauss, Commissioner; Gordon E. Dean, Commissioner; Henry D. Smyth, Commissioner; Carroll L. Wilson, General Manager; Carleton Shugg, Deputy General Manager; Frances Henderson, Assistant to the Chairman; Brig. Gen. James McCormack, Jr., Director, and Capt. James Russell, USN, Deputy Director, Division of Military Application; Walter J. Williams, Director, Division of Production; Joseph Volpe, Jr., General Counsel; Bennett Boskey and Everett L. Hollis, Office of the General Counsel; Fletcher Waller, Director, Division of Organization and Personnel; Morse Salisbury, Director, Shelby Thompson, and Rodney L. Southwick, Division of Public and Technical Information Service; Bruce Uthus and Edward Brosnan, Division of Security; Fred C. Schlemmer, Manager, and Lloyd Bergeson, Assistant to the Manager, Hanford Operations Office; all of the United States Atomic Energy Commission.

G. R. Prout, Vice President and General Manager, Nucleonics Department; H. A. Winne, Vice President in Charge of Engineering; and Forrest D. Baker, Comptroller, Nucleonics Department (Hanford Works), of the General Electric Co.

The CHAIRMAN. The meeting will come to order.

Since I arrived at the hearing room, a number of reporters have questioned me concerning a story that has been put out by the International News Service, as I understand it, to the effect that we are investigating "a loss" at Oak Ridge.

We have been investigating an inventory discrepancy at Oak Ridge. This is not the first time such a discrepancy has occurred, nor, I think, will it be the last.

In a manufacturing operation of a complexity not hitherto known, with hundreds and hundreds of the most intricate kinds of operations to be performed, with the tremendous difficulty that occurs in taking an inventory of materials that exist from time to time in the form of gases, liquids, and solids, inventory discrepancies within certain limits are, I think, bound to occur.

The plant at Oak Ridge—the management of the plant at Oak Ridge—has taken great precautions not only to arrive at an inventory as near as it can be arrived at, but to safeguard the installations.

Dr. Zinn of Chicago in his testimony recently enlightened us as to the difficulties they had in maintaining such an inventory. We are getting further education on that subject.

I personally believe that the inventory discrepancy that we have been looking into is not of the kind for the American people to become alarmed about.

Two years ago in September, the Atomic Energy Commission installed a new inventory accounting system. As experience grows with the keeping of this new kind of inventory, it will probably be possible to arrive at more exact results.

Senator MILLIKIN. Mr. Chairman?

The CHAIRMAN. Senator Millikin?

Senator MILLIKIN. Should it not be stated, I respectfully suggest, that the investigation of the matter has not been completed, and that it remains to be determined whether it is really merely a bookkeeping error or whether this is a loss of material?

The CHAIRMAN. Yes, I think that can safely and well be said. We will not close the investigation of any discrepancy until we have become satisfied with the results of our investigation.

Now, Senator, Hickenlooper, have you some further matters to present?

Senator HICKENLOOPER. Well, yes, sir; there are some matters to be commented on, some information to be developed on the high school situation at Hanford that was brought up yesterday. But, first, Mr. Chairman, I have just received the report of the emergency clearances by the Atomic Energy Commission for the month of May 1949, and it shows in the various installations a total emergency clearance at all installations of 115 for the month of May; total clearances with access to restricted data, 115; total clearances without access to restricted data, none.

Again as in other cases, this report is marked "confidential" but there is a summary sheet on the front which has been presented before with the number at the various installations, but not the names of the people nor the dates, and I ask if the chairman would care to consider that it will go into the record.

The CHAIRMAN. Is there any objection?

(The report, referred to follows:)

*U. S. Atomic Energy Commission—Summary report of emergency clearances granted, May 1949*

	Emergency clearances	Access to restricted data	
		With	Without
1. Chicago.....	18	18	0
2. Dayton.....	1	1	0
3. Hanford.....	4	4	0
4. Idaho.....	2	2	0
5. Los Angeles.....	2	2	0
6. New York.....	8	8	0
7. Oak Ridge.....	49	49	0
8. Project Roger.....	3	3	0
9. Project Royal.....	6	6	0
10. Santa Fe.....	3	3	0
11. Washington.....	19	19	0
Total.....	115	115	0

All emergency clearances listed were granted by the managers of operations under authority of GM Bulletin 101. For the purposes of this report an emergency clearance is defined as follows: (a) Clearance of any direct employee of AEC with or without access to restricted data; and (b) clearance of any contractor's employee, prospective contractor, consultant, or employee of any other Government agency, with access to restricted data prior to full FBI investigation. Emergency clearances are granted only after the duties for the job for which emergency clearance is requested have been specified and the clearance specifically states that access is granted only to information required in the performance of these duties. Clearances under the interim security measures for the armed forces, issued May 23, 1947, are not included.

Senator HICKENLOOPER. Mr. Chairman, I think yesterday, among other things, I asked for the total amount of money that had been paid or is to be paid in all categories to McNeill Construction Co., of Los Angeles, which, I understand, is the construction subcontractor on the high school. Those figures were not available yesterday, and I wonder if the General Electric Co. has them today.

**STATEMENT OF DAVID E. LILIENTHAL, CHAIRMAN, ACCOMPANIED BY CARLETON SHUGG, DEPUTY GENERAL MANAGER, JOSEPH VOLPE, JR., GENERAL COUNSEL, FRED C. SCHLEMMER, MANAGER, HANFORD OPERATIONS OFFICE, AND LLOYD BERGESON, ASSISTANT TO MANAGER, HANFORD OPERATIONS OFFICE, ALL OF THE UNITED STATES ATOMIC ENERGY COMMISSION; H. A. WINNE, VICE PRESIDENT IN CHARGE OF ENGINEERING; F. E. BAKER, COMPTROLLER, AND G. R. PROUT, VICE PRESIDENT, NUCLEONICS DEPARTMENT, GENERAL ELECTRIC CO.**

Mr. WINNE. Mr. Chairman, Mr. Baker, our Comptroller for the Hanford Operation, has the figures which, I think, one of the committee members asked for yesterday as the amount paid to McNeill, and also the items which are included in the indirect costs which were given in a tabulation here as somewhere on the order of \$750,000, as I recall it, so Mr. Baker can give you that information.

Mr. BAKER. The information I have was taken from our construction cost accounts last evening, and read to me over the telephone from Richland.

It shows that as of May 31, 1949, the costs of this school paid to McNeill Construction Co. were \$2,495,000.

In addition to this amount, there were costs for labor and material procured by others than the McNeill Construction Co. of \$277,000, and indirect costs charged to the job, such costs being incurred by others than McNeill Construction Co. were \$742,000.

The total of these items represents the actual construction cost booked to May 31, 1949, in the amount of \$3,514,000. Design costs to that date were \$68,000; the total project costs booked to May 31, 1949, were \$3,582,000.

As of May 31, 1949, there were outstanding unpaid commitments of \$141,000, so that the total actual cost, plus commitments to May 31, 1949, was \$3,723,000.

Senator HICKENLOOPER. The estimate that was developed and given to me through the committee staff from the Commission indicates an item book cost—and this has been mimeographed this morning; this

indicates book cost to April 30, 1949, as \$3,898,000; estimated cost to complete, \$82,000; making up the item of \$3,980,000.

Now, there is still the discrepancy there that——

Mr. BAKER. I believe I can explain that, sir.

Mr. Winne made reference yesterday to an investigation of this job which was undertaken by the General Electric Realty Corp. As a result of this investigation, it was discovered that certain items of overhead costs incurred by McNeill Construction Co. had been classified as direct labor costs. The effect of this, as I explained yesterday when I mentioned our method of allocating these indirect costs to individual jobs, was that a double amount of certain of the indirect costs was charged to this particular job. The necessary adjustments were made on the books in the month of May and are reflected in these figures that I have just read.

Mr. WINNE. Mr. Chairman, if we may, I would like to have Mr. Baker also list some of the items which are included in these indirect costs which have been variously referred to in the public press or broadcasts as administrative and supervisory expenses of the General Electric Co. amounting to some \$750,000 or \$760,000, and I would like to have you get a clearer understanding of what items are included in those.

Also there was raised yesterday the question with reference to this item of \$33,000, approximately, covering premiums paid for materials, and there seems to be an impression that the major part of that was for air express, which is not at all the case, and I would like to get a fairer understanding of that on the record, if we may.

The CHAIRMAN. Well, I think that will be helpful because, perhaps, that was the impression which was left with some people, but not with me.

Mr. WINNE. Thank you, sir.

Mr. BAKER. The indirect costs are broadly classified into three groups: One, major construction equipment usage, and this represents the depreciation, plus the maintenance costs, of all of the major construction equipment used in the Hanford construction program. It is allocated to individual jobs on the basis of usage rates.

A record is maintained of the specific pieces of equipment used on a particular job, and the length of time that such equipment is used on that job.

Application of individual rental rates results in charges to individual jobs to liquidate the cost of the equipment and the cost of maintaining it. This accounting distribution has resulted in a charge to the Carmichael Junior High School of \$174,000.

Senator HICKENLOOPER. Mr. Baker, when a man takes a contract to build a building, as a contractor, does he not furnish his own equipment?

Mr. BAKER. In the case of the major construction program at Hanford works, substantially all of the major construction equipment is furnished by the Government to cost-plus-fixed-fee construction subcontractors.

Senator HICKENLOOPER. Yes; that is the point.

Mr. BAKER. But the cost of operating and maintaining that equipment must be charged to individual jobs, as it is used on those jobs. So while——

Senator HICKENLOOPER. I used an illustration yesterday of a high school here in Washington which was costing \$1,800,000, approximately twice the size of this building at Hanford, and I cannot say to you, because I have not checked it, but I think it is a fair assumption, because of the ordinary practices, that the construction contractor is furnishing all of his own equipment, and included in the price of his construction is the depreciation on his own equipment, and an item for the depreciation of that.

I do not take it that the school district of the city of Washington is furnishing major equipment for which a charge would be made on top of that fee or that cost.

Mr. BAKER. Yes, sir; I believe that would be correct.

Senator HICKENLOOPER. I cannot say that is true, because I have not checked that particular item, but I am assuming that is a customary practice, and—

Mr. BAKER. If I might say—

Senator HICKENLOOPER. Yes.

Mr. BAKER (continuing). In this case, McNeill Construction Co. did not furnish the major construction equipment. It was furnished by the Atomic Energy Commission, used by McNeill Construction Co., and the cost of such use was incurred by General Electric and others, and was charged to this job in accordance with the accounting practices in effect.

Senator HICKENLOOPER. Let me ask you, Mr. Baker, was the contract with McNeill Construction Co., was that a cost—

Mr. BAKER. Plus a—

Senator HICKENLOOPER (continuing). A fixed or a percentage fee?

Mr. BAKER (continuing). A fixed fee.

Senator HICKENLOOPER. It was a fixed fee of \$60,485?

Mr. BAKER. Yes, sir.

Senator HICKENLOOPER. That is the item given on this last, that is the source of my information.

Mr. BAKER. Another classification of indirect expense is defined by us as field expense. This includes the following items: Expendable office and engineering supplies, office equipment maintenance, nonproductive salary and wages, employment and termination allowances, patrol and fire protection and security, workmen's compensation and other insurance, social-security taxes, welfare plans, Washington State business tax, first-aid and medical expenses, maintenance of offices and shops, power, light, heat, water and ice, maintenance of roads and railroads.

The third classification is defined as project administration, and includes the following items: Management, reproduction section, procurement, construction supervision, engineering office, lay-out and survey, accounting, timekeeping and pay rolls, general office service, personnel, safety and fire prevention, traffic and transportation.

Mr. Winne has just pointed out to me that I have omitted a number of other distributive costs in addition to major construction equipment usage. They are: Depreciation of shop equipment and small tools, maintenance of shop equipment and small tools, major equipment operators' wages not charged direct to individual jobs, depreciation of temporary construction facilities, warehouse material handling costs.

All of the kinds of expenses which I have listed incurred by each CPFF, cost-plus-fixed-fee construction subcontractors at Hanford, are accumulated in these accounts. They are allocated to individual jobs in total on some 16 various bases, the effect of which is to charge each job with its proportionate share of the total that the labor content of that job bears to the total labor incurred for the construction program.

Senator HICKENLOOPER. So that these extra costs that you are talking about represent the cost of the entire cost-plus-fixed-fee contract program?

Mr. BAKER. Yes, sir.

Senator HICKENLOOPER. And the costs for this high school are allocated in proportion to the labor involved by some formula which you believe is allocable?

Mr. BAKER. Substantially; yes, sir.

Senator HICKENLOOPER. Therefore, the extra costs which I have added over the exact amount which the McNeill Construction Co. and others have received, those are costs then that are properly chargeable to the costs of this high school?

Mr. BAKER. In our opinion, they are.

Senator HICKENLOOPER. And that cost, then, is \$3,000,000—I forget the figure you gave—but the figure is \$3,980,000 gross?

Mr. BAKER. That will come down to approximately the \$3,800,000 after giving effect to the adjustment of indirect costs that I mentioned previously this morning.

Senator HICKENLOOPER. About \$187,000?

Mr. BAKER. \$187,000; yes, sir.

Senator HICKENLOOPER. So that total, after reflecting the indirect cost, would be \$3,793,000, according to this mimeographed report?

Mr. BAKER. That is the presently indicated final cost.

Senator HICKENLOOPER. I see.

Now, on your so-called isolation pay, Mr. Baker, that is paid, is that in the nature of a portal-to-portal or residence-to-residence travel time formula?

Mr. BAKER. I do not believe that I am familiar enough with that situation to explain it.

Senator HICKENLOOPER. Well, who is?

Mr. SHUGG. I can speak to that, sir. When that job was originally set up, the biggest bulk of the technical plants to be built were quite a few miles away from the camp they ran, 20 to 30 miles away from the nearest that we could locate the construction camps. A previous lump-sum contractor, working up in that area on a repeat job, had been paying approximately \$5 a day for the length of time the men had to start out ahead of the 8 hours on the job.

Isolation pay is just a term we gave it because it is not exactly based on portal-to-portal.

When the big construction job was set up, with the cost-plus-fixed-fee work, this amount was the subject of a great deal of bargaining with the unions, and, I believe, we started out with the bulk of the workers getting \$1.50, and two trades got \$2.

I think since, in recent months, that has been raised on the part of those two trades to \$2.50, but the average was close to \$2 per day, representing what was almost an hour of travel time that the men took

to get 20 or 30 miles up to the job. That would not apply to that extent on the high school.

Senator HICKENLOOPER. You say it would take about an hour's time for these people to travel to and from their work?

Mr. SHUGG. Yes, sir.

Senator HICKENLOOPER. I have just been interested in the number of Government workers in Washington who take 40 minutes to an hour to get to and from their work, and I do not believe that they are paid for that time on an isolation theory. Many other people in many other places travel that much going to and from their work where they live at some distance, and I was just interested in the theory of payments of that sort.

Mr. WINNE. Senator Hickenlooper, if I might interrupt for a moment?

Senator HICKENLOOPER. Yes.

Mr. WINNE. That was a necessity as a matter of manning the job, and we have found that that is a practice which exists in many other construction projects where the men have to go from what may be considered as their normal headquarters to any distance.

Senator HICKENLOOPER. It may be a necessity.

Mr. WINNE. I think it was absolutely necessary to man the job.

We did not like it any better than anyone else, of course, because it does represent additional expense to the job, but we considered it to be an absolute necessity.

Senator MILLIKIN. Mr. Chairman, would it interfere with the Senator's continuity if I asked a question?

Senator HICKENLOOPER. No, sir.

Senator MILLIKIN. Is the labor scale there the same as generally?

Mr. PROUT. The labor scale, Senator, is common for labor rates in that area for corresponding crafts.

Senator MILLIKIN. So that the labor scale did not reflect the isolation factor?

Mr. PROUT. No, sir.

Senator MILLIKIN. I think I "dropped a stitch" during the earlier part of your testimony; if I did, you catch me up quickly. The contractor gets paid for all of these allocations of overhead items that you mentioned?

Mr. BAKER. No, sir; he does not. The contractor is paid only for the costs which he incurs directly on the job.

Senator MILLIKIN. His own material?

Mr. BAKER. The material which he incorporates into the work, the labor which he furnishes for the work.

Senator MILLIKIN. Now, who determines the correctness of his allocation formula?

Mr. BAKER. The construction subcontractor does not have any formula for allocating these costs to the job. An accurate record is maintained of the labor costs incurred on the job by an audit of pay rolls; an accurate record is maintained of the material costs, that is, the cost of the material incorporated into the work, through a series of purchase requisitions, purchase orders, receiving reports, and canceled checks.

Senator MILLIKIN. I was thinking of labor and material that are shifted around from one job to another.

Mr. BAKER. This labor charged to any individual job is determined daily by timekeeping records and is reconciled with the gross amount of the pay roll paid to all of the contractors' workers each week.

Senator MILLIKIN. Yes; but who determines the allocation?

Mr. BAKER. I believe it is fair to say that the labor costs are direct charges to the job and not allocated to the job.

Senator MILLIKIN. Suppose you had a traveling superintendent. Who determines what part of his pay is charged to a particular job?

Mr. BAKER. The traveling superintendent would be classified under our accounting system as construction supervision, one of the administrative costs that I mentioned previously, and this allocation to individual jobs is determined by General Electric Co. under a formula that was devised jointly by the Atomic Energy Commission and G. E.

Senator MILLIKIN. So the Atomic Energy Commission participated in setting up the formula?

Mr. BAKER. Yes, sir.

Senator MILLIKIN. What supervisory control did the Atomic Energy Commission exercise in following through the administration of the formula?

Mr. BAKER. A series of reviews of the clerical work carried on by G. E. employees. The General Electric Co. employees make this allocation and distribution in accordance with the formula, and this allocation is subject to review by the Commission people at Hanford.

Senator MILLIKIN. What review did the Commission people give to the matter? What current review did the Commission people give to the matter?

Mr. BAKER. I do not believe I can answer that specifically.

Senator MILLIKIN. Who could?

Mr. BAKER. I believe the Commission could.

Senator MILLIKIN. Coming back now to materials, so far as materials are concerned, which are shifted from one job to the other, who determined the formula for allocating the costs of that material to particular jobs?

Mr. BAKER. The material charges to any one job originate from two sources: First, material which is ordered specifically for a job delivered to the work site, the cost of that material is then charged directly to the job through this series of purchase requisitions, purchase orders, vendors' invoices, receiving reports, pay checks, and so forth.

Senator MILLIKIN. Is there a credit back on the remaining value of the material after it has served its purpose?

Mr. BAKER. I am speaking of the material which is physically incorporated in the work.

Senator MILLIKIN. I am not speaking of that; I am speaking of roving material, of material that you use on several jobs, machinery. You have an electric hoist, for example; you have portable scaffolding; you have dirt-moving machinery.

Mr. BAKER. Yes, sir.

Senator MILLIKIN. Material that you move from one job to the other. Who determines the formula of allocation?

Mr. BAKER. This is classified by us as major construction equipment, and records are maintained by the subcontractor, reviewed by

General Electric as to the period of time that each piece is used on each job.

Then, the dollar value of that usage is determined through these rental rates which I mentioned, that are established to liquidate the cost of the equipment, plus the maintenance of that equipment.

Senator MILLIKIN. Did the Commission participate in these formulas?

Mr. BAKER. These formulas were worked out jointly by General Electric and the Commission at Hanford.

Senator MILLIKIN. What review did the Commission exercise over the administration of the formulas?

Mr. BAKER. To the best of my knowledge, this was done during their periodic reviews of our allocation bases.

Senator MILLIKIN. I am talking about actual inspection in the field as to the use of the particular material.

Mr. BAKER. I cannot answer that question.

Senator MILLIKIN. What percentage of the whole cost is represented by the item that you have mentioned?

Mr. BAKER. Somewhere between 35 and 40 percent of the total.

Senator MILLIKIN. Does that coincide with the usual practice?

Mr. BAKER. It is the average percentage for the individual projects at Hanford. Yes, sir.

Senator MILLIKIN. How about Nation-wide?

Mr. BAKER. I do not have sufficient information to answer that question.

Senator MILLIKIN. Well, out of your knowledge of the subject, the Nation-wide figure is much less than that, is it not?

Mr. BAKER. As a percentage, I do not know. I do believe that a comparison of percentages at Hanford with Nation-wide percentages would require a comparison of the two elements of cost which go to make up that percentage.

Senator MILLIKIN. I understand that.

Mr. BAKER. There is the direct and the indirect.

Senator MILLIKIN. And, of course, it would depend on the kind of jobs that you were talking about, but the contrast may lend perspective on the thing. Would you not say that is a very high percentage?

Mr. PROUT. Mr. Chairman, I wonder if I might answer that question?

Senator MILLIKIN. Sure.

Mr. PROUT. As Mr. Baker has pointed out, percentages are useful for comparison from week to week or from month to month on a particular job for control purposes, but in order to compare percentages in one construction project such as this with a construction project conducted by someone else at another location, it is necessary to understand what elements of cost are included in these indirect charges, and one might appear to be high compared with another because it includes more items.

For example, on an ordinary construction job, there would be no isolation pay, which is included here as an indirect cost. The heavy construction equipment usage might be charged as a direct charge to the job by some construction contractors, where here it is included for a number of reasons as an indirect cost.

Senator MILLIKIN. I think everything you are saying is quite evident.

Mr. PROUT. You see—

Senator MILLIKIN. But if out of other experience you have learned that these items might amount to 15 percent, you have a red lantern for careful scrutiny of something that goes up to 40 percent; that is what I was driving at.

Mr. PROUT. Yes, sir; I understand that.

Now, what we are doing—

Senator MILLIKIN. I am not saying that there is a complete analogy between any two jobs; I am not saying, so far, that the 40 percent or more that you have discussed is excessive. I am trying to get at what supervision ultimately—I am trying to get at what supervision did the Commission exercise as these costs accumulated and mounted.

Mr. COLE. Mr. Chairman, I wonder if the Senator would yield?

Going back to the isolation costs, is it not a fact that there are a considerable number of workmen who live at Hanford or within a stone's throw of Hanford?

Now, the question is: Do those people get isolation wages?

Mr. PROUT. No, sir, Congressman. There are no construction workers who live in the area where the major construction is being conducted. That work has been conducted at varying distances from 25 to 35 miles from the city of Richland, and about 4 miles less than that from the construction camp in North Richland, where a preponderance of the construction workers live.

Mr. COLE. What is the nearest, the shortest distance, where the construction workmen live?

Mr. PROUT. Well, on a major job, somewhere in the neighborhood of 20 miles, maybe 25.

Mr. COLE. How about for this school?

Mr. PROUT. Well, for the school the construction workers in the main lived in the construction camp about 4 to 5 miles from this work. However, in the allocation of isolation pay to jobs, all of the isolation pay costs that were incurred were allocated on a percentage basis, you see.

Mr. COLE. Well, then, the workman gets the isolation pay irrespective of the distance that he lives from the job.

Mr. PROUT. No, sir.

Mr. COLE. Is it measured by the distance that he lived from the job?

Mr. PROUT. They get isolation pay only for work behind the barricades.

Mr. COLE. That is not my question.

Mr. PROUT. Yes, sir.

Mr. COLE. They get isolation pay then no matter what distance they live from their job, whether it is 4 miles or 50 miles.

Mr. PROUT. Yes; that is right. If the work is done—if they are doing work beyond the barricade, that is right.

Mr. COLE. Doing work beyond the barricade?

Mr. PROUT. That is in the barricaded area, the exclusion area.

Mr. COLE. If they work on the nice side of the barricaded area, they do not get isolation pay even though they might live 75 miles away?

Mr. PROUT. That is right.

Mr. COLE. What has the barricade got to do with the determination of isolation pay?

Mr. PROUT. Well, the philosophy under this isolation pay was that it would be paid to workers who worked beyond the barricade.

Mr. PRICE. What is the barricade?

Mr. PROUT. The barricade is the gate across the highway that is the entrance to the exclusion areas where people have to have clearances to go to work. Now, in that area no people have been permitted to live, and, therefore, the philosophy on which this procedure was based was that in an ordinary community people have the privilege of deciding where they will live if they can find a place. Here, they were not privileged to live near the work.

Now, it was a combination of that circumstance plus traveling from the construction camp into the exclusion area that brought about this determination of paying isolation pay.

Mr. COLE. Nobody lives within the exclusion area?

Mr. PROUT. That is right.

Mr. COLE. Behind the barrier?

Mr. PROUT. That is right.

Mr. COLE. This school is not located behind the barrier, is it?

Mr. PROUT. That is true.

Mr. COLE. You said a minute ago that the people who got the isolation pay were only those who worked beyond the barrier.

Mr. PROUT. That is true.

Mr. COLE. And yet this school job is not behind the barrier. Clear it up, will you?

Mr. PROUT. Yes, but all of the isolation pay that is paid to all of the workers is lumped in one sum and all allocated to all jobs for accounting purposes.

Senator HICKENLOOPER. Is any isolation pay at all reflected in the amount of \$2,495,000 that McNeill Construction Co. got?

Mr. BAKER. No, sir.

Senator HICKENLOOPER. Is any isolation pay at all lumped, reflected as actually paid, in the \$277,000 for other labor and materials by others than McNeill?

Mr. BAKER. There may be some included in that figure.

Senator HICKENLOOPER. So that all the isolation pay is included in the \$742,000?

Mr. BAKER. Yes, sir; it is.

Senator HICKENLOOPER. Indirect costs?

Mr. BAKER. Yes, sir.

Mr. WINNE. I think, Senator, it is important to understand that this isolation pay, while allocated to this job, in order to simplify the overall accounting, allocated to all jobs, very little of it was actually incurred on the school job, so to that extent, the costs are, you may say, overstated in that one item.

Senator HICKENLOOPER. Well, it would seem to me, by the same token, that the costs are increasingly questionable because no isolation pay is reflected in the \$2,772,000 cash for this building that was paid in the two items to McNeill and the labor and materials furnished by others. They would not include any unusual pay for the workmen. That gives a total of \$2,772,000, as I get it, exclusive of the \$742,000 that are reflected in these other charges.

Mr. HINSHAW. Mr. Chairman.

Senator HICKENLOOPER. That would compare, using the comparison of yesterday, with a building twice as big here in Washington and approximately twice as many students for \$1,800,000, and that is not even

considering the \$742,000 service charges of various kinds referred to as indirect costs.

Mr. WINNE. Well, as I remarked yesterday, when we had a team of three people from the General Electric Realty Corp. make an investigation of this cost, because it appeared high to us, they tried to separate out as well as they could the items which they felt were incurred because of, shall we say, the peculiar construction conditions at Hanford, and separating those out, they arrived at an estimated net building cost, as I think I mentioned, of \$2,467,000, or approximately \$24 per square foot. I would like to read to you a paragraph from their report with reference to that which, I think, may be of use in this record:

Although construction costs of schools vary greatly depending upon the requirements, information obtained indicates that costs of typical schools in New York State where labor rates are reasonably comparable to those at Hanford, have run in the neighborhood of \$20 per square foot, and \$1 per cubic foot. Although the costs of the Carmichael School are somewhat higher, a part of this additional cost undoubtedly resulted from certain of the items incorporated in the design which have been mentioned previously. The cost of these items in comparison with other facilities could be determined only by a detailed analysis and comparison. In addition it appeared from observations made during our review that the efficiency and production of construction labor was lower than that of similar labor in New York State. The lower labor efficiency would, of course, contribute to additional costs. In our opinion, these two factors account for at least the major part of the excess of the costs of the Carmichael School over that of a typical school in New York City.

Now, as I said yesterday, this school is a very fine school.

Senator HICKENLOOPER. What is the construction type, incidentally? What is the material, I mean?

Mr. WINNE. Well, it is a concrete block wall, as I recall it, with steel framing, but as I said, it is on a sloping hillside which, with a difference in elevation, the floor and other lay-outs are cut up by the changes in the elevation, the lay-out of the north wing, with a single row of classrooms requiring a large amount of wall and corridor construction in relation to the floor area.

Another item is the use of high ceilings with monitors and side lights for the corridors, overhang eaves for the monitor roofs, a head room of 27 feet 6 inches in the auditorium, and 53 feet in the loft for handling scenery, extensive refinements of interior finish, with built-in equipment and glazed tile, systems for supplying filtered and washed air to the rooms, and an item which will greatly decrease maintenance costs in the future, the use of pipe tunnels along the exterior walls to facilitate the installation and maintenance of steam and water piping.

Now, looking back with hindsight, this design, in my opinion, is somewhat more elaborate than is needed for that school. Probably you may say that the General Electric Co. should have caught that in the design stages, and looking back with hindsight we can say the same things to ourselves and criticize ourselves for not doing it.

Of course, at this same time we were carrying on a construction program of important production facilities many, many times in volume of the school item, and so that it probably suffered in supervision as compared to the important production facilities, and if we were doing this alone, I think we could make—doing it over again—we could make a considerable reduction in costs. We must admit that.

Senator HICKENLOOPER. Yes. I think, without passing any judgment on that testimony at the moment, it might well pose the question as to whether the system of operation there in construction should have a revamping and a different approach to the various construction problems.

Senator KNOWLAND. I would like to ask if the cost did not include the equipment of the school other than, as you have mentioned, I mean desks and——

Mr. WINNE. Yes; the cost includes the school completely equipped, Senator Knowland.

Senator KNOWLAND. Ready for use?

Mr. WINNE. Ready for use, and it is in use.

Senator MILLIKIN. Mr. Chairman, may I ask a question?

The CHAIRMAN. Certainly, Senator.

Senator MILLIKIN. I am trying to establish the relationship of the Commission to what we are talking about. Were the blueprints and the changes in the blueprints approved from time to time by the Commission?

Mr. WINNE. Yes, I think that is correct, Senator. Of course, the Commission looked to us as the prime contractor at Hanford to be responsible to see that these things were right, as well as we could, but they did also look over the drawings and specifications. I think I am correct in that, and approve them as is required by our contract with the Commission.

Senator MILLIKIN. From time to time?

Mr. WINNE. I think that is correct. It is my understanding that that was the case, Senator. I was not right there on the job myself to see that.

Senator MILLIKIN. What did the Commission have, inspectors, other inspectors on the job?

Mr. WINNE. Perhaps one of the Commission men, familiar with the operation at Hanford, should answer that, Senator, rather than myself. I cannot tell you from my own personal knowledge.

Mr. SHUGG. Senator, we had an office charged with the complete supervision of design and construction which at the time I left there was about 35 people. That did include everybody in the office, and the field inspectors.

It was a small group, but there were roving field inspectors not tied down to any one spot, who did have the opportunity to look at anything and did have the chance to find out as much as they were smart enough to find.

Senator MILLIKIN. As distinguished from roving inspectors, were there any inspectors attached to this high school?

Mr. SHUGG. We had the field staff split up between a certain area in the technical plants and another area, and a third area involving community work. That was the nearest assignment. We did not have people—we did not have enough of them—to follow each building and each job. The General Electric, in the first place, had people, and in some cases, the architect-engineer had people under them in order to see that their plans were carried out, and then the contractor had—there were about three layers already, sir, and ours was a very light check over that.

Senator MILLIKIN. But you had someone in charge, charged with the inspecting of all of these operations at Hanford?

Mr. SHUGG. We had an office, a total office of 35 people, which was responsible for exercising our end of all design and construction.

Senator MILLIKIN. Did that office make any reports at any time on any of the matters that have been discussed here as to possible over-elaboration of design?

Mr. SHUGG. Yes, sir; plenty—the life in those days was just one continuous discussion of a whole lot of things that were in disagreement. We had plenty of disagreements and plenty of times we were wrong, and sometimes the contractor was wrong, and it was a very busy time of arguing over this job from all angles.

Senator MILLIKIN. Did those matters come into the Commission here in Washington?

Mr. SHUGG. Sometimes they did, sir. On a couple of occasions, when we had too big a package piled up, it came to Washington, and we had Commission meetings on it. We had one early in November of 1947; we had at least one in January, February 1948, and we have had several since.

We had a 2-day session here February 19 of this year; that is, a stock taking and a review, and a mutual exchange of ideas and to see if we can do it better.

Senator MILLIKIN. Did the staff at Hanford have any comments to make on the method of allocation of costs of the type which we have been discussing?

Mr. SHUGG. Well, I can say that I myself have always felt that in taking the over-all management and field expense and equipment costs for a job of that type out there, where the bulk of it is of a complex, highly technical nature, means that the total of those overhead costs is high—and I think justified to a very large degree for that type of job.

Now, you have thought that taking that and applying the same percentage for something simple down in the town as is applied to a highly technical plant up beyond the barrier, does not put the best foot forward on the job down in the town; but to try and make two or three scales, two or three percentage scales in order to only put on the town as much as can be figured for the town, does not save any money. It would not save a dollar. It would mean that as much as you lighten the town job, the extra would go on a plan job, so it would not save any money and, at the same time, it might cost some money in further complication of the bookkeeping. So I agree——

Senator MILLIKIN. Although the total might not be lessened.

Mr. SHUGG. Right, sir.

Senator MILLIKIN. But the basic question is whether the allocations are correct, whether they are overweighted.

Mr. SHUGG. I definitely think that it results——

Senator MILLIKIN. What was the rate of depreciation on roving material? Take a bulldozer, take any item? Did you follow the standard practices on that?

Mr. SHUGG. Yes. I do not know it personally, but I believe it will be found that the rates of depreciation on the heavy equipment are based upon its average life under that heavy usage.

Senator MILLIKIN. I mean, there are certain standard practices for tax and other purposes; certain standard practices of the trade——

Mr. SHUGG. Yes, sir.

Senator MILLIKIN (continuing). On what should be the percentage of depreciation of, we will say, bulldozers.

Mr. SHUGG. Yes, sir.

Senator MILLIKIN. Were those followed or were they exceeded?

Mr. SHUGG. I cannot tell you personally that I compared those, but I have confidence in the people, and we have some pretty practical men, too, who helped set that up. We have one man who specializes on that.

Senator MILLIKIN. I think it would be useful to know what their opinion was. Can any of these gentlemen tell us?

Mr. BAKER. Yes sir; I can answer that question, Senator. The rental rates that are used by us in allocating the cost of major construction equipment usage are based on those which are used by the trade in general.

Senator MILLIKIN. I am very glad to have that information. Thank you for it.

Now, were these various matters that we have just been talking about, so far as questions that came up among the members of the local staff at Hanford, who were there representing the Commission, were those matters passed on to the Commission? Or were they decided on the ground without reference to the Commission?

Mr. SHUGG. There were a lot, sir, that had to be decided on the ground, and we should have decided, and did decide.

It was only those that we could not handle that were brought higher up, and those were more in the nature of a general stock-taking and a general tightening up, and oftentimes in connection with being behind schedule, too.

Senator MILLIKIN. Now, what action was the Commission taking to see that the questions which should have been referred to it were referred to it? Did the Commission send anyone out to check what you were doing there locally?

Mr. SHUGG. Well, sir, there were some times when I thought that there was a pretty steady parade of Washington staff people out there. Now, there were not enough Commissioners to come there all the time.

Senator MILLIKIN. Were they on parade or were they there for a purpose?

Mr. SHUGG. They were there to find out what we were doing, and I know I can speak definitely that they did find out plenty. I can speak of the fact that in one project later on there was a very major change which was made as the result of one of those visits.

Senator MILLIKIN. Was it systemized supervision of what you were doing there, or sort of a "shooting from the hip" operation? Did they have people come out at regular times with a regular mission, or did sightseers come out and engage in general "yak-yak" on the subject?

Mr. SHUGG. No, sir; we had a very regular group of visitors there who took over construction out on our job, and not only these staff people but the Division Director. It is a general question to answer, Senator, but I do not think we suffered from Washington interest.

Senator MILLIKIN. Then, you would say as a result of everything that you have said that the Commission here was thoroughly informed and if there were any mistakes there, they are directly attributable to the Commission?

Mr. SHUGG. I would say, sir, that as far as we could in the field we informed the Commission of those things that we did not think

we could handle ourselves. I will say that I did not hand out any more than I could handle.

Senator MILLIKIN. Let me ask you my question again: You have detailed now the direct knowledge of the Commission of what was going on out there through this parade of people that were constantly there. Would you give it as your opinion that the Commission was so thoroughly informed that it has complete responsibility for the result, whether good or bad?

Mr. SHUGG. I would not say, sir, that the Commission had complete responsibility—I was responsible, while there, for anything under me. That was definite; what the manager in the field failed to do, I think, the Commission would know about and would know what was going wrong or right in the manager's job as a whole. What happened below me, sir, did not get up to the Commission if I could help it, if I thought I could handle it.

Senator MILLIKIN. Well, I repeat my question: Did the Commission have enough information on what was going on there so that it would be fair to say that it not only was theoretically responsible, which it is for all of these operations, but that it had enough actual knowledge of what was going on to be held to actual responsibility?

Mr. SHUGG. I would rather not answer, sir, as to whether they had sufficient knowledge because I certainly would involve myself then in my own judgment as to whether I passed up enough.

Senator MILLIKIN. But you do not detract anything from what you have said as to the frequency of Commission inspections?

Mr. SHUGG. Washington staff?

Senator MILLIKIN. Yes.

Mr. SHUGG. No, sir.

Senator MILLIKIN. All right.

The CHAIRMAN. May I ask a question of Mr. Winne?

Mr. Winne, you stated the other day that the General Electric contract was subject to a reaudit at the conclusion of your general contract by an independent firm of certified public accountants. Would this item of the high school come within the purview or the intent of such a post-audit?

Mr. WINNE. No, Senator McMahon. The item in the contract which is subject to that audit by a firm of certified public accountants, acceptable to the Government, is this \$200,000 per month administrative fund against which we charged such expenditures as we incur in connection with this contract, which are not directly reimbursed at either Hanford or the Knolls.

The item such as the actual expenses of operation and contracts and so forth which are reimbursed right at Hanford or the Knolls are, of course, available for the Commission's staff at those places to audit at any time, but so far as I know, no outside firm of accountants is called in.

The CHAIRMAN. Thank you.

Mr. HINSHAW. Mr. Chairman?

The CHAIRMAN. Mr. Hinshaw?

Mr. HINSHAW. In this operation at Hanford, is there any separation in the General Electric Co.'s handling of construction projects within the barrier and without the barrier, or are they all handled through the same office?

Mr. WINNE. I think Mr. Prout can tell you that.

Mr. PROUT. They are all handled through the same office.

Mr. HINSHAW. Mr. Chairman, that is in contradistinction to other locations of the AEC where there is a town management group which is responsible for the community facilities, including schools, roads, sewers, and other community facilities.

It would appear that through the convenience of allocation of funds, that the same kind of an allocation is made to town facilities as is made to construction within the barrier. I rather believe that if we were to separate the two, that is, the town management as one item, and facilities within the barriers as another item, that we would find an entirely different overhead charge on the town management.

I will ask Mr. Winne if that is not correct?

Mr. WINNE. In my estimation, Mr. Hinshaw, that is quite possible, because, as Mr. Baker pointed out, the indirect costs are allocated as a percentage of direct labor, by and large, and it is quite possible that in that item there is an overcharge on the high school which should have gone against some of the production facilities if you could accurately separate those items and take the time and expense of accounting to do it.

Over all it would not save the Government a dollar, as I see it. In fact, I think it would cost the Government several dollars for the additional accounting, and so forth, required to do that job.

Mr. HINSHAW. Well, as a matter of fact, Mr. Winne, there is very little if any isolation pay, for example, in this high-school project.

Mr. WINNE. That is true. There is very little actual isolation pay paid on the high-school job.

Mr. HINSHAW. And yet something—

Mr. WINNE. Although in distributing the indirect costs the same percentage is applied to the direct labor—the same percentage of indirect costs—as on the other jobs, so that it unquestionably has in that particular item of isolation pay more charged against its book costs than was actually incurred on it.

On the other hand, that isolation pay was actually paid out, and if it did not appear against the school, it would appear against one of the production facilities, so again there would be no net saving to the Government and, as I pointed out a few days ago, the over-all record on the over-all construction job there involving some \$230,000,000 is an overrun of only about 3 percent, so that the performance over-all is, I think, excellent.

There are individual items where the costs have overrun considerably, such as on this school, overrun the estimates considerably, such as on this school and on the project we discussed the other day.

Mr. HINSHAW. I call attention to the fact that when an item from the AEC is sent into a budget for the Congress in the amount of \$1,700,000 or \$1,800,000 for the construction of the school, that it either places the Commission in a false light or else provides a false guide for the Congress in making the appropriations.

We had no way of checking as to the cost of such a project if costs are included in the final cost which are not actually a part of the cost of construction and supervision.

Mr. WINNE. It is true that there are some inaccuracies there, Mr. Hinshaw, but again it is a question of whether the game is worth the candle. It is a question, that is, of whether we should spend the money and the time to endeavor to get a single item out of a major

construction program allocated its share of this indirect expense with extreme accuracy when over all doing it that way does not, as I say, save a dollar, and it would actually cost dollars in accounting and so forth to do it.

Mr. HINSHAW. I realize that the totals——

Mr. WINNE. I realize the effect on your budgeting and so forth; I can well agree with that.

Mr. HINSHAW. There is no way possible for the Congress to understand what is going on and to make an appropriation of funds unless we know what things are going to cost approximately.

Mr. WINNE. That is true. But, of course, I think the inaccuracy is not very great. I do not know what amount is included in this particular school cost item to cover isolation pay. Do you have that?

Mr. HINSHAW. About \$100,000, as I remember the figure given.

Mr. WINNE. Well, there was about \$100,000 for actual overtime, but Mr. Baker says around \$100,000 is fairly close for the isolation pay, in addition to the overtime.

Mr. HINSHAW. Yes, but from the standpoint of the Congress and the budget of the Commission submitted to the Congress in its Appropriations Committee for the purpose of making appropriations, it is a very impractical guide.

We have no way of judging whether or not the amount requested is going to cover the amount finally expended. In other words, we are off some 40 or 50 percent because while the contractor actually paid out something in the neighborhood of \$2,000,000 or \$2,400,000, these other costs add something like 40 percent to the bill.

I would like to know how anyone can expect the Congress to properly appropriate funds for the Atomic Energy Commission unless it has some reasonable statement made to it beforehand as to what actually is intended to be expended for that purpose.

Mr. WINNE. This is a very good question, and we want to give you the best estimates that we can of any of our projects.

As I said yesterday, the estimate on this school was admittedly altogether too low.

Now, the inclusion of this isolation pay of \$100,000, is not a very large percent of the total, and it does not by any means account for a large part of the overrun, as you well know.

Mr. HINSHAW. But the total allocation from the Commission of about—from the General Electric Co. of about \$1,400,000 completely changes the picture as far as costs are concerned. It is not \$1,700,000 or \$2,400,000, it is \$3,800,000, or some such figure as that; and, of course, we cannot appropriate on that kind of a basis.

Mr. WINNE. Well, but my point is, Mr. Hinshaw, that the \$2,400,000 in itself is over the initial estimate, that is, our initial estimate, the estimate made by the architect-engineer, which was way too low, and there is no question about it.

Mr. HINSHAW. Yes, but as stated by Mr. Baker a few moments ago, that \$2,400,000 does not include the use of heavy machinery and a great many other items.

Mr. WINNE. That is right.

Mr. HINSHAW. Which you placed on the job and which should be charged to direct costs.

If those direct costs are separated from the \$1,400,000 that General Electric spent and applied to the cost of the school, it is going to run considerably over \$2,400,000, is it not?

Mr. WINNE. Yes.

Mr. HINSHAW. So that in order to arrive at any kind of a figure, whatever that will be, of any sort of a guide as to whether expenditures are being properly allocated and made, we should know what all of the direct costs are that are involved in the project, and what the indirect or supervisory costs are.

Mr. WINNE. It would be desirable from the standpoint of getting an extremely accurate cost of the construction if we had that. As I say, we did not do it because we had this whole major construction program.

This, while in itself is a large item, is less than 2 percent of the total construction program we were carrying on.

Mr. HINSHAW. Let us multiply this school by all of the different schools that go into all the projects of the AEC, and supposing they come in with a budget of \$1,700,000 per school, and there are 10 schools, and it ran \$1,400,000 or \$2,000,000 over on each one of the 10 schools, we would have \$20,000,000 involved in a budget item.

Mr. WINNE. That is correct.

Mr. HINSHAW. And, of course, we just cannot appropriate that way, and the Congress, so far as I can see—it is an impossibility for us to make any kind of an estimate because then the Commission would have to come in to us and say, “We have a deficiency which we desire to obtain in order to make up the cost of these facilities.”

Mr. WINNE. That is perfectly true, but the point that I want to make is that this total overrun is not due entirely or in large part, indeed, to the indirect costs allocated to this job. They are a very substantial item, but they did not account for the total overrun. It comes back again to the fact that the estimate was too low for the type of building which was actually built.

Mr. HINSHAW. I recognize that, and I recognize also that the overall appropriations for the entire Hanford project would be no different, whether the overrun ran one place or another.

Mr. WINNE. That is right.

Mr. HINSHAW. But, on the other hand, in order to justify the budget of the Commission, some more reasonably accurate figure must be had, both as to direct costs and as to indirect costs.

Now, at the present time we will find that the overhead charged to the construction within the barrier is too low; hence, those costs are not high enough because some of those costs have been charged to a school and, perhaps, to other projects that are on the job there. I do not know what percentage of the total budget of G. E. is applied to projects inside and projects outside the barrier, but if that rate is to apply for all the projects outside the barrier, then those costs are obviously too high and the costs within the barrier are correspondingly too low. Is that not correct?

Mr. WINNE. I think that is correct, Mr. Hinshaw, that on jobs like this school the indirect charges, including this isolation pay, et cetera, are probably somewhat too high, and that, correspondingly, the costs of the work behind the barriers are somewhat understated, but, again, it is not a large percentage.

Now, perhaps, for your work, getting your budgets, and so forth, perhaps we will have to work out with the Commission a different method of accounting and allocating such costs in the future.

Mr. HINSHAW. That is all, Mr. Chairman.

The CHAIRMAN. Mr. Elston?

Mr. ELSTON. Just one question, Mr. Winne. Do the workmen who receive this isolation pay, pay for their own transportation?

Mr. WINNE. Perhaps Mr. Prout can answer that.

Mr. PROUT. Some of them do and some do not. Bus fares are collected on some proportion of the workers who go into the area to work.

Mr. ELSTON. Under what circumstances are fares collected and under what circumstances are they not collected?

Mr. PROUT. I am unable to answer that question. I am sorry.

Mr. ELSTON. Do I understand that in some cases the Commission furnishes transportation free?

Mr. SCHLEMMER. May I make an observation in that connection. The situation is that busses are provided to take employees into exclusion areas. In cases where employees enter those areas, they are transported by bus for which they pay a fare of 5 cents.

In connection with certain of the workers on construction work, they are permitted to enter the area within their own vehicles. These are not exclusion areas.

Mr. ELSTON. Did the workers on this high school building, who received isolation pay, pay their own fares or not?

Mr. SCHLEMMER. The workers on the high school building did not receive isolation pay. They paid their own fares to that project.

As Mr. Winne explained, no isolation pay was paid to construction workers on the high school, but in the allocation of indirect charges, which are made against all projects, both those in exclusion areas as well as those in the community areas, the isolation pro rata was charged against that project.

Mr. ELSTON. That is all.

The CHAIRMAN. Senator Hickenlooper?

Mr. SCHLEMMER. May I make a further observation in connection with Mr. Hinshaw's observation on budgeting and allocation?

The total funds authorized and obligated by the Congress up to and including June 30, 1947, amounted to \$345,000,000. That covers all of the projects of any nature at Hanford.

The presently estimated final costs applicable against those appropriations and obligations are \$335,000,000, or a favorable difference of \$10,000,000 in the case of the total Hanford project.

The CHAIRMAN. Senator Hickenlooper?

Senator HICKENLOOPER. Mr. Chairman, with respect to the last remark, I think that it may become apparent that the philosophy of operating this project is to stay within the budget rather than to operate with a degree of efficiency that good business practice would dictate. In other words, if one stays within the budget, then everything is all right, because we have been appropriated that much money and if we do not spend more than we were appropriated, we are doing the job. I am afraid that philosophy may gain some support in these matters.

So that the fact that a person does stay within his budget would not necessarily be an answer to efficient operation.

Mr. SCHLEMMER. Senator Hickenlooper, that does not happen to be the philosophy, and my observation was directed only to Mr. Hinshaw's point regarding funds appropriated and funds spent.

If I may also, Mr. Chairman—

Mr. HINSHAW. I would like to point out that I was referring only to a high school. I was not referring to the entire project, and the gentleman cannot deny that the high school cost a great deal more than it was budgeted for.

Mr. SCHLEMMER. That is correct.

Mr. WINNE. Senator Hickenlooper, I would like to point out, if I may, that it is not our operating philosophy simply to stay within the budget. We are trying to run that job as we run any of our own jobs in our own commercial works, trying to obtain the same degree of efficiency, the same safety, the same improvements in operation which, if time permits, sometime today or some other time, I would like to bring to your attention, as to the improvements, reductions in operating expenses, et cetera, that we have made in the operation of this whole project, including not only the operating facilities but the town as well; because, as I think Mr. Hinshaw brought out, contrary to the practice at two of the other sites, we are responsible at the present time for not only operating the facilities, but the village of Richland as well.

Senator HICKENLOOPER. I will say, Mr. Winne, that from time to time I have been on both sides of the operating expense theory at Hanford. There was a time when I thought that the operating town site expense at Hanford was very, very efficient indeed in comparison to some of the other towns that were being operated by the Commission.

I tried to get into that and found that, at least so far as any information that the staff could develop—found that the accounting system is such that it is difficult to isolate these matters, and I have been unable to find any information on an accurate determination of town operation in Hanford, because it is all operated as one unit, and out of the same offices and charges are allocated to this project and charged to that project, and so on, in a way which I feel makes it very, very difficult to evaluate the activities of Hanford outside of the highly technical areas and operating activities.

I am not saying that it is inefficient or that it is efficient at this time, because I still feel that there is no comparable yardstick available, at least to a complete laymen in those things, that will furnish a basis for comparison as, for instance, between Hanford and Oak Ridge and Hanford and Los Alamos.

I do not raise that particular question at the moment.

Mr. WINNE. May I just make a short statement on that point?

I think your remarks are quite correct as directed to the condition a year or so ago. The expense of operating the town was in many respects intermingled with the expense of operating the plant, but during 1948 we have segregated the operations and the accounting, and so forth, for the village, so that we are now in a position to know very definitely what the operations of the village are costing as distinct from those of the plant; and, so far as we can find, they compare very favorably with the other Commission towns.

The Commission is in much better shape to speak on that than are we.

Senator HICKENLOOPER. I would like to mention two other matters.

Mr. PRICE. Mr. Chairman, before we go to another matter, I would like to ask something on this.

Senator HICKENLOOPER. Excuse me.

The CHAIRMAN. All right, Mr. Price.

Mr. PRICE. Mr. Winne, during what period was this project under construction?

Mr. WINNE. I cannot speak of my own knowledge, but Mr. Baker and Mr. Schlemmer tell me about April 1948, and we moved the children in the 1st of February 1949, Mr. Price.

Senator HICKENLOOPER. The date on this mimeograph we have here shows construction was started May 13, 1948.

Mr. PRICE. What were the general conditions in the construction industry during that period as to cost of production on various jobs throughout the country?

Mr. WINNE. I do not think I am competent to speak on that, Mr. Price.

Mr. PRICE. Had the General Electric been engaged in any construction programs of their own during that period?

Mr. WINNE. Very definitely; yes, sir.

Mr. PRICE. Do you know anything about their experience in overruns?

Mr. WINNE. Some, yes. I know we have had a great many of them during the whole postwar construction period because of rising labor and material costs, and in some cases they have been very material overruns.

Mr. PRICE. Can you give us any idea about how much they amounted to?

Mr. WINNE. Well, I can recall one rather large project on which the final cost was more than double the original estimate. Now, there was an intervening period of time of a year or so in there in which there were rising material and labor costs, of course, which very largely accounted for that.

Mr. PRICE. So that, in addition to the circumstances that were peculiar to this Carmichael High School project, there were other economic conditions that entered into the overrun.

Mr. WINNE. I think there were labor increases during the course of the construction.

Mr. BAKER. Yes, sir.

Mr. WINNE. During the course of construction of the high school there were some labor increases.

Mr. PRICE. Of course, Mr. Chairman, I could fill the record with examples of this in both private construction projects and from records of our armed services on different projects, but I do not see the advisability of doing so, since I think that the Commission and General Electric have given an adequate presentation on the cause of the overrun at Hanford.

During the past few days, Mr. Winne, we have been talking almost exclusively about the Carmichael High School, and a few days about the U-234-235 facilities. I wonder if you could tell us something about what the General Electric and AEC have accomplished out there in the past 2 years?

Mr. WINNE. Well, yes. As I mentioned a few moments ago, I will be delighted for the opportunity to tell you briefly of some of our accomplishments in the actual operations of the plant and also in construction.

We have built, among other things, two new production facilities, which I do not feel on the basis of security I can describe here, but I think your committee knows what they are.

In both of those cases the final indicated costs are below the estimates, and our time for completion is very materially less than it was felt by the people who built the initial plant that it would take us to build these facilities.

That is on the order of only 60 percent as much time as was estimated, based on the building of the original facilities. In those facilities we have made improvements in design which will lengthen their life, increase their output and save the Government a great deal of money so long as it continues to operate these plants.

Now, I will go through this rather quickly, if I may, Senator McMahon; just a few of the items in the operation.

The CHAIRMAN. Yes.

Mr. WINNE. When we took over the operation of the Hanford Works, some of these major very costly production facilities were deteriorating rather rapidly. I want to emphasize that this was not due to any fault of the organization or organizations which designed and built these plants. This deterioration resulted from a condition which could not be foreseen on the basis of information available at the time it was built, but this did occur, and, as the Commission has said sometime in one statement which I saw in the press, threatened the continued operation of that plant.

Now, by action on the part of our technical and operating staffs, we have retarded, or we hope stopped at least for a long time, this deterioration so that the life of these expensive facilities has been very greatly increased. Had we not been able to accomplish this, a good many millions of dollars in additional investment would have been required to maintain production.

We have also materially increased the average output of these production units. We have reduced very greatly the amount of raw material required.

At present rates of production we estimate that this will amount to an annual saving on the order of \$20,000,000.

We have reduced by 20 percent, and expect to increase this to 50 percent, the amount of liquid waste which must be stored. That will result in a saving on the order of a million dollars a year at least.

We have reduced very materially the loss of plutonium going into these waste solutions, and, of course, plutonium is particularly valuable. As I mentioned before, in these new production facilities we have incorporated factors which, we think, will materially increase the output and lengthen their life.

Other savings resulting from changes in methods and processes and organization, et cetera, that we have put into effect during the year 1948 are estimated to amount to an annual rate of approximately \$3,900,000.

The net result of all this is that if the savings in raw materials, reduction in depreciation rate, and all other items are taken into account, and on the assumption that the plant must be continued in operation for a number of years—that is, that the equipment must be maintained and continue to produce—we feel that we can honestly and conservatively estimate that our operations of the plant have resulted in savings at an annual rate on the order of 40 or 50 million dollars.

That takes into account depreciation, which very often is not taken into account in Government accounting apparently, but you have

the depreciation, and if the equipment depreciates at a fast rate, you will have to replace it that much sooner, which means you will have to expend this money for these various expensive facilities.

In addition to that, we have maintained a very enviable safety record in the operation of this plant, and this record compares very favorably with any other industrial operation in spite of the very peculiar nature of the operations that we carry on there.

In my estimation, it is a remarkable safety record. The du Pont people, who operated the plant at first, also had a very good safety record, and we have maintained this very enviable safety record.

Mr. PRICE. Mr. Winne, you said a moment ago that you tried to put into this effort the same skill and efficiency that you would put into one of your own projects.

Now, do you carry that to the extent that you tried to place in charge of your operations there the same high-type top personnel that you would in your own operations?

Mr. WINNE. We have endeavored to do that. As I pointed out—I think it was last week—we have now in charge of our Hanford operations, the gentleman on my left, Mr. George R. Prout, vice president of the company, who was formerly—at the time he went out there—vice president and general manager of our air-conditioning department. He was selected because of his technical background and his administrative experience and his general ability as the man that we wished to operate that plant.

We have just augmented his staff by appointing as assistant general manager a very capable younger man, who has been assistant to the general manager of the apparatus department, which is the largest department in the General Electric Co.

We have put out there additional numbers of administrative people and high-grade technical people. We are honestly trying to operate that plant just as efficiently and effectively as we do our own commercial plants.

Mr. PRICE. And you feel that you are?

Mr. WINNE. I feel that we are approaching that, yes. We took over an organization which was trained under different methods of operation somewhat than we use in the General Electric Co., but I feel that now we have that organization pretty well functioning as a General Electric organization and that we have the top administrative and technical people there who are getting efficient and effective operation out of that plant.

Mr. PRICE. Those are all the questions I have.

Mr. DURHAM. Senator Hickenlooper?

Senator HICKENLOOPER. I would like to hurry on to two other items, because I do not like to delay these gentlemen from the General Electric.

I may say in passing that the operations of the technical facilities and production of materials have not been a question that I have raised.

Now, I referred yesterday to the two things I wanted to mention today in passing, or yesterday I had hoped. One was the water system and the pumping station at Hanford. The staff of the joint committee has prepared two digests: one on that question, and one on the lumber stock pile, which I said I would mention in passing.

I would like to read the digest of the waterworks construction matter compiled by the staff of the joint committee. It is as follows:

J. A. Terteling & Sons of Boise, Idaho, was the successful bidder on a contract to construct a new sanitary water system at Hanford on a bid of \$2,509,450 awarded December 31, 1947.

The work called for was a river pump station, new water lines to and including a settling basin, and water-treatment plant and other necessary connecting trunk and branch water lines. This system was to supersede to the present system of flooding an area in which wells are drilled with irrigation water from the Yakima River. Water pumped from these wells, after it filtered down into the wells, was chlorinated and distributed.

The plans for the new system were originated by G. E. detailed by Dewitt C. Griffin, architect-engineers. \$305,000 was authorized by AEC to pay G. E. and Griffin for their services on this job.

About the middle of January 1948 the AEC called in a water consultant, A. E. Gorman, who reviewed the plans and shortly issued a highly critical report: (a) a drainage ditch discharged into the Columbia River just above the proposed intake pump station; (b) a main water line crossed this same ditch and in case of a break, the sanitary water line could become contaminated; (c) the proposed filtered water reservoir was to be located adjacent to and slightly below the level of an open irrigation ditch with the resultant possibility of contamination; (d) certain elements of the design of the filtration plant were unsatisfactory because raw river water could enter the filtered water supply.

By this time, Terteling had found that it could not drive piling for the pump-house foundation as deeply as specified and as deep as test borings had indicated. With Gorman's report at hand, AEC directed, and G. E. concurred in stopping Terteling's work on March 2, 1948.

Alvord, Burdich & Howson, of Chicago, were hired as architect-engineers at \$25,000 to design a modified system to use a river pump to lift water to flood the dry-well area, instead of using irrigation ditch water. Terteling's contract was, meanwhile, terminated at a cost to the Government of \$241,331.79 minus perhaps a part of the \$27,497 home office overhead expense item being discussed. This is the cash cost to AEC and does not include \$130,764 paid Terteling in addition to the \$241,331.79 which represents the cost of special tools and equipment and a concrete-mixing plant, which could be and were used for other work at Hanford.

Meanwhile, the Columbia River pump was installed and when started up would not pump water because it was so far above the water level. Therefore, G. E. bought and installed a vacuum-primer pump at a cost of \$5,000, which is supposed to make it work.

For the design work on this water system which was abandoned and for the new sewage system, G. E. was paid \$39,200 and Dewitt C. Griffin & Associates \$193,700.

It appears that the Washington office of AEC initiated the action to stop work on the water project on January 20, 1948.

That is one item, and I would like to put out this other item in passing with reference to the Hanford lumber stock pile. I heard some time ago about the lumber stock pile, and I asked for the details, most of which I had, but I asked that the staff give the information from their standpoint and compile it for that authenticity.

In other words, the total stock pile purchased by the AEC through the Corps of Engineers under Government priority in 1947—I think you will recall lumber was quite high at that time and quite scarce—total stock pile purchased was 100,957,000 board feet at a value of roughly, as given here, of \$9,000,000.

The average price is given as \$89.631 per thousand board feet.

There has been consumed to date in 1949, 56,000,000 board feet, slightly over half of it. There has been shipped to other facilities, other AEC installations 4,000,000 board feet. There now remains on hand of this expensive lumber, purchased in 1947, 41,000,000 board feet.

The estimated future requirements at Hanford, which I take to be the total estimated future requirements at Hanford, are given here as 22,000,000 board feet, leaving a complete and total excess at the present time, including the estimated future requirements, of 19,000,000 board feet. As I said, this stock pile was procured through the Corps of Engineers under Government priority in 1947, and it is noted by the committee staff that lumber executives stated in hearings before the McCarthy Subcommittee on Housing in the winter of 1947-48 that the stock piling at Hanford tended to reduce the lumber available for housing and increase the lumber price at that time.

Now, I state this from memory, and I will have to ask Mr. Shugg at the proper time whether or not he verifies this statement: This lumber was purchased in 1947 at approximately \$2 a thousand over the Navy procurement price. That information, as I recall, according to a notation I have in my office, was the result of a telephone conversation with Mr. Shugg, and I have no documented proof of that other than that telephone conversation.

I am interested in the water-pumping station and its various ramifications, and apparently its final abandonment, and I believe G. E. might be interested in that.

I think the lumber stock pile G. E. had had nothing to do with. I do not know.

Mr. SHUGG. May I speak on that? On the water supply, the figures which you cited, as fast as I could follow them, were all right.

Senator HICKENLOOPER. There is a mimeographed copy of this prepared by the staff.

Mr. SHUGG. The only one was an insignificant point, at the end: This question of the vacuum pump; but I will come to that later.

There is no question but what we were going on a certain path there, and we changed our minds, because we thought we saw a better way.

Now, about four things happened at once to bring about that decision. There was, as you have stated, the opinion of our sanitary engineer. Some of the technical features of this plant—I heard a good deal of that argument. There were quite a few experts on the job, and we had the Washington State Department of Health people there, too. It was hard to know which expert was right.

There are almost two schools of thought in regard to water out there, whether you use ground water or whether you use a filtration plant.

On that technical feature, the hardest thing to evaluate was the sanitary engineer's findings as to the hazard if two things happened at once, if two or three accidents happened simultaneously or in a row. The normal operation of the plant was perfectly well designed, and what we had difficulty in doing was to try to evaluate the hazard as presented to us by the experts as to the chances of all these wrong things happening at once.

Now, in regard to that feature, we went at least to the best authority we could, Abel Wolman, at Johns Hopkins, and that technical argument was discussed with Dr. Wolman, who found in favor of the course that we followed.

At the same time that this technical disagreement was before us, there was this foundation trouble, which you have cited.

At the same time, the time of high water was approaching out there, and due to the fact that the town itself was doubling and did double

in population by the end of 1948, and the fact that the construction camp in North Richland added another 12,000, it meant that the total facilities we had to serve were tripled by the end of 1948, as compared to the summer of 1947. It went from 11,500 to 36,000.

Now, at the same time there was a healthy suspicion that the other way, the ground-water approach, the recharged ground-water approach, might be less expensive, and that discussion was a mutual one between the General Electric and its contractors and the Atomic Energy Commission.

When we did decide that we could do it a better way and at less expense, we did work fast. My records show the lump sum award to Terteling for \$2,500,000 was made on January 6, 1948, the actual award.

Senator HICKENLOOPER. January 6, 1948?

Mr. SHUGG. Yes, sir. I think we approved the selection of the bid on December 31, 1947. That was the figure you cited, sir. I think the formal award was on January 6, which is a week later.

These several reconsiderations, which almost came at once, resulted in a first partial hold being put on Terteling on February 10. The most uncertain thing was held as quickly as February 10.

On February 12 he was held on all but the pump house itself.

On February 20 that approach was canceled, and on February 27, in another week, we started him to work on the recharged ground-water basin approach and that is the system in use now.

So far, sir, that has not been a disappointment. The filtration plant—you build it all at once, and that was designed for 36,000,000 gallons a day, which was the estimated need of the town and the construction camp, not only for sanitary water but the thought then was to change over the irrigation system which had supplied about two-thirds of the householders.

Now, for the summer of 1948 it is shown by analysis that the direct charges on the work which Terteling did to get—not the same 36,000,000 gallons—but to get 17,000,000 gallons per day, was \$379,000 as his expense, \$379,000 as compared to the lump sum bid of \$2½ million.

I do not want to leave the impression that that \$379,000 gave the same capacity. A few more wells are in prospect now and another recharging basin, and a considered estimate has been made that the amount of work on the recharged ground-water approach, to get the same capacity, will be slightly under \$1,000,000.

So that moneywise we have not lost out. We have gained.

I would rather wait until the final capacity of the job is all done before I try to go on record as to what the exact saving is, but every analysis we have made shows that the capital cost by this new approach will be lower.

At the same time, there is an operating saving, which has been estimated as \$5,000 a month or \$60,000 a year, using this recharged ground-water system.

Mr. DURHAM. To what depth do you have to go?

Mr. SHUGG. They are not very deep, Mr. Durham. I am going to guess. I do not know, but I guess less than a hundred feet. I am told not much more than 50.

The original town had this type of water supply, but the wells were quite shallow. They were in the south central portion of the town

and the water table had been lowering alarmingly. The recharging of those original wells was done by just dumping irrigation water over the surface of the ground.

This particular expert who finally helped us find what I think has proven to be a better way was particularly familiar with that territory and was able to point to another area where very much better well results could be expected.

So that I have a collection of figures here, but I believe every single approach shows that the new system, even if we have to go the full 36,000,000 gallons per day, will not cost as much as the original  $2\frac{1}{2}$  million dollar job.

Now, of course, we would like not even to have incurred the cancellation charges of \$241,000, but the question was, when the combination of circumstances brought this up before the contractor and General Electric and ourselves, whether or not we would keep bull-headedly ahead on it or recognize the chance of something better and change fast, which is, anyway, what we did.

On the lumber, sir—

Mr. COLE. May I inquire: Is this an item that you referred to Washington to the Commission?

Mr. SHUGG. Washington almost instigated it, Mr. Cole, because of the fact that this new topnotch sanitary engineer we had come out to look this job over. I think it was his technical doubts that really proved the final straw, with these two or three other things that had happened almost simultaneously; so Washington was fully informed, sir.

Mr. COLE. I did not know whether this might have been an instance to which you referred earlier in the morning when you assumed to make the decision.

Mr. SHUGG. We just worked so fast here and had to work fast because the expense was starting to roll on the already let contract, and the contact back to Washington was done through this Washington staff man.

Senator HICKENLOOPER. But I understand that your theory on this is that this program was started out under the original proposal with the  $2\frac{1}{2}$  million dollar bid for a certain type of plant.

Mr. SHUGG. Yes, sir.

Senator HICKENLOOPER. And that you went forward with certain work and termination cost of that work to the Government was \$241,331.79, as shown here, but that in the process you feel you have now proved a better method for doing the same thing at a cheaper figure.

Mr. SHUGG. Yes, sir.

Senator HICKENLOOPER. And that while you would rather not have seen this \$241,000 loss to the Government, yet in the long run you feel that it may have been beneficial.

Mr. SHUGG. Yes, sir.

Senator HICKENLOOPER. And you still get a cheaper system.

Mr. SHUGG. Yes, sir.

Senator HICKENLOOPER. That is all on that.

Mr. SHUGG. A thing which we could not foresee, probably a last straw on this, I think, was the exceptionally high flood that we had about 4 months after we stopped this. I think we would have been

in trouble had we kept on with that pump house, as far as getting it into operation during the summer of 1948; but that has no place in our thinking.

Senator HICKENLOOPER. Do you agree that the digest, the mimeographed copy prepared by the joint committee staff, is substantially accurate on the procedures?

Mr. SHUGG. As I heard you read it; yes, sir. There is an item at the very end that is not much for me to complain about. That is the priming pump, which was only a several hundred dollar pump, I believe.

Senator HICKENLOOPER. It says \$5,000.

Mr. PROUT. The actual cost was between four and five hundred dollars. It was a small priming pump.

Senator HICKENLOOPER. Does it make the system work?

Mr. PROUT. Yes, sir. That was applied to a surplus pump that was put in to supply water from the Columbia River to a recharge basin, and the location of the pump and the piping that went into the river to draw the water out was such that the main pump was not self-priming.

Senator HICKENLOOPER. The pump cost four to five hundred dollars?

Mr. PROUT. The cost of the priming pump.

Senator HICKENLOOPER. What about the cost of the installation of the pump that went with it?

Mr. PROUT. The electrical installation and the piping, plus the cost of the pump, I do not have the accurate figure here—that may have been as much as \$5,000, although it sounds high.

Senator HICKENLOOPER. I think that is the figure the staff developed. So the statement that the priming pump cost \$5,000 may be inaccurate.

Mr. SHUGG. That is the main pump. The main pump itself is in the \$379,000, which did give us in the summer of 1948 half the capacity which the big plant would have.

The CHAIRMAN. How about the lumber?

Mr. SHUGG. On the lumber the situation is pretty short to state. In the fall of 1947 we were trying to mount this program, which as a whole looked as big as the original program when Hanford was built, and we were faced with figures from the original builders as to what the whole job required in lumber, and very strong opinion on the part of the construction people and the contractor and ourselves that lumber was in very short supply. If we were going to get men started, almost the first requirement is this kind of stock, so the contractor, the General Electric Co. representatives, and my office concurred, I concurred, in buying approximately 75 percent of the requirements out of hand, buying them as fast as we could.

As is evident now, if there are no more changes, we have overbought.

The CHAIRMAN. Suppose you had not been able to lick the deterioration proposition that Dr. Winne talked about. Would that have any effect on the then need for lumber?

Mr. SHUGG. That one item would not have, Mr. Chairman, but there were other things which developed which saved us lumber. In regard to the construction camp, we found a contractor did a marvelous moving job, moving old barracks down from Pasco Naval Station. We saved lumber there.

Then, due to the technical improvement on some of the production plants, we have been able to curtail some of the new plant facilities. That is the reason why at the present date we have that excess.

Mr. DURHAM. What is the differential on cost of lumber on the west coast as against the eastern seaboard? Quite a difference, is there not?

Mr. SHUGG. I am not sure, Mr. Durham. I have the way the Douglas fir average prices fluctuated out in Washington, and so far we have not lost out. This stock, which we have out there, which is 22 percent of what we bought, is in the first place——

Mr. DURHAM. There has always been a differential.

Senator HICKENLOOPER. This gives 41 percent of what you bought.

Mr. SHUGG. The final figure, I think, Senator, is that we are holding for known Hanford future need 18,000,000 and that leaves a present probable excess of 22,000,000 board feet; and that 22,000,000 I just took quickly as 22 percent of a 100,000,000.

Senator HICKENLOOPER. I was taking 41 million board feet now on hand there.

Mr. SHUGG. Yes, sir, I see. But 18 of that 41 is definitely reserved for future Hanford construction.

Of the 22 that is left, we expect that we may be able to use some of that to advantage to the Arco site. We probably will lose, although the price has not yet dropped from the time we bought this, it has been higher and has dropped again and is back to the level where we bought it. We will probably lose something on rehandling and re-shipping to Arco, but we gain something in that that is the most natural spot to season lumber due to the low humidity and low rainfall. This stuff is all strip-stacked, so we are not losing on the worth of the lumber.

Senator HICKENLOOPER. As I recall it, as I said a moment ago, as I recall the telephone conversation, I believe with you, there was an average of \$2 a thousand higher than Navy procurement price.

Mr. SHUGG. I have the sheet here, sir, and we have averaged \$1.80 per thousand higher, and that was due to the fact that it was then called Army-Navy Lumber Procurement Agency, and they were not able to buy as fast as our contractors and General Electric bought our early requirements.

I think it is fair to say that we paid a premium of \$1.80, as the figures now look, for the sake of getting what we needed fast and getting——

Mr. DURHAM. Same type lumber?

Mr. SHUGG. Yes, sir.

Senator HICKENLOOPER. Getting what you thought you needed at the time?

Mr. SHUGG. That is right, sir, and it is now evident, along with the changes that have happened since, that we bought more than we needed to have bought.

Mr. COLE. Have the changes which have occurred since you bought it been by way of curtailment of the construction program, or have the changes been an expansion of what you originally planned?

Mr. SHUGG. There are two changes, sir. One change was that we were able to tote in from considerable distances so many buildings for our construction camp. That was a saving, even though it left us with some lumber.

A big change was the fact that the technical improvements on a major part of that technical plant did result in a cancellation of some of the new technical plant building.

Senator HICKENLOOPER. In addition to this lumber, you bought several million board feet of other lumber, have you not, in addition to this 1947 purchase? That is for house construction, et cetera.

Mr. SHUGG. This sheet says that the special requirements, which were not in stock, purchased since the beginning of 1948 have been 1,757,000 board feet.

Senator HICKENLOOPER. Does that include house construction?

Mr. SHUGG. I do not have the list. That would include special sizes and special grades because, as I have said, this original purchase was not lifted from blueprints, but was taken from an over-all job comparison, and that left us with some special sizes and grades that we had to order specially. However, that amounts to less than 2 percent of the total stock.

Senator HICKENLOOPER. Mr. Shugg, last September I was in Hanford and flew over the area with the Hanford plane at a very low altitude in order to get as rapid a look at the general picture as possible. I asked to be flown over this lumber pile.

It is my recollection, quite distinctly, that I was told that most of the lumber which was there at Hanford was not usable on the project, that some other means of disposal would have to be found, because its dimensions were not generally—that is, in bulk—usable for the project.

I have a recollection—in fact, I made a notation of that, which is no better than my memory, I presume, but I was interested in what I considered to be a tremendous excess of lumber purchased and in view of the shortages other places in connection with the purchase program.

Now, that understanding I have may be wrong, but I do have that recollection.

Mr. SHUGG. These figures, Senator, that I have used, ending up in a \$22,000,000 present excess, were furnished by the Hanford office, and we can have those rechecked and find out if there is any change which needs to be made in his figure. That is the best we have at present, sir.

Mr. SCHLEMMER. I think it is possible to say, however, that whoever gave that information to Mr. Hickenlooper at the time informed him inaccurately for the reason that the lumber which is now available at Hanford is definitely usable for the program in contemplation.

Senator HICKENLOOPER. I was commenting on the pile and I said, "Well, are you going to be able to use this?" And I was told that whatever was usable on the project had mostly been used out of the original stock pile and that, unfortunately, this was of such dimension and type that there would be very little utility in the Hanford project for this remaining stock pile.

I asked what they were going to do with it, and they said, "Well, we hope we may be able to use it in some other projects or maybe we can move it or get something else done with it."

Mr. SCHLEMMER. Whoever gave you that information was certainly uninformed on the situation. Actually, the lumber has an enhanced value at the present time.

Mr. JACKSON. Mr. Shugg, I have a question. As I understand, this surplus of lumber is due to two situations:

No. 1, you discovered after you purchased it that there were housing facilities available at Pasco.

Mr. SHUGG. That was for the camp buildings, sir. We moved them up bodily.

Mr. JACKSON. You saved a substantial amount of lumber by reason of that transfer?

Mr. SHUGG. Yes, sir.

Mr. JACKSON. And, secondly, there was a cancellation in proposed construction plans that you had previously planned on at the time you made the lumber purchase.

Mr. SHUGG. Yes, sir.

Mr. JACKSON. Could you state for the record approximately how much in dollars was involved in the cancellation? I think it might help.

Mr. SHUGG. Yes, sir, I have in my mind, sir, that figure because the same thing came up in the budget hearings. It is difficult to state in open hearing, but it is over a hundred million dollars. I have it in detail with the structures lined up against it.

Mr. JACKSON. You bought this lumber predicated upon an assumption that you were going to engage in over a hundred million dollars of new construction; is that correct?

Mr. SHUGG. Yes, sir. We gambled ahead of time on our needs, with the best information that lumber was short and would continue short, and as a matter of fact, the price stayed up. The price rose after our purchase and stayed up above all during 1948, and it has dropped back now to the point of our purchase.

Mr. JACKSON. You canceled out more than a hundred million dollars in contracts; is that approximately the situation?

Mr. SHUGG. That is right, sir.

Mr. JACKSON. And this lumber that was purchased—

Mr. SHUGG. These were not contracts. Mr. Winne points out that I may have given the wrong impression. The \$100,000,000 represented plans—they had not reached the contract stage.

Mr. JACKSON. I appreciate that, but in your over-all projected plan you were working on at that time, you envisioned in part the expenditure of over a hundred million dollars in certain work and you bought the lumber based on that possibility and plan; is that correct?

Mr. SHUGG. Yes, sir.

Mr. JACKSON. And after you got along in connection with the construction of these other projects, you found it necessary by reason of certain technical improvements and changes—rather, that it was not necessary to spend the hundred-odd-million dollars; is that correct?

Mr. SHUGG. That is right, sir.

Mr. JACKSON. And this lumber relates to that, transfer of surplus housing facilities from the Pasco Naval Air Station.

Mr. SHUGG. Yes, sir; those are the two principal factors affecting the present surplus.

Mr. JACKSON. Was there any reason at the time you made this purchase that you should have foreseen this possible termination? Had there been any definite indication that you were not going to engage in this additional work?

Mr. SHUGG. No, sir. That was definitely not in the picture at the time we tried to cover three-quarters of our expected needs.

Mr. SCHLEMMER. Mr. Chairman, may I be permitted to make a few observations in connection with some of the expressions regarding the relationship between the AEC and the General Electric Co. insofar as Hanford is concerned and with particular respect to some of the matters which have been brought under question regarding methods, and so forth?

The CHAIRMAN. If you can do it in 2 minutes.

Mr. SCHLEMMER. It may take a few more than 2.

The CHAIRMAN. We are going to recess at 1 o'clock on the dot.

Mr. SCHLEMMER. May I do that tomorrow morning, Senator?

The CHAIRMAN. Yes; if you want to make a comment upon the testimony developed today.

Mr. SCHLEMMER. Thank you.

The CHAIRMAN. Senator Hickenlooper?

Senator HICKENLOOPER. Mr. Chairman, I had hoped to be able to get through with some of these major matters on Hanford. I do want to go into the question of policy of private enterprise at Hanford and Richland and the policies and the requirements established by the Commission there for engaging in business or the inability to engage in competitive business in these so-called open towns under Government operation.

And then I wonder whether Mr. Winne or anyone else here from General Electric, whether you have with you the letter of resignation of Dr. C. W. J. Wende, who was the Chief of the Pile Technology at Hanford.

Mr. WINNE. I do not have it with me.

Senator HICKENLOOPER. I have a copy of that letter. I hesitate to use a carbon copy of a letter without it being authenticated. I would like to have Dr. Wende's letter with his signature here.

Mr. WINNE. That is at Hanford, I presume.

Senator HICKENLOOPER. This was procured by the staff for me from the Commission. I do not know whether you would care to authenticate this copy or prefer to have the original letter. I would not ask you to authenticate a copy.

Mr. PROUT. We can authenticate the copy before tomorrow by calling out and having the original read to us.

The CHAIRMAN. We will recess until 10:30 tomorrow morning.

(Whereupon, at 1 p. m., the joint committee adjourned, to reconvene at 10:30 a. m., Wednesday, June 22, 1949.)

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# INVESTIGATION INTO THE UNITED STATES ATOMIC ENERGY PROJECT

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## HEARING

BEFORE THE

## JOINT COMMITTEE ON ATOMIC ENERGY CONGRESS OF THE UNITED STATES

EIGHTY-FIRST CONGRESS

FIRST SESSION

ON

## INVESTIGATION INTO THE UNITED STATES ATOMIC ENERGY PROJECT

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### PART 13

JUNE 22, 1949

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# INVESTIGATION INTO THE UNITED STATES ATOMIC ENERGY PROJECT

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WEDNESDAY, JUNE 22, 1949

CONGRESS OF THE UNITED STATES,  
JOINT COMMITTEE ON ATOMIC ENERGY,  
*Washington, D. C.*

The joint committee met, pursuant to call, at 10:40 a. m., in the Caucus Room, Senate Office Building, Washington, D. C., Senator Brien McMahon (chairman) presiding.

Present: Senators McMahon (chairman), Millikin, Knowland, and Hickenlooper; Representatives Holifield, Price, Jackson, and Hinchshaw.

Also present: David E. Lilienthal, Chairman; Sumner T. Pike, Commissioner; Lewis L. Strauss, Commissioner; Gordon E. Dean, Commissioner; Henry D. Smyth, Commissioner; Carroll L. Wilson, General Manager; Carleton Shugg, Deputy General Manager; Frances Henderson, Assistant to the Chairman; Brig. Gen. James McCormack, Jr., Director, Division of Military Application; Walter J. Williams, Director, Division of Production; Joseph Volpe, Jr., General Counsel; Bennett Boskey and Everett L. Hollis, Office of the General Counsel; Fletcher Waller, Director, Division of Organization and Personnel; Morse Salisbury, Director, Charter Heslep, and Rodney L. Southwick, Division of Public and Technical Information Service; Edward Brosnan, Division of Security; Fred C. Schlemmer, Manager; Lloyd Bergeson, Assistant to Manager; and Charles Schank, Chief, Finance Division, Hanford Operations Office; Carroll T. Tyler, Manager of Operations, and John Macy, Director, Organization and Personnel, Los Alamos Operations Office; Richard W. Cook, Acting Manager; S. H. Sapirie, Chief of Engineering and Production; Fred W. Ford, Director of Community Affairs; and Gordon Molesworth, Special Assistant to the Manager, Oak Ridge Operations Office; all of the United States Atomic Energy Commission.

George R. Prout, Vice President and General Manager Nucleonics Department; H. A. Winne, Vice President in Charge of Engineering; Forrest E. Baker, Comptroller, Nucleonics Department (Hanford Works); Robert S. Neblett, Assistant General Manager, Nucleonics Department, Schenectady, N. Y.; and Robert Milton, Washington Representative, of the General Electric Co.

Clark Center, General Superintendent; William B. Humes, Superintendent, K-25; Clarence E. Larson, Superintendent, Y-12; Oral Rinehart, Controller; Fred Uffleman, Supervisor of Materials Control Department, Y-12; E. N. McKay, Superintendent of Product Processing and Product Chemical Department, Y-12; J. M. Herndon, Superintendent of Chemical Division, Y-12; and Logan Emlett, Super-

intendent, Operations Division, Oak Ridge National Laboratory, of the Carbide & Carbon Chemicals Corp. (Oak Ridge).

Clinton Hernandez, Vice President; Lyle D. Worrell, Assistant Project Manager; L. C. MacNeal, Project Manager; and St. John W. Davis, Audit and Budget Division Manager, of the Roane-Anderson Co. (Oak Ridge).

The CHAIRMAN. All right, gentlemen, please come to order.

Mr. Schlemmer, yesterday when we adjourned I promised you a chance to make a comment which you said would take you just a few minutes.

Mr. SCHLEMMER. Yes, Mr. Chairman.

The CHAIRMAN. Would you give it to us, please?

**STATEMENT OF FRED C. SCHLEMMER, MANAGER, HANFORD OPERATIONS OFFICE, UNITED STATES ATOMIC ENERGY COMMISSION**

Mr. SCHLEMMER. Mr. Chairman and members of the joint committee, since its inception the Hanford program has been and now is one of the largest peacetime construction programs ever undertaken. The continuing productivity of the plants was doubtful at the time of the inception of this program, due to the physical conditions which had developed in the earlier operation.

There appeared to be an urgent need for replacement of certain existing plants and for the construction of added facilities.

The international situation was acute, the importance of the Hanford project to the national security was, and in fact, as you well know, still is very great.

These facts and others produced a need for the greatest of urgency. A big, total job was needed to be done. This urgency still exists, and the job is still big.

The Commission continued the use of the General Electric Co. as the prime contractor in three major types of activity. One was the operation of the plants originally built and those to be added, the management of the community, and the construction of the added facilities.

At Hanford the Commission maintains a staff of approximately 340 people. This staff generally directs and supervises this total program.

The Commission staff acts under policies and programs developed by the Commission and the headquarters program directors and is responsible for carrying this program and these policies out.

The General Electric Co. Nucleonics Department, under its General Manager, is responsible for the design and construction of all facilities, subject to the approval of the Hanford operations office. This is a part of its total responsibility and, of course, during the program of expansion is, consequently, a very important one.

It should be recognized that the relationship between the Atomic Energy Commission and the General Electric Co. requires a high degree of teamwork. This, however, does not mean that strong differences of opinion do not or have not developed. They have and they will continue to in a program so large, so intricate, and so diversified.

The important objective, however, of this total program is to resolve all matters into what capable men consider to be the best total answer,

recognizing the need for reasonably economically, and rapidly consummating the program.

To this end, since the very inception of the program, the AEC at Washington and at Hanford has been conscious of the requirement for continuing improvement in methods, controls, and the like. The General Electric Co. has also recognized the propriety of this.

A partial history of the effort toward the improvement in the exercising of controls is disclosed in the following observations.

The necessity during the summer and the fall of 1947 for a highly expedited program of construction of the various facilities at Hanford resulted in a large and rapid expansion of the General Electric Co. organization at the site in order to handle the planning, design, procurement, securing construction contractors to perform the work, and the like. A new division was added to its existing industrial organization for this purpose.

Construction contractors capable of building the required large-scale facilities were acquired. Large numbers of construction workers, engineers, designers, and so forth, were recruited. Living facilities for these were provided.

On construction accounting in general the General Electric Co. initially followed the practices employed during the construction of the original facilities during the war. As the program progressed, and early in 1948 it became evident to the AEC that the methods used during the original program did not provide a fully adequate means of control.

Activity was instituted at that early date to effect improved controls, and vigorous efforts were made, for instance, to secure more accurate and more realistic estimates of cost, to make allocation of indirect costs to projects, to secure unit cost control, to establish construction equipment use rates.

In the fall of 1948 additional stress was placed upon the early consummation of the various improved controls. These began to bear results, which made it possible to determine cost information more accurately. It was, in fact, through the medium of these improved controls that the information on the projects now under discussion became fully apparent.

During the current year the controls over the construction program have been strengthened in various ways. Specifically, the project proposal and directive system of work authorizations has been made more explicit. The funds authorized in directives represent the total amounts which may be expended by the contractor on a given project, provided the authorized scope is not altered.

Project proposals are undergoing more extensive and more systematic review in relation to scope, over-all specifications, and design criteria.

Estimates of cost are required to be firm and conclusive before acceptance. Authorization to do work is now being given on a phase basis—that is, for development and preliminary design, for detailed design, for procurement and construction, with a cost limitation applied to each phase.

Explicit specifications and criteria, including specific cost limitations for studies and scope of design projects are in effect. More extensive review of design projects is being made during the design development.

Employment levels have been closely scrutinized and substantial force reductions have been effected—for instance, between July 1948, at which time 27,000 were employed, and May 1949, at which time 16,000 are employed. Schedules of completion are required to be firm. Stoppages of charges are invoked promptly as projects are completed. Continuing audits of the construction accounts are being made. Cost reports for individual projects, which include all elements of cost, are submitted monthly and are closely reviewed.

Special cost analyses are made as circumstances indicate these to be required. Improved inventory controls of all construction materials, supplies, and equipment have been established.

Insistence has been placed upon careful screening of all purchase requisitions against inventory. Close review of purchase requisitions is made. Continuing effort to reduce indirect expense on all projects is being exerted. Standard equipment usage rates have been established and are in effect. These are designed to absorb depreciation and maintenance costs. This applies to Government-owned equipment being used by the prime contractor in operations and by CPFF contractors or subcontractors on construction.

Construction contractor fees are established on the basis of a fee manual developed for all AEC work.

Use of lump-sum contractors is being extended to the greatest possible degree. Forms of contracts have been improved and clarified. More prompt compliance is being obtained in the matter of reducing contracts and change orders to writing.

A program of formalizing in contracts is now in effect wherever practical.

Other controls have also been instituted or are being currently developed to insure the most practical end result. In this effort the AEC and the General Electric Co. are cooperating fully.

That, Mr. Chairman, completes the statement I intended to make yesterday.

Senator HICKENLOOPER. Mr. Schlemmer, is Frank Creedon still working at Hanford?

Mr. SCHLEMMER. Yes, sir; he is.

Senator HICKENLOOPER. What is his job?

Mr. SCHLEMMER. He is the manager of the General Electric's design and construction department.

Senator HICKENLOOPER. What is his total gross pay per year?

Mr. SCHLEMMER. Do you wish me to answer that, or do you wish the General Electric Co. to answer that, Senator?

The CHAIRMAN. Do you know?

Senator HICKENLOOPER. Do you know? Are you not the general manager out there?

The CHAIRMAN. If you know, you can tell.

Mr. SCHLEMMER. His total gross salary is \$36,000 a year.

Senator HICKENLOOPER. \$36,000 a year?

Mr. SCHLEMMER. That is correct.

Senator HICKENLOOPER. He came from a Government job, did he not?

Mr. SCHLEMMER. I do not know the exact circumstances of his employment. That happened prior to my—

Senator HICKENLOOPER. Does he get any extra on top of that \$36,000 a year?

Mr. SCHLEMMER. I believe that constitutes his total compensation. Senator HICKENLOOPER. Does he get his living quarters in addition to that?

Mr. SCHLEMMER. I believe that is included within that amount, Senator. I am not quite positive on that, but I think that is the case.

Senator HICKENLOOPER. That is, of course, a reimbursable item by the Government.

Mr. SCHLEMMER. That is correct.

Senator HICKENLOOPER. Mr. Creedon was in the office of the Housing Expediter at one time here in Washington; was he not?

Mr. SCHLEMMER. I believe so.

Senator HICKENLOOPER. I think that is all I have to ask Mr. Schlemmer.

Senator MILLIKIN. Mr. Chairman.

The CHAIRMAN. Senator Millikin.

Senator MILLIKIN. I had to be absent for periods of several of these sessions, and if I am covering something that has been covered before, I would like to be alerted so that I can stop my own question.

I am not as much interested, Mr. Witness, in what General Electric is doing as I am in the measure of control between the Commission and General Electric. What has the Commission furnished General Electric as to the standards and criteria which shall govern the work of General Electric?

Mr. SCHLEMMER. The Commission has established the basic policies which control all of the activities at Hanford on which the General Electric Co. is the prime contractor.

It has established rules and regulations with respect to the accounting procedures, procurement procedures, general personnel policies, and all of the normal procedures which a client usually requires of its contractor.

Senator MILLIKIN. Now, the techniques that you described this morning—have they been prescribed by the Commission?

Mr. SCHLEMMER. They have, yes.

Senator MILLIKIN. What sort of a staff, if you know, has the Commission to do that kind of work?

Mr. SCHLEMMER. The Commission at Hanford, Senator Millikin, has a total staff of approximately 340 people. That staff, of course, is supplemented by headquarters staff in the Washington office, which outlines basic policies for use on all Commission projects, and one is at Hanford.

Senator MILLIKIN. May I ask Senator Hickenlooper whether the rules, the regulations, the contract forms, and other measures of control of the Commission have been examined?

Senator HICKENLOOPER. Not in this hearing, no.

Senator MILLIKIN. You say there are over 300 employees of the Commission at Hanford?

Mr. SCHLEMMER. That is correct.

Senator MILLIKIN. Who have to do with these control matters?

Mr. SCHLEMMER. That have to do with the total organization of directing and supervising the total Hanford project.

Senator MILLIKIN. But how many have to do with this contract business?

Mr. SCHLEMMER. I should say that approximately 50 people are directly associated with accounting in all of its various forms in the analyzation of the contract documents, in the review of all contracts made, and all of the other associated activities incident to contractual matters.

Senator MILLIKIN. Would you say they have been thoroughly and currently advised of everything that has been going on in the construction line?

Mr. SCHLEMMER. Well, in as far as contracts are concerned that is correct. In as far as work in progress is concerned, it is also correct.

However, the total staff available in the Commission's employ to handle all of the various matters related to construction is, as Mr. Shugg indicated yesterday, less than approximately 50 men. The prime responsibility for the construction activity, as is also true of the operations and the management of the community, lies with the General Electric Co. under the contract which the Commission has with it.

It is discharging that responsibility with capable personnel.

Senator MILLIKIN. What are the qualifications of the representatives of the Commission who supervise the construction activity?

Mr. SCHLEMMER. Well, the Manager of the Hanford Operation happens to be an individual who has had 30 or more years' experience on major construction activities of industrial and other types.

Subordinate to him is an organization in the Commission's Construction and Maintenance Department at Hanford, under the supervision of a person who has had extensive experience in the construction of the original facilities, principally at Oak Ridge, during the tenure of the Manhattan Engineering District.

In addition to that, the employees under his supervision are generally experienced, competent, and qualified engineers and construction men.

Senator MILLIKIN. Then I will ask you again with specific reference to the high-school business: In your opinion, was the Commission thoroughly and currently advised as to what was going on, so far as that project was concerned?

Mr. SCHLEMMER. Well, I cannot say, Senator, that it was thoroughly advised. I can say that it was reasonably currently advised. This happened to be a project which was constructed, as Mr. Shugg and Mr. Prout and Mr. Winne indicated yesterday, during a period when these various controls which were instituted early in the program were in a state of transition, and all of the facts were not immediately available.

Senator MILLIKIN. They had the basic contracts available; they had blueprints, specifications; they had visual observation of what was going on, and I assume they were currently inspecting what was going on; is that correct?

Mr. SCHLEMMER. That is substantially correct; yes, sir.

Senator MILLIKIN. Your words "reasonably currently informed"—you could drive a hay rack through that.

Mr. SCHLEMMER. I grant that.

Senator MILLIKIN. Can you tighten that up?

Mr. SCHLEMMER. I would like to be specific.

Senator MILLIKIN. I know you do not have a black-and-white answer. What I am trying to determine is, as is apparent from my ques-

tions: first, whether the Commission took reasonable steps to keep itself advised; second, whether the regional representatives were keeping themselves advised; third, whether they were transmitting their information back to the Commission so that they knew or had the opportunity to know what was going on.

Mr. SCHLEMMER. There is an area of complete responsibility on the part of the Manager of the Hanford project in connection with the consummation of the policies and the practices established by the Commission, which in my judgment is a practical and a reasonable and a proper procedure.

Senator MILLIKIN. I listened to your itemization of the various control measures that you follow there now. I did not hear any that are not normal practice in a carefully controlled operation. Why were they not put into effect earlier?

Mr. SCHLEMMER. They were instituted——

Senator MILLIKIN. There is nothing new or novel about them. They are all routine procedures if you are doing a careful job.

Mr. SCHLEMMER. Yes, sir; that is correct. These procedures or efforts to invoke the full effectiveness of these procedures were instituted both by the Commission and by the General Electric Co. very early in the program.

Senator MILLIKIN. Did the Commission give you written instructions in respect to the matters to which you have testified this morning?

Mr. SCHLEMMER. Not with respect to those individual, specific matters, but there are general principles which the Commission has established in relation to the direction and supervision of this work.

Senator MILLIKIN. May I ask someone on the Commission whether these are bulky or whether they lend themselves readily to insertion in the record? Who knows about that?

Mr. Wilson, what do you know about it?

Mr. WILSON. I am sure there is a body of regulations, instructions, and policy procedures, and other matters dealing with the conduct of this project by the General Electric Co. which have been issued to them by the AEC at Hanford.

Most of these have been worked out in cooperation with the General Electric Co., but Mr. Schlemmer can say in more detail how bulky this would be if you are inquiring as to its insertion in the record.

Senator MILLIKIN. I am speaking of what went from Washington to the Commission's representatives at Hanford.

Mr. WILSON. Mr. Schlemmer and before him Mr. Shugg were the Commission's representatives at Hanford.

Senator MILLIKIN. Then, can you tell us what you received from Washington?

Mr. SCHLEMMER. I should say, Senator, that we have received from Washington all of the instructions which reasonably capable administrators would be able to use effectively.

One point which I think is worthy——

Senator MILLIKIN. I do not want to get off of the evidence in writing of that. How did that come to you in writing? Whom did it come from?

Mr. SCHLEMMER. An example of that might be this, Senator Millikin. The preparation of the contract document and the contract fee manual, which is the product of the headquarters staff in Washington, which I believe the joint committee doubtless has in its records—that

is a document which required much thought and experience in order to apply standard engineering and construction practices to the particular work of the Commission.

Now, I think it must be necessary to understand, Senator Millikin, that at the time the Commission took over at Hanford, very few of these controls were in effect. In the initial program, which was very well done—and the organization having done it made a profound contribution to the best national interest—but it was done under war-time conditions, the proper necessity for early completion justified the elimination of many normal practices.

Consequently, controls had to be instituted and in starting a construction program of this magnitude, the urgent thing was to get the work going, to bring the people in there, to get the contractors and to get the work started. The use of close, detailed controls beyond a point of reasonableness at that time would have been a mistake, but the development of controls after the institution of the program is a proper procedure, and that has been done, and more controls will be exerted as time goes on.

Senator MILLIKIN. Has that been an evolutionary matter or did the Commission send you a rather well-rounded group of instructions on how to do these things?

Mr. SCHLEMMER. Well, it might be desirable, Senator Millikin, to submit for the record just one document known as Bulletin From the General Manager No. 128, which is by way of indicating the number of those, and there is a substantial number of them. They fill books which are very thick.

Senator MILLIKIN. What is the date?

Mr. SCHLEMMER. The subject of this—this is an amendment to previous instructions on this same subject: Supervision of construction and related activities for division headquarters office and managers of operations.

Senator MILLIKIN. What was the date of that?

Mr. SCHLEMMER. The issuance date of this is March 15, 1949. These have been forthcoming on a multiplicity of subjects ever since the institution of the Commission's activity.

Senator MILLIKIN. Mr. Chairman, I think this could be prolonged indefinitely. I wonder if we could get someone from the staff to take a look at the bulletins or instructions or whatever they may be called which have issued from the Commission to the people at Hanford as to how they should conduct their business there in relation to construction activity.

May we have somebody take a look at it? Then we can determine whether it is practical to put it in the record or whether perhaps a synopsis would serve as well.

So far as I am concerned, I am not primarily interested in what General Electric has done. I am primarily interested in what steps the Commission has taken to see that the work locally has been done well.

The CHAIRMAN. I think that is a fair request, and it should be complied with, and I will ask Mr. Borden.

(Extracts from the AEC General Manager's Bulletins are marked "Exhibit 17," and will be found in the appendix.)

Mr. VOLPE. I might say, Mr. Chairman, the information Senator Millikin requested can be furnished very readily. It is in the form

of bulletins and memoranda to the field. We have books of them, and we can provide those in no time at all.

Senator MILLIKIN. I think, at least from my viewpoint, that is a pertinent inquiry, to see what the Commission has been doing, not only in the way of regulation, but in the way of follow-up, to see that efficient practices are followed in these construction matters.

Senator HICKENLOOPER. Mr. Schlemmer, as General Manager for the Atomic Energy Commission at Hanford, what is the total contract amount that you can authorize without referral to Washington?

Mr. SCHLEMMER. The authority of the manager extends to the administration of contracts having a value of \$5,000,000.

Senator HICKENLOOPER. Can you authorize G. E. to proceed with a contract up to \$5,000,000 without referral to Washington, technically, I mean, under the authority given you?

Mr. SCHLEMMER. That is not exactly the case. There is a delegation of authority from the general manager at Washington to the manager of the Hanford project, which specifically states what the manager's authority is with respect to the administration of contracts.

Senator HICKENLOOPER. Just tell me in a few words what that is.

Mr. SCHLEMMER. Well, it is rather lengthy and covers various types of activity dealing with various subjects such as appointments and other matters of that kind.

Senator HICKENLOOPER. Could you authorize the building of \$5,000,000 worth of houses without referring that to the general manager, technically, I mean?

Mr. SCHLEMMER. No, sir; and if such authority was vested in this manager of operations, he would not do so.

Senator HICKENLOOPER. I am not asking what your practice might be. I am asking what the authority is.

Mr. SCHLEMMER. I should like to—

Senator HICKENLOOPER. What can you authorize without referral to Washington if you want to exercise your full authority?

Mr. SCHLEMMER. Specifically, Senator, the manager can authorize up to \$5,000,000.

Senator HICKENLOOPER. Yes. I understand that you say so far as your practice is concerned, you feel it is good practice to refer larger matters to Washington, but that you specifically can authorize up to \$5,000,000 without referral to Washington.

Now, may I ask you another question?

The CHAIRMAN. Pardon me, Senator. You so testified at a hearing we had in February, did you not?

Mr. SCHLEMMER. I did, sir; yes, sir.

Senator HICKENLOOPER. Let's get back to this man, Frank Creedon. What is his job at Hanford?

Mr. SCHLEMMER. He is the manager of the design and construction department of the General Electric Co.

Senator HICKENLOOPER. Does he have to do with the design and construction of piles and pile buildings or is he operating in the field of general building construction out there?

Mr. SCHLEMMER. He has to do with all construction of whatever type, except that incident to maintenance and operations. In other words, he handles all the design and construction of all new facilities of any type.

Senator HICKENLOOPER. Including facilities in the restricted area?  
Mr. SCHLEMMER. That is correct.

Senator HICKENLOOPER. Does he have any technical background in physics? That is, as a technical man, so that he is familiar with the design of atomic equipment?

Mr. SCHLEMMER. I think that he is, Senator Hickenlooper. He was, as you may know, at the Oak Ridge project during the war in a position of executive responsibility, in which capacity he had jurisdiction and responsibility for the construction of certain highly technical facilities, dealing with that plant.

Senator HICKENLOOPER. Is he an engineer by training?

Mr. SCHLEMMER. He is; yes, sir.

Senator HICKENLOOPER. Does he have with him in his department a man by the name of O'Brien?

Mr. SCHLEMMER. I do not know.

Senator HICKENLOOPER. Or Maher?

Mr. SCHLEMMER. I do not think so.

Senator HICKENLOOPER. Or Alger?

Mr. SCHLEMMER. No, sir. Those are members of the Commission.  
Senator HICKENLOOPER. And Chellman and Widmyer? They are members of the Commission staff?

Mr. SCHLEMMER. I do not know about the latter two, but there is a Mr. Maher and Mr. Alger on the Commission staff in Washington.

Senator HICKENLOOPER. Let me ask you one other question. I will preface this by saying that du Pont was originally in charge of the operations at Hanford, as you are informed, was it not?

Mr. SCHLEMMER. That is correct; yes, sir.

Senator HICKENLOOPER. Some time ago a corps of du Pont technicians were brought into Hanford, were they not?

Mr. SCHLEMMER. That is correct.

Senator HICKENLOOPER. Do you know what the total cost per year—that is, what the rate per year for that du Pont contractor operation was?

Mr. SCHLEMMER. I cannot say that I can state that figure accurately, Senator Hickenlooper.

Senator HICKENLOOPER. Was it roughly \$800,000 a year?

Mr. SCHLEMMER. I should say that is approximately correct; yes, sir.

Senator HICKENLOOPER. I feel that is all, Mr. Chairman.

The CHAIRMAN. Are there any other questions?

Mr. JACKSON. Mr. Chairman?

The CHAIRMAN. Mr. Jackson?

Mr. JACKSON. Mr. Schlemmer, I wonder if you or someone could give for the record a statement as to Mr. Creedon's background. It is my understanding that he built some large facilities for du Pont during World War I, or shortly thereafter, and also in World War II built the Kankakee ordnance plant and also supervised construction of large facilities at Oak Ridge; is that right?

Mr. SCHLEMMER. I believe that is correct, Congressman Jackson. This may be of interest to Mr. Jackson and to the balance of the committee. In connection with Mr. Creedon's work on the Manhattan Engineering District program, Mr. Walter Williams, the Director of Production of the Commission, is well informed with respect to Mr. Creedon's experience and his responsibility on that program.

Mr. JACKSON. I think the committee should know his general background. I believe the inference might remain in the committee that he is someone who had been working for the Government and then suddenly took over this job for General Electric; and I am trying to clarify the record.

Mr. SCHLEMMER. Mr. Chairman, may I suggest the possible desirability of addressing a question concerning Mr. Creedon's experience to Mr. Walter Williams of the Commission.

**STATEMENT OF WALTER J. WILLIAMS, DIRECTOR, DIVISION OF PRODUCTION, UNITED STATES ATOMIC ENERGY COMMISSION**

Mr. JACKSON. Mr. Williams, could you give the committee a general statement as to Mr. Creedon's experience, background, and qualifications?

Mr. WILLIAMS. I can give some information. I do not purport to know all about his background, but I can furnish information about the work with which I am familiar.

During the last war, I was an officer in the Army and was assigned to construction of munitions plants, under the construction quartermaster originally, and when the Corps of Engineers took over the work, I was transferred, as many other officers were, to the Corps of Engineers.

At that time Mr. Creedon was then in the Office of the Chief of Engineers, I believe he was under General Groves, and was in charge of checking, expediting, and seeing that those plants were built. I do not know how many he had, but I do know that I came in contact with him on several of those jobs. I think that a review of the records during those years will show that the plants were built in a hurry, that materials came to the jobs on time, and that they were put in place and that the construction was accomplished in very short order.

I know that Mr. Creedon had something to do with that. I was at that time in the field. I was originally known as a construction officer or a construction quartermaster, and then after that an area engineer. An area engineer with the corps was the Corps of Engineers' representative who had complete charge of the job at the site.

It was in that capacity that I first came in contact with Mr. Creedon. During those years I had every indication that he was doing a very efficient job, because our materials came in on time, we had occasional inspections on the job to see what we needed, how we were getting along, and so on.

In 1944—in fact, I think it was January 18, 1944, I was transferred to Oak Ridge and was given responsibility as construction officer for the Y-12 electromagnetic plant. At that time there was a number of difficulties in getting the job done. It was a good organization on the job, but for some reason it just was not clicking the way it should.

At that time I believe General Groves had considerable to do with it. Mr. Creedon was assigned by Stone & Webster as the project manager of the Y-12 plant. I worked very closely with Mr. Creedon in those years, because he took instructions from me as the construction officer on many occasions.

In fact, I was in charge of the job.

Mr. JACKSON. Mr. Williams, what was the cost of constructing Y-12, approximately?

Mr. WILLIAMS. As I recall, it was in the neighborhood of \$400,000,-000. That is a good figure. It might vary a little one way or the other.

Mr. JACKSON. Mr. Creedon was in charge of that project?

Mr. WILLIAMS. He was in charge of that project for the Stone & Webster Corp.

The CHAIRMAN. Do you know what his salary was then?

Mr. WILLIAMS. I do not know. I do not know what his salary was then. I understand his salary may have been \$12,000 or something, but he also had some arrangement whereby, I think, he received additional money, and I am not familiar with that. That was a matter with the Stone & Webster Corp. and the Government did not pay his full salary, as I recall it.

I think he had some contribution from Stone & Webster when the job was done. This I am not sure of. I just have heard that this was true. It was none of my affair.

During this period I can say that from January 1944, this Y-12 electromagnetic plant was not progressing the way it should. In November 1944, there had been a complete addition to the plant, which is now known as the Y-12 extension, which I am sure the committee staff is familiar with. That was started about the time that Mr. Creedon and I came on this job, and this whole job was in operation in 1944 in November.

It was, in my opinion, a very masterful job of expediting and organizing to get materials and to get a job done.

I must say, without any reflection on the Stone & Webster Corp., that they had on this job a well-knit, well-organized, experienced team, and it was a matter of expediting, directing, and some additional organization and coordination of the contractors to get the job done; and in my opinion Mr. Creedon did an outstanding job.

Mr. JACKSON. He was in charge of that particular program?

Mr. WILLIAMS. He was in charge of the entire Y-12 operation. He had a great deal of help in foremen, superintendents, and so on, that were placed there by the Stone & Webster organization, and they are due a great deal of credit for getting this job organized, but it was only after Mr. Creedon came that the job really began to get finished.

I say that. I think I was familiar indirectly, without having any direct information, I was familiar with the fact that Mr. Creedon was handling the rubber program. I believe he worked under Mr. Jeffers at that time. I am not just familiar with what he did, but I am familiar with the results and that the program was completed in good order.

During this period it was a matter of getting a job done and getting it done in a hurry, and it was done very well.

Mr. JACKSON. Mr. Williams, from your knowledge of his work at Oak Ridge, what you know about his work generally, would you say that he is a man well qualified to do the job that he is doing now at Hanford?

Mr. WILLIAMS. Judging by my experience with Mr. Creedon and his experience, I would say that he could do the job.

The CHAIRMAN. Are you through, Mr. Jackson?

Mr. JACKSON. I have a couple of questions of Mr. Schlemmer. That is all of Mr. Williams.

Mr. PRICE. Mr. Williams, you have had quite a bit of background yourself in construction work, have you not?

Mr. WILLIAMS. I might review it. I went in the Army in 1933. I went on active duty in 1933 with the Army, and was in charge of constructing CCC camps, which the Army took over sometime early, I believe, in 1933, constructing and managing CCC camps.

In 1935, I believe, the total construction for which I was directly responsible was seven or eight hundred thousand dollars. That was construction that had to be handled directly. You did not hire a contractor to do all your work for you. You had to go out and organize the construction crews, lay out the buildings, the camps, and actually pay the people, and so on.

In 1940 I was on the Panama Canal in charge of town construction for a short period, I believe 4 months.

In November I was ordered back to the States and transferred, without my consent, I may say, to the constructing quartermaster. The first job which I was in charge of was the Hoosier Ordnance Works. That was a bag-loading plant. It was started, I believe, along about April 1940. On December 27 it was about 97 percent complete.

It was, I think, somewhere in the neighborhood of \$30,000,000. I do not have it exact. But it was complete and in operation; that is, 97 percent complete and in operation.

I was transferred then to the Buckeye ordnance works to organize that job and the Atmosphere Nitrogen Corp. was the prime contractor. The job was well organized, and about 12 percent complete in April, not quite, I think 10 percent, was the scope at that time.

That job was a \$63,000,000 job. At least, that was the estimate at that time. I do not have the final figures.

I was transferred then to the Longhorn ordnance works, Karnack, Tex. That was a job that had been under construction since, I believe, about December or January 1942 and was about 1 percent complete.

On November 9 the job was 99 percent complete, and I was transferred to the west coast in charge of mining operations on a special project for the Corps of Engineers.

I was given the title at that time as district engineer, and there were three districts which I was responsible for during that period:

The Gold Hill District, a special district set up for the mining of arsenic; then a couple of other districts that were set up to investigate the mining of copper, marginal grade copper.

I was on that project about 8 months, completed our studies, made recommendations, and was then transferred to the Lake Ontario ordnance works to dismantle the first TNT plant. This was one plant that had to be dismantled in order to get equipment for the RDX program.

There was nothing spectacular about this job, except that the TNT plants were somewhat contaminated with TNT, and this was the guinea pig for working out the procedures and safety measures for the dismantling of these plants, so that they could be dismantled without disaster.

That carried me up to the time I was transferred to Fort Belvoir, and I was there for about 2 weeks and was scheduled to go—it is my understanding, I do not have any proof of this, but it is my understanding that General Larkin, for whom I worked in Panama, had

asked for me overseas. I was very much interested and wanted to go overseas, but I suppose General Groves found out I was about to get away, so he ordered me to Oak Ridge.

At Oak Ridge I was construction officer directly in charge of the Y-12 electromagnetic plant. That took about a year.

I was then placed in charge of the over-all project for the K-25 gaseous diffusion plant and that project was eventually completed a year later.

At that time I was placed in charge of production and construction for the Manhattan District and later was manager of field operations for the Atomic Energy Commission, and finally Director of Production.

I graduated from Purdue University, electrical engineering, and I had approximately 3 years' work as a control engineer with the Westinghouse Electric Elevator Co. That was prior to the Army service.

Mr. PRICE. Mr. Williams, you have been with the Commission, then, and with the Manhattan District for a considerable length of time?

Mr. WILLIAMS. January 18, 1944.

Mr. PRICE. In your opinion, do you think there has been any deterioration in program or has there been any improvement in the efficiency of operations over the years?

Mr. WILLIAMS. Anything I may say will be misconstrued by some people. I would like to elaborate a little on that.

I think the Manhattan District did an outstanding job. I think it is a job that will not be surpassed very soon. It was a job that did not have all of the complications which we now have.

The main problem was to organize, get materials, and get a job done. That job, from my looking back on it, apparently was to get some atomic bombs to help end the war. That job was accomplished. The job was not set up, in my experience with it, it was not set up as a long-range job, because from the beginning it was not known which processes would prove efficient, practicable, or if any of them would definitely prove so.

So, for that reason, much of the construction, wherever it was possible in the towns, was temporary. I think it was a good policy for the Corps of Engineers to do that, because they had no indication of the success which might come. It could well have been a very great flop. That is what I am trying to say.

But it was not. Now, looking back on it, second-guessing it; we could say that quite a bit more should have been done.

Now, there was a period after the war when there was uncertainty as to the future of the project, as to who would be in charge of it, and there was a period even after January 1, 1947, when there was considerable uncertainty in the minds of the people working on the project as to who would run it, and so on, until the Commission was appointed.

During that period it was a very vital period, and the period when it took a great deal of consoling and a great deal of talking to keep an organization together. During the period from the dropping of the bombs and the end of the war to the time the Commission took over, there was some deterioration. The Manhattan District tried to make plans, they did make plans, but they could not take definitive action and aggressive action, as they had been taking in the past on these plans, and there was a considerable let-down.

When the Commission took over, it took over under a greatly changed set of circumstances. The Commission knew and members of the Commission knew that they would be operating under peacetime conditions. They had to set up programs that would extend over a long period. They had to make these plans, they had to organize a staff. Many of the positions, in fact, practically all of the key positions in the original project were held by Army officers—colonels, majors, lieutenant colonels; and there were about 253, I believe, or 250 of these positions that were held as of January 1, 1947.

These positions had to be filled with civilians, and the whole program had to be organized on a peacetime continuing basis. I think that in view of my experience with the Manhattan District and with the Commission to date, that we have nothing to be ashamed of, if you will take it in balance, we have nothing to be ashamed of. I am speaking from my experience with this project from the beginning.

I believe that if you were permitted to tell to the public what has been accomplished, that the people would feel that the project has been in good hands and that the security of the country, so far as the making of bombs is concerned, is O. K.

Mr. JACKSON. Mr. Chairman, right there I would like to make this comment: I think the committee should request the Commission to make a statement before this committee at the appropriate time regarding the status of the over-all situation when the Commission took over, together with a statement as to the progress that has been made, of course, consistent with the limitations that may apply in connection with giving out of any classified data, but I think it is very important that the people of this country be advised as to what has been accomplished or what has not been accomplished in connection with the over-all work of the Atomic Energy Commission.

The CHAIRMAN. I do not believe, Mr. Jackson, that we will have to issue any subpoena or do any drafting to get that done and, of course, it has been understood right along that as soon as Senator Hickenlooper got through, the Commission would be given an opportunity to present witnesses.

Mr. JACKSON. I just wanted to make that comment to make my position clear on it.

May I ask Mr. Schlemmer a question or two, Mr. Chairman?

#### STATEMENT OF FRED C. SCHLEMMER—Resumed

Mr. JACKSON. Mr. Schlemmer, prior to your coming with the Commission, you were in charge of a manufacturing plant in Tennessee?

Mr. SCHLEMMER. That is correct.

Mr. JACKSON. What was the name of the company?

Mr. SCHLEMMER. I was associated with the Peerless Woolen Mills of Rossville, Ga.

Mr. JACKSON. Prior to that, would you tell the committee your experience, I believe, in the construction field?

Mr. SCHLEMMER. My experience extends over a considerable period of time, originating in 1916, since which date, with the exception of

a short period in industrial management in this location at Rossville, Ga., I have been engaged in engineering and construction projects, covering various types of activity, power plants, construction of various kinds, oil refinery construction, apartment house-hospital type construction.

During the period 1933-46 I was associated with the Tennessee Valley Authority in responsible supervisory positions in the direction of various of its hydroelectric dam projects.

Mr. JACKSON. You were in charge of construction of some of the dams?

Mr. SCHLEMMER. I was in charge of the construction of Norris Dam, Chicamauga Dam, Watts Bar, Fontana Dam.

Mr. JACKSON. What was the approximate cost involved at that time in those projects?

Mr. SCHLEMMER. Well, the total volume of cost would probably approximate, I should say, four or five hundred millions of dollars.

Mr. JACKSON. You were in charge of the construction of those projects?

Mr. SCHLEMMER. That is correct.

Mr. JACKSON. And how many men did you have under your supervision and direction, all told?

Mr. SCHLEMMER. Well, the number varied, depending upon the particular period of construction. I should say that the average on a continuing basis was probably 5,000, running up, perhaps, as high as eight or nine thousand at particular times.

Mr. JACKSON. Mr. Chairman, I wonder if I might ask Mr. Winne—I do not know whether he is familiar with it—some questions with reference to Mr. Creedon, inasmuch as he is in the employ of the General Electric Co.

The CHAIRMAN. Come up, Mr. Winne, if you do not mind.

#### STATEMENT OF H. A. WINNE, VICE PRESIDENT IN CHARGE OF ENGINEERING, GENERAL ELECTRIC CO.

Mr. JACKSON. Mr. Winne, as I understand it, Mr. Creedon was employed by your company at Hanford.

Mr. WINNE. That is correct.

Mr. JACKSON. Could you state what the attitude of the company is toward Mr. Creedon, what it was at the time they employed him, what his standing is?

Mr. WINNE. His reputation was, in our belief, very good, Mr. Jackson. Otherwise, of course, we should not have employed him.

We, at that time, the time that we entered into the contract with Mr. Creedon, were under rather severe criticism by the Commission representatives at Hanford because of their belief that the construction program was not proceeding as fast as it should.

So, in reviewing the situation, we felt that we should get in there in charge of the construction project under the general manager of the whole Hanford operations a man who had a background of major construction work, who had a good reputation in it, and we felt that Mr. Creedon was such a man on the basis of what checks we could make.

We knew of his work at Oak Ridge, which was, of course, along the same general line. We knew of his engineering background. I think he is a graduate of Massachusetts Institute of Technology. He was about, as I recall it, the only man that we felt we could get at that time.

You will realize that at this time in the postwar period there was a great deal of construction work going on, all construction companies, by and large, were very busy, and capable construction people were hard to get. So we, after long consideration in which even Mr. Wilson of our company entered, because he knew Mr. Creedon—

Mr. JACKSON. Mr. Wilson is—

Mr. WINNE. Mr. Wilson is president of General Electric Co. He knew Mr. Creedon through association with him during the war, when Mr. Creedon was expediting the rubber project, and so forth.

After long and careful consideration and discussion with the Commission, we entered into this short-term contract with Mr. Creedon at the rate which Mr. Schlemmer has given, except there is one point Mr. Schlemmer overlooked, and that is, that in addition to the \$36,000 per year salary, there is a \$3,000-living-expense allowance which is also paid to Mr. Creedon.

We felt that that was a pretty high salary, but we were, shall I say, almost desperate in our effort to get a competent man for that job, and I think that Mr. Creedon, by the results which have been attained, by and large, in the construction of the major production facilities, has demonstrated that he did speed the job up greatly and that he has brought it through.

I should emphasize also that his contract is a special one on a temporary basis, terminating at the end of this year; that it embodies none of the pension privileges and that sort of thing which our regular employees have.

Mr. JACKSON. A special 2-year contract?

Mr. WINNE. A special 2-year contract—2 years and 2 months, to be exact.

Mr. JACKSON. In your experience as vice president of General Electric Co., do you feel, considering all the circumstances that you had to face at the time, that the salary is out of line for the work that he is doing and what he has accomplished or has not accomplished?

Mr. WINNE. Well, I think that the salary is, if anything, on the high side, Mr. Jackson; but he would not agree to come for any less, and we could not at that time locate another man who we felt was equally capable of carrying on the job. So, as I say, after discussion with the Commission, we agreed upon him for this salary.

The CHAIRMAN. Is that \$3,000 isolation pay?

Mr. WINNE. Essentially that, Senator.

The CHAIRMAN. Are there any other questions, Senator Hickenlooper?

Senator HICKENLOOPER. No more questions.

The CHAIRMAN. You want to get onto another matter?

Mr. SCHLEMMER. Mr. Chairman, may I slightly amend my answer to Senator Hickenlooper with respect to the amount of money paid to the du Pont Co. for the employees to whom he directed our attention?

## STATEMENT OF FRED C. SCHLEMMER—Resumed

Mr. SCHLEMMER. That amount is approximately \$400,000, Senator Hickenlooper, instead of approximately \$800,000.

May I also, in response to Senator Hickenlooper's inquiry regarding the authority of the manager in connection with contracts, state that this authority is confined to approval of those contracts, and only those contracts that further approved programs which are within established policies.

The CHAIRMAN. In other words, if there is a housing program, we will say, that runs to \$4,500,000, and that program has been approved, you have the right to select the contractor who will do the building of those houses?

Mr. SCHLEMMER. That is correct, Mr. Chairman.

The CHAIRMAN. And make the final contract with A, or B, or C, whoever the successful bidder may be?

Mr. SCHLEMMER. That is correct, Mr. Chairman.

Senator HICKENLOOPER. Mr. Chairman, I would like to get on to some other matters here, and get this cleared up.

The CHAIRMAN. Proceed, Senator.

Senator HICKENLOOPER. As I said yesterday or the day before, before some collateral matters got into this, I am interested in the policy of free-enterprise operation in the city of Richland and in that area. I would like to read, first—the matter was first brought to my attention by a newspaperman out there who has been trying, apparently unsuccessfully, for 2 years to get office space in Richland so he can do some business, and allegations are that he has been completely blocked at every turn.

In addition, I have here a copy of a resolution of the Washington Allied Daily Newspaper Association of Seattle, Wash., adopted May 13, 1949. The resolution is short, and reads as follows:

Whereas the Allied Daily Newspapers of Washington are informed that it is the purpose of the United States Atomic Energy Commission or its agent to establish or cause to be established a newspaper in Richland or to permit but one newspaper to be established there under the favor of the Commission or its agent; be it hereby

*Resolved*, That the daily newspapers of this State regard any such procedure as a violation of the first amendment to the Constitution of the United States, which guarantees a free press throughout this country, and a flagrant transgression of the whole basis of the American concept of freedom and democratic institutions; and we reaffirm our convictions that the Richland area shall be open to any loyal American to establish a newspaper there, daily, weekly, or semiweekly, or any business institution he desires.

That is also signed by the Washington Allied Daily Newspaper Association.

Then, I have a telegram received some time ago, dated February 18 last, which is as follows, and is addressed to me, Senate Office Building:

Re Atomic Energy-General Electric investigation—

I might say parenthetically that I had asked some questions about this situation previously—I will start reading it again:

Re Atomic Energy-General Electric investigation.

We also charge the Atomic Energy Commission is barring small business and free enterprise from operating in Richland. We request your immediate consideration as to whether or not this also can be investigated while Atomic

Energy officials are in Washington. The Villager operation is only a small part of the existing iron curtain. Small-business men Pasco and Kennewick, Wash. Please advise.

(Signed) James Johnston, Chairman, 417 West Clark; Vernon Beall, Vic Hughes, Cecil Anderson, A. M. Westby, Walter Benson, Earl Hoover, I. L. Hughes, Tom McIlraith, George Hayes, Gordon Rexroth, Dale Myers.

I have got a volume of correspondence with reference to the practices or to the difficulties and practical prohibitions placed about businessmen who want to set up businesses in Richland, and newspapers that want to set up offices there, or newspaper plants.

I understand that there is some complication because the Government owns the land, but I call attention to a form contract issued entitled "Bid-Commercial Facility." I call attention to the fact that currently under this bid, for a commercial facility, before a competitive business can be authorized to build a building in Richland, a long list of agreements and affirmations and listing of things of this kind have to be entered into, among others, that it requires a percentage of the gross from this business which shall be paid to the General Electric Co.; that the builder must build his own building, to which I raise no objection at the moment because it is Government land, and the land itself cannot be sold, and the Government may not want to go into the business of building and renting buildings on unused land.

The various normal lease provisions for licensing so far as the operation of legitimate business is concerned are contained, but also they are required, for instance, in paragraph 7, to state the following:

We will carry the following lines of merchandise and provide the following services [indicate specifically the items and brand names which will be carried and the services which will be provided]:

Then, this agreement also provides in section 12, paragraph 12, that the bidder—

agrees to abide by such rules and regulations as General Electric or the Commission may from time to time establish pertaining to the use of the structures, the operation of the business, or to the health, sanitation, fire protection, and safety of the residents of Richland.

Now, the provision for the health or sanitation, fire protection, and safety of the residents of Richland is the ordinary normal provision, but it seems to me in that connection that to require a competitive free enterpriser to abide by the contingent future rules and regulations in connection with the operation of the business or the use of the structure which the General Electric or the Commission may whimsically or otherwise see fit to put out is a complete and practical throttling of free enterprise and competitive activity and operates as a control over the destiny of any free enterpriser who must invest his money building a building out there in this open town—and bear in mind this is not behind the barricades—and this, of course, must also be subject to the approval of the Commission in addition to General Electric.

Now, many of the provisions in this proposal are the perfectly normal provisions for the health, safety, and for the abiding by the laws of the community. The complaints—the situation that seems to have developed and the complaints that have been generated are these: That unless one is in the favor of the Commission or in the favor of the General Electric Co. he finds it impossible even to build his own

building on Government land there and engage in competitive enterprise; that the restrictions so hedge them about, and the influences cast by the operations there on the employees and their families, practically all of whom are employees of the project, are such that it is a complete censorship in effect of the operation of free enterprise, and there is no such thing as free competitive enterprise in this open city.

Now, that is the gist of the complaints, and that is a matter that I would like to have discussed.

Mr. JACKSON. Mr. Chairman?

The CHAIRMAN. Mr. Jackson?

Mr. JACKSON. I wonder, in connection with the question, if we could go into the newspaper matters first, because that was the first question.

Senator HICKENLOOPER. I would like to have the policy discussed, if I might. They might go into individual cases or individual items later.

Mr. JACKSON. Well, the reason I made the comment is that the newspaper question was raised first, and I happened to be out at Hanford in April of this year and checked into this matter very carefully, and I believe that there is just a complete misunderstanding on that matter, because I talked with the person who made the complaint and also with the people who were involved in this, and as I recall there was complete understanding that this matter would be thrown open to all of the bidders that were interested in the proposition; and I thought the whole matter had been cleared up because I have been in touch with people who had made the complaint in the first instance.

Senator HICKENLOOPER. It had not been cleaned up as late as at least June 6, because the newspaper situation—I would just like to have the general philosophy discussed and get some idea of what the idea is and why people cannot be permitted to go in and take their own hazards on a free enterprise and a competitive venture without being restricted and controlled and regulated by the operations unit and by the Commission.

Mr. SCHLEMMER. Mr. Chairman, I am prepared to speak with respect to whichever you desire me to, either the policy or the newspaper.

The CHAIRMAN. I think it would be well—Mr. Jackson has told us about the results of his inspection into the newspaper situation. Suppose you give us the background upon which that is based.

Mr. SCHLEMMER. Well, I might say, Mr. Chairman, that the situation with respect to the newspaper is that—

Senator HICKENLOOPER. What is the general policy, Mr. Schlemmer? May we discuss that first? I would like to know what the general policy is, and if the newspaper—if that becomes an issue—how it fits into the general policy and how the small-business men, such as cleaning plants and that kind of business, fit in; but I think it would be orderly if we got a statement of policy in the operation of competitive enterprise in Richland.

Mr. SCHLEMMER. Senator Hickenlooper, I will be very happy to proceed in whatever manner the committee desires that I proceed.

The CHAIRMAN. All right. Answer Senator Hickenlooper's question.

Mr. SCHLEMMER. Yes, sir. Richland is located in Benton County in southeastern Washington, near the junction of the Columbia and

**Yakima Rivers.** This is an arid, desert area, having an annual rainfall of 6 inches, and is subject to frequent severe sandstorms.

Pasco and Kennewick, located 12 and 10 miles east of Richland, provide the nearest passenger train service and are communities which initially substantially increased in population as the result of the Hanford projects, and more recently as the result of the construction of the McNary Dam and irrigation projects in the general vicinity.

Until World War II, Richland was an incorporated farm community with an estimated population of 300. The entire town, together with several thousand acres of land lying between the Columbia and Yakima Rivers, was purchased by the United States Government in 1943.

Immediately thereafter, a construction program was begun for the erection of housing for operating personnel, for limited commercial facilities, and for the erection of the Hanford plutonium plant. The first construction program ended during the early part of 1945.

**Senator HICKENLOOPER.** Mr. Chairman, I do not like to curtail the witness' answer, but a document in the nature of a historic review of the development of Hanford, I think, may be interesting for this record and I have no objection to having it put in, but I am interested in the conditions at Hanford and Richland now, whether or not free enterprise has complete liberty to go in there and construct its own projects and get into business and go broke and make money if they want to. I want to know whether they are controlled by the General Electric Co. policies or the Atomic Energy Commission. What is the situation at Richland now? There is a village or a town of some 30,000 there, and the Government owns land. Now, we know that, but I am not concerned with respect to this question in the history of the project, although I think it might be valuable for the record.

**Mr. SCHLEMMER.** Mr. Chairman, I am sure that I accurately understand what Senator Hickenlooper desires, and I am desirous of acceding to that. I think that in so doing it is necessary to develop the program from the initiation of this project up to the conditions which exist today, and I would like to proceed in doing that.

**The CHAIRMAN.** How long is it?

**Mr. SCHLEMMER.** Well, it will take 5 minutes, I imagine.

**Mr. HOLIFIELD.** I think we can spare 5 minutes to find out whether this is a Government-owned area or not, and what the background is.

**Senator HICKENLOOPER.** Of course, we already know that; it is already conceded.

**Mr. HOLIFIELD.** The public is entitled to these facts. We know these facts; the public is entitled to them. Let us have them brought out.

**Senator HICKENLOOPER.** I only want to expedite this, Mr. Chairman, and I am willing to sit here and listen to it.

**Mr. SCHLEMMER.** Under the original program, a maximum population of 15,000 to 16,000 persons was reached during the winter months of 1946 or 1947. The present population in the permanent town of Richland is approximately 23,000 and is expected to remain at this general level.

The construction camp at North Richland, 4 miles north of Richland proper, is of a temporary nature, and the population of this camp is not included in the above figures.

During the town of Richland's original construction program, completed in 1945, a total of 3,904 family units of housing and dormitory accommodations for 312 unattached men and 668 unattached women were provided.

When new impetus was given to the atomic energy program in the fall of 1947, it became necessary to provide additional housing for operating personnel. An additional 1,867 houses and apartment units have been added.

There is presently at Richland a total of 5,770 family dwelling units and 1,225 dormitory rooms in which the employees of the Commission, General Electric, the facility operators, and, in some instances, sub-contractors are housed.

The town of Richland is operated for the Atomic Energy Commission by the General Electric Co. under its contract with the Commission. The General Electric Co. handles the selection of all commercial facility operators for the town, subject to the approval of the Commission.

During the war, commercial facilities to meet only the absolute minimum requirements of the local population were provided. All new commercial buildings in the town of Richland at that time were constructed at Government expense, and all of the original buildings which were usable were also occupied.

The Atomic Energy Commission in its determination to develop Richland along the lines of a normal American community later established a new policy regarding commercial facilities, and business firms are now constructing their own buildings in Richland on long-term ground leases. Investors are also permitted to erect single or multiple buildings for subleasing to other businessmen.

The growing town of Richland will have two sizable business districts approximately five blocks apart, along with a number of neighborhood areas. This arrangement prevents the traffic and parking problems which plague the merchants of most American cities.

The town has elbow room and is generally designed for modern living. Additional commercial enterprises are being established in order to complete this pattern.

Commercial facility operators for Richland are, as Senator Hickenlooper indicated, selected by the General Electric Co., usually through competitive bids or proposals, although negotiation may be necessary in the case of investment building.

The rental bids must be sufficient to cover the costs for electricity—other than heat—water, sewerage, such municipal expenses as police and fire protection and street maintenance, and to provide a fair return for the use of the land.

At present, electricity and water are not metered. All factors, including experience, trade connections, character and financial resources are taken into consideration in the selection of commercial facility operators.

I shall read a list later of the number of stores that are now operating in Richland, the additional ground leases awarded, and the probable number of new stores desired.

(The list referred to is as follows:)

*Existing commercial facilities and anticipated expansion*

	Present businesses in opera- tion	Leases awarded	Additional businesses currently anticipated	Anticipated total
Food group:				
Combination stores (grocery and meat) .....	5	1	3	9
Milk dealers .....	1	1	0	2
Delicatessen .....	0	1	1	2
Bakeries .....	1	1	0	2
Frozen food lockers .....	1	0	0	1
General merchandise group:				
Department store .....	1	0	1	2
Variety stores .....	1	0	2	3
Apparel group:				
Men and boys' clothing and furnishings .....	1	1	1	3
Women's ready to wear .....	2	0	1	3
Women's accessory store .....	0	1	1	2
Shoe stores (all kinds) .....	1	1	0	2
Fur shop and exclusive apparel .....	0	0	1	1
Furniture, household, radio group:				
Furniture stores .....	1	1	0	2
Floor coverings, drapery store .....	0	0	1	1
Household appliance dealer and electric shop .....	0	0	2	2
Paint store .....	0	0	1	1
Automotive group:				
Motor vehicle dealers (new) .....	2	1	2	5
Auto supply store .....	0	1	0	1
Garage .....	0	0	1	1
Gas stations .....	4	4	2	10
Lumber, building material group:				
Lumber, building material dealers .....	0	1	1	2
Heating, plumbing equipment .....	1	0	1	2
Hardware stores .....	1	0	1	2
Luggage and leather goods store .....	0	0	1	1
Drug stores .....	3	1	3	7
Eating places:				
Cafeterias .....	1	0	0	1
Restaurants .....	2	1	2	5
Restaurants (drive-in) .....	0	1	0	1
Malt shop and dairy lunch .....	0	2	2	4
Candy store .....	1	0	1	2
Other retail stores:				
Jewelry stores .....	1	1	0	2
Book and stationery store .....	0	1	1	2
Cigar store and newsstand .....	0	0	1	1
Florist .....	1	2	0	3
Nursery, greenhouse, and garden supply store .....	0	0	1	1
Music store .....	0	1	0	1
Photo supply, camera shop .....	0	0	1	1
Photo studio .....	1	0	1	2
Sporting goods stores .....	0	1	1	2
Gift shops .....	0	0	3	3
Optical shop .....	1	0	1	2
Personal services:				
Barber shops .....	2	1	3	6
Beauty shops .....	1	1	4	6
Cleaning and dyeing plant .....	1	1	1	3
Laundry .....	1	0	0	1
Funeral director .....	0	0	1	1
Sewing center .....	0	1	0	1
Custom tailoring .....	0	0	1	1
Shoe repair .....	1	0	1	2
Services allied to transportation:				
Warehouse (cold storage) .....	0	0	1	1
Warehouse (others) .....	0	0	1	1
Cabinet shop .....	0	0	1	1
Drinking places:				
Taverns .....	1	0	0	1
Liquor store .....	1	0	0	1
Beverage store .....	0	0	1	1
Entertainment:				
Theaters .....	2	1	0	3
Bowling alleys .....	1	0	1	2
Poolrooms .....	1	1	0	2

Mr. SCHLEMMER. These totals, of course, will probably change in the course of time, but at the present they appear to be the proper numbers for each type of business.

Approximately 50 businesses are now operating in Richland. All but 9 of them are houses in Government-owned buildings. Six of these buildings or these businesses, a furniture and electrical appliance store, a Studebaker dealership, a frozen-food locker plant, and a men's and boys' store, a sporting goods store, a florist, and a ready-mix concrete plant, are operating in their own modern facilities.

Additional privately owned business buildings are now under construction under long-term ground leases, and leases have been awarded to approximately 25 additional businesses which are now preparing plans for the construction of their own buildings.

Current planning contemplates the awarding of an additional number of ground leases in order to provide an adequate number of retail outlets to serve the needs of the population and to provide competition in business generally.

The problem of conversion of a community which, since its origin, has been completely Government-owned and operated, to one which it is hoped will ultimately approach normalcy, is certainly not a simple one.

Those who have not actually experienced or participated in such a transition may not be fully aware of the complications involved. Actually, there are very few, if any persons, who have directed or taken part in converting a one-industry town, in which all property is owned by the Government and all residents are employees of the Government directly or indirectly, into a community which is normal in the sense that it allows for ownership and transfer of property, freedom of selection of location of business or residence, as well as providing for taxation, financial stability, and the like.

The ultimate objective of the Commission is to approach so-called normalcy in the town of Richland as promptly as the conditions permit, and as the problems can be solved.

The Commission would prefer to entirely divorce itself from community ownership and operation if this were possible. However, its responsibility to provide for the operation of the important production facilities at Hanford will not permit so doing in the early future.

Perhaps, in not too many years, this may be worked out successfully, but until then it must assure the provision of proper living facilities for its people.

The Commission recognizes that the particular situation of location which exists at its Hanford project necessitates its being continually aware of the importance of people in the operation of its plants. These people must be adequately housed and provided with reasonable amenities, such as schools, churches, medical services, recreational and cultural facilities, and, in addition, with adequate commercial facilities such as food and merchandise stores, banks, service-type businesses, and other facilities which a city of 25,000 people would normally provide.

The Commission has already moved forward in the direction of its ultimate objective through the step from Government ownership of commercial-facility structures operated by concessionaires to privately built and operated commercial facilities on leased land.

The next step to land ownership by individuals or groups will be a large one, and can only be done on a community-wide basis covering land ownership for all purposes. Many, many problems require solv-

ing before this can be done. In developing the policy of leasing land for private construction and operation of commercial facilities, the Commission first established what appeared to be the basic requirement in types and numbers of facilities felt to be immediately essential in addition to those already in existence under the previous policy of leasing Government-owned and built structures.

In this study the Commission determined that initially approximately 100 commercial facilities of varying types would form the basic structure on which further development would be made.

I would like to later read the general types of such businesses.

In endeavoring to establish these businesses in the commercial areas of Richland, the General Electric Co. contacted all persons and companies who had at any time had indicated an interest in establishing a business in Richland.

In addition, they have contacted many hundreds of other people or companies in business in the Pacific Northwest and in adjacent regions.

It further distributed information concerning the Commission's program of commercial-facility expansion in Richland through the medium of news articles in regional papers, public addresses in the various larger communities, advertising and national publications such as the Wall Street Journal and the New York Times, and in discussions with correspondents of nationally circulated magazines who visited Richland.

In addition, staff members visited numerous cities for the purpose of discussing this expansion program with businessmen in the various fields.

Following these introductory methods, the General Electric Co. contacted many hundreds of persons or companies to ascertain their interest in bidding competitively for specific types of facilities if invitations to bid were sent to them.

Approximately 450 of these indicated interests, and invitations to bid were sent to those persons or companies. Of this number, approximately 80 bids have been received, from which 33 awards have been made.

In sending out invitations to bid, the General Electric Co., commercial facilities division, includes a bulletin describing the town of Richland, the existing commercial facilities operating in Government-owned structures, the number of facilities anticipated to be immediately required, and the number which it is ultimately hoped may become established.

In addition, the prospective bidders are supplied with a bid form which states the requirements, what is expected of the bidder, how the successful bidder will be chosen, what the method of rental will be, and other similar information designed to be helpful to the prospective bidder.

The bids are required to be submitted by a stipulated bid opening date, at which time they are opened by the General Electric Co. in the presence of a representative of the Commission.

The General Electric Co. then makes an abstract or analysis of the bids submitted and recommends the most desirable bid to the Commission for award approval. The successful bidder is normally chosen on the basis of his having bid the highest rate of rental to the Government. Consideration is given to reputation, financial stability, and similar factors.

The return to the Government is in the form of a percentage of gross income of the operator and provides for a minimum monthly rental, usually sufficient to cover the expense of services, such as electricity, water supply, trash and garbage collection, police and fire protection, and steam supply for heating purposes.

There are two principal commercial areas in the town of Richland, one being that originally developed with Government-built structures and the other a new area now under development in which facility operators build structures with their own capital.

In addition to the two principal commercial areas, there are a number of smaller neighborhood commercial areas at various locations throughout the community.

Within the area of Richland the greater portion of the land is used for dwellings, schools, hospitals, administrative offices, warehouses, storage yards, shops, and so forth.

Under the master town plan, certain locations have been selected for commercial facility use, either as merchandising units, light industrial areas, heavy industrial areas, and so forth.

By reason of the extensive use of land for residence purposes, the areas available for commercial development are somewhat limited but are still considered to be fully adequate for the ultimate needs of the community.

Certain zoning principles are applied in the master plan in order to assure against the ultimate depreciation of property values through poor or improper location of commercial facility areas. At the same time, the convenience of location of these areas is given full consideration.

Under the existing policy for the establishment of commercial facilities, the Commission feels, and definitely so, that it has taken a forward step in moving toward ultimate normalcy. As the conditions permit, still further advances are expected to be made.

I think, Mr. Chairman, that that constitutes a general statement of policy with respect to the operation of commercial facilities at Richland.

Senator HICKENLOOPER. Mr. Chairman, now that the general policy has been adopted or announced, I submit that it is completely clear that private enterprise cannot go into Richland under any circumstances without the approval and the determination of the most desirable in the view of the Commission and the General Electric Co.

I can understand, and I think it is good practice, that town zoning be adopted, and I assume that it has; I can understand that there should be a tax equivalent for services furnished; I can understand that a reasonable land grant is perfectly justifiable. I can also understand that there should be, in my opinion, a provision for amortization of the cost of the structure that a private enterpriser would put on there over the period of his lease, because it undoubtedly will revert to the Government at the end of the lease; that is, the structure that he puts on there, the real estate being owned by the Government. But I certainly cannot go along with the policy that if free enterprise is the objective—and control and dictation of the policy of businesses as long as they are legal is not the objective—why a factor cannot be developed permitting anybody—if there are 10 restaurants in the town and 5 more want to come in and venture their

own capital and they can build their own buildings and take their chance on making a living, why a factor cannot be set up there saying, "Surely, here is a zoned area; the price of the rental of this lot will be so much per year, reflecting the services to be furnished. You will be expected to put up a building in keeping with the other structures in this area, and your entire pay to the Government will be so much money for this structure. Now, make it if you can."

The CHAIRMAN. You would not let any hoodlums in it; would you, Senator?

Senator HICKENLOOPER. Well, I think the present——

The CHAIRMAN. Their idea of free enterprise might be quite detrimental.

Senator HICKENLOOPER. I am talking about free enterprise.

The CHAIRMAN. Well, hoodlums run legal enterprises sometimes.

Senator HICKENLOOPER. I do not know exactly who would be hoodlums, but if a man has the money to buy a lot or rent a lot in Washington, D. C., or Crossroads Corners, and if he has the money to start a business and establish it, I think the question of hoodlumism can come up later in the success of his enterprise. Of course, we would like to see the highest class of people get in there, but I think the average businessman who has money enough to venture into a thing like this, the chances are that probably he is a long way from hoodlumism.

The CHAIRMAN. I know, but it might be a bad place to have some questionable characters, no matter how good their business is, and how good their business ability, and how much money they have got. We have got a peculiar situation here.

I certainly would want to screen fairly carefully anybody who came in here.

Senator HICKENLOOPER. It is an open town; it is not a restricted area, and it is just a question of whether it is free enterprise or whether the operation of that man's business and everything that goes with it is subject to the control and the dictation of the Commission and the General Electric Co.

The CHAIRMAN. Just a minute, Senator. The House Members have to leave to make their roll call, and Mr. Jackson has one question he tells me he wants to ask.

Mr. JACKSON. Yes, Mr. Chairman.

Before you reply to Senator Hickenlooper's question, Mr. Schlemmer, I wonder if this question of the newspaper issue that was raised might be clarified. As I understand it, Senator Hickenlooper received a letter or a wire in June, or this month, stating that there was some question about keeping these people out who wanted to bid.

Now, is it not a fact that on May 23, 1949, invitation to bid, invitation for bids was sent out to the various bidders; is that correct?

Mr. SCHLEMMER. That is correct.

Mr. JACKSON. Dated May 23?

Mr. SCHLEMMER. I believe that is the correct date. May 23; that is correct.

Mr. JACKSON. I ask that the entire bid form be made a part of the record.

The CHAIRMAN. Yes.

(The documents referred to were marked "Exhibit 18" and will be found in the appendix.)

Mr. JACKSON. Under section 8 I would like to read into the record this particular clause:

VIII. Attention is invited to the policy and objectives of the Commission and the General Electric Co. to the effect that the purpose of competitive bids on the publication of newspapers in the town of Richland is to obtain under equitable conditions a locally produced newspaper or newspapers for the town of Richland, and to insure fairness to all interested parties in the assignment of sites for places of business. This is not an invitation to bid for the exclusive privilege of operating a newspaper in the town of Richland. Any and all bidders who meet the terms of this invitation and bid form may, if they choose, operate a newspaper in the town of Richland.

Then it goes on to mention six sites. I wanted to state, Mr. Chairman, for the record, that this matter, I thought, was settled to the satisfaction of everyone in April when I was out there.

I discussed it with the Allied Newspaper Association, and they were fully familiar with the proposal that the Commission and the General Electric Co. was going to make at that time, and a letter was sent, I believe, by Mr. Sumner T. Pike, Member of the Commission, to the Allied Newspaper Association, in the early part of this month, explaining the bid form, and apparently someone had sent a letter—or at least I received one, too—from the Allied Newspaper Association without having read the invitation to bid, but certainly there cannot be any question about the fact that under the terms of this invitation that any and all newspapers which want to come in and bid on the proposal have the right to come in. Is that correct?

Mr. SCHLEMMER. That is entirely correct.

I happen to have the copy of the communication from Commissioner Pike to the Allied Daily Newspapers, in addition to which discussions were held with the Washington State Publishers Association prior to the development of these bid invitations. The matter was discussed with the American Newspaper Publishers Association; considerable correspondence exchanged between Mr. Cranston Williams, the executive secretary of that organization, and the manager of Hanford.

The bid invitations were issued, as Congressman Jackson has stated, on May 23; the invitations went out to 23 persons or organizations who, over an extended period of time, had indicated interest in an opportunity for the establishment of a newspaper in Richland; and I simply am unable to understand how the person who advised Senator Hickenlooper on June 6 of these conditions could have done so if he was sufficiently interested to ascertain what the actual facts in the case are.

Senator MILLIKIN. Mr. Chairman, may I ask a question?

The CHAIRMAN. Senator Millikin?

Senator MILLIKIN. Why did you not let the newspapers which wanted to come in, come in, anybody who wanted to run a newspaper?

Mr. SCHLEMMER. This, Senator Millikin, actually provides for that. This is really an invitation to bid on the use of land. It is not an invitation with respect to a newspaper.

Senator MILLIKIN. Why the invitation? Why the selective process of invitation? Why did you not let anybody come in on your rental terms whatever they might be, first come, first served, to establish newspapers there?

Mr. SCHLEMMER. Well, this would seem to accomplish that very thing, Senator Millikin.

Senator MILLIKIN. Well, I suggest it does not, because you are making an invitation—you are inviting the people who should join your lodge.

Mr. SCHLEMMER. Here is the situation, Mr. Chairman, and members of the committee: The matter of land use is a very important one in Richland. It involves housing, it involves—

Senator MILLIKIN. May I interrupt you to say that that is a municipal problem common to every municipality in the United States?

Mr. SCHLEMMER. That is correct. However—

Senator MILLIKIN. Everything that you pointed out as a security problem of this town that you are talking about is peculiar to every other municipality.

Mr. SCHLEMMER. However, there is only one such town as this in the entire United States.

Senator MILLIKIN. I hope we never have more if you are running the business there on an invitational basis. What is your theory of that? What gives you this God-given right to issue invitations to people who shall enjoy the benefits or the hazards of that town? What is in the back of your heads that leads you to a philosophy of that kind?

Mr. SCHLEMMER. There are certain responsibilities, Senator, in connection with the operation—

Senator MILLIKIN. What is your responsibility except to run a decent town there?

Mr. SCHLEMMER. The first responsibility is to protect the national security involved and surrounding the plutonium plants there.

Senator MILLIKIN. Does anyone have access to that town?

Mr. SCHLEMMER. Everybody has access.

Senator MILLIKIN. Everybody has access to it. So what is left to that point?

Mr. SCHLEMMER. The town is provided for the housing of the operating employees of the plants.

Senator MILLIKIN. Can anyone come in and take lodging with any of the people who live in those houses?

Mr. SCHLEMMER. The accommodations do not permit that, but it could be done.

Senator MILLIKIN. John Doakes can invite Richard Oakes to come in and visit with him in his house?

Mr. SCHLEMMER. Yes, indeed.

Senator MILLIKIN. You exercise supervision over that?

Mr. SCHLEMMER. Indeed not.

Senator MILLIKIN. Why over the merchants?

Mr. SCHLEMMER. We actually exercise no supervision over the merchants.

Senator MILLIKIN. Senator Hickenlooper read a paragraph there where they have got to run their business under your control.

Mr. SCHLEMMER. Some of the implications of Senator Hickenlooper's remarks—

Senator MILLIKIN. I am not speaking of his remarks; I am speaking of what he read from the contract. Would you mind reading that again, Senator Hickenlooper?

Senator HICKENLOOPER. Senator, the contract provides that the lessee agrees to—

abide by such rules and regulations as General Electric or the Commission may from time to time establish pertaining to the use of the structures, the operation of the business—

Senator MILLIKIN. Get the word "operation" of the business, please.  
Senator HICKENLOOPER (reading):

or to the health, sanitation, fire protection, and safety of the residents of Richland.

Senator MILLIKIN. What is your explanation for that? The security suggestion, I respectfully say, is sheer bunk, because the town is open to anyone who wants to go through it; people are at liberty to linger there if they want to. They are at liberty to visit anyone who lives in those five or six thousand houses that you mention there. Give me some more reasons for it.

Mr. SCHLEMMER. Well, the limitation on the use of land is a very important one, Senator. The availability of land is extremely limited and, therefore, it must be a major factor in the establishment of commercial facilities in Richland.

Senator MILLIKIN. You mean that you do not have enough, you have not set aside enough commercial area to take care of commerce on a free enterprise basis in laying out that city?

Mr. SCHLEMMER. We consider that we have set aside a fully adequate area; yes, sir.

Senator MILLIKIN. Under your control system; correct?

Mr. SCHLEMMER. I am sorry, Senator, but I cannot see the point of the control which you indicate.

Senator MILLIKIN. The point is in your contract, sir. The point is in your contract, and the point is in your selective invitations to people to come and do business there. Are not those two points evident to you? Is that not perfectly evident to you?

Mr. SCHLEMMER. It is evident to me, of course.

Senator MILLIKIN. Does it not have any impact on your mind at all as distinguishing what you are doing there from what you customarily understand happens in a free enterprise town?

Mr. VOLPE. Senator Hickenlooper, can I answer this question?

Senator MILLIKIN. Millikin is my name. [Laughter.] I have three "i's" in my name and I am using all of them. [Laughter.]

Mr. VOLPE. Senator, in the first place, we must keep in mind here that the boundaries of this area were determined by the Manhattan District when the area was first acquired. The first requirement in the area is to provide housing, to provide schools, to provide all the necessary facilities to maintain the people who work in the plant.

Senator MILLIKIN. That is a function of any town.

Mr. VOLPE. That is right, sir.

Senator MILLIKIN. Any town.

Mr. VOLPE. Now, the difference between this town and other towns is that the Government is carrying on an operation here, a production operation which requires people.

Senator MILLIKIN. Yes.

Mr. VOLPE. We cannot—

Senator MILLIKIN. That is the function of every town.

Mr. VOLPE. Well, I respectfully—

Senator MILLIKIN. That is why you have any town; it is to take care of people who have some activity in that town.

Mr. VOLPE. Well, I respectfully—

Senator MILLIKIN. You have one employer here. In other towns you have one employer, you have a dozen, but the problem is the same.

Mr. VOLPE. Well, Senator, I would respectfully disagree that it is the same for this reason: A community may be perfectly willing to let an industrial organization try on its own to get the people who are needed in carrying on the enterprise. A municipality does not guarantee to any industrial organization that the municipality itself will provide the people who are needed to carry on a particular piece of work or to work in a particular type of industry.

Unlike the situation at Hanford, an ordinary municipality is not interested—is interested, of course—but it does not have any obligation to industry in that area to provide the people who work in that plant.

Here at Hanford and at Oak Ridge and at Los Alamos, our first responsibility is to provide the people who are used in the operation of these plants.

Senator MILLIKIN. All right. Let us assume that.

Mr. VOLPE. So that in that respect it is quite unlike other municipalities.

From the standpoint of these lease agreements, the lease arrangement here is—

Senator MILLIKIN. The problem of the employer in any other municipality is the same. He must find his people.

Mr. VOLPE. Yes.

Senator MILLIKIN. And he must get them established in the town, and some place in the town through this cumbersome operation of free enterprise, they find the food and the services and the other things they need.

Mr. VOLPE. Yes, Senator. I happen to be familiar—

Senator MILLIKIN. Let me suggest to you that there has never been a town of 20,000 people or more that was established overnight that did not almost overnight find the facilities necessary for its operation. Now, it is not orderly, there are duplications, some make money, some do not, some are not quite of the caliber that you might otherwise admit into your lodge, but those things take care of themselves.

Mr. VOLPE. Senator, if I may say so, I think that is somewhat of an oversimplification of the problem for this reason: I am sure the Senator is familiar with some of the industrial towns which exist in this country. It happens that there is one in New Jersey, or there was one in New Jersey, with which I was familiar. It was operated by John Roebling & Sons.

Senator MILLIKIN. Did you ever hear about company stores and the objection to those?

Mr. VOLPE. Yes, sir; I certainly did.

Senator MILLIKIN. Did you ever hear about the objection that is always raised when an industry attempts to choose the businesses that shall be in the town?

Mr. VOLPE. There is no question about that.

Senator MILLIKIN. We have had strikes and we have had deaths over that sort of thing.

Mr. VOLPE. Senator, there is no question about it, and I would like to emphasize here that this matter of operating—

Senator MILLIKIN. This employee that we are talking about, perhaps, desires the opportunity to shop in a disorderly way, to pay

more, perhaps, than he should pay. He also wants the opportunity to look for bargains.

Mr. VOLPE. Well, Senator, I must emphasize right here that if the Commission could have found in the past 2½ years, or could find tomorrow an easy way out of operating these towns, you can be assured they would have done so.

What I am trying to say is that it is impossible to simply open up these towns and say to people, "Do as you will."

In the first place, there is not enough land for it. On the matter of newspapers, the question there is—newspapers or any other enterprise—the question is the desirability of a location of a store. Now, how do you determine whether if there are 50 people who are interested in putting up a clothing store, you will permit Mr. X to put it up in the most desirable place, except by bid, except by competition in that way?

Senator MILLIKIN. But why did you put the provision in the contract that this business shall be subject to your control?

Mr. VOLPE. Not subject to our control.

Senator MILLIKIN. Obviously, if you have a limited amount of space you have got to have some method of determining who goes into that facility. Obviously that is so. Why the provision in the contract for controlling the business?

Mr. VOLPE. Senator Hickenlooper—

Senator MILLIKIN. You do not insult me when you call me Senator Hickenlooper. [Laughter.] I just want the thing to be kept straight. [Laughter.]

Mr. VOLPE. Senator Millikin, I might just interject here that, for example, at Oak Ridge where they have had quite a bit of experience with this, they have found from the experience that it is possible not to require some of the conditions that have been required out at Hanford. Now, one of the reasons for that is that there is considerably more land available.

Senator MILLIKIN. Let us assume that you had to have some method for putting a limited number of people into a limited space. Let us assume it. Why a provision in the contract for controlling the business?

Mr. VOLPE. Senator, when you say "controlling the business"—

Senator MILLIKIN. That is the third time I have asked you that question.

Mr. VOLPE. Yes. When you say "controlling the business" we have to define that. We have provisions in these leases that amount to a certain amount of control. That does not mean that we control the businesses. There are in this lease certain provisions which are normal between landlord and tenant.

Senator MILLIKIN. Is this provision that Senator Hickenlooper read normal?

Mr. VOLPE. Senator, it is normal, for example, for a landlord—

Senator MILLIKIN. Senator Hickenlooper, will you let me have that provision, please? Let us keep on this little point that I am talking about, about this control provision, no other point, no diversions. Just keep on that little point.

Now, do we understand each other?

Mr. VOLPE. We certainly do.

Senator MILLIKIN. Will you talk to the point? [Laughter.]

Mr. VOLPE. May I have the section, Senator?

The CHAIRMAN. You invited yourself into this. [Laughter.]

Senator MILLIKIN (reading):

Abide by such rules and such regulations as General Electric or the Commission may from time to time establish pertaining to the use of the structure—  
no limitations on that?—

the operation of the business—

no limitation on that?—

or to the health, sanitation, fire protection, and safety of the residents of Richland.

Mr. VOLPE. Well, Senator, that is not unusual for a lease arrangement between landlord and tenant.

Senator MILLIKIN. I challenge you to find a single lease in private enterprise where that is so, where there is any right to control the operation of a business.

Mr. VOLPE. The use of the property.

Senator MILLIKIN. I am talking about the operation of the business.

Mr. VOLPE. Sir, you are inserting the word "operation" for the word "use."

Senator MILLIKIN. It says "the operation of the business," that is what it says.

Mr. VOLPE. In connection with the use.

Senator MILLIKIN. Let us talk about the operation of the business; it sits there in separate context. Talk just about that now, nothing else. Find for me one lease in private enterprise where the lessor has the right to operate the business.

Mr. VOLPE. He does not operate the business, Senator, and all that means is this: That if the property is leased for one purpose, the lessee does not have a right to change to some other purpose.

Senator MILLIKIN. That is what you say it means, but the words do not say that. The words say "the operation of the business."

Mr. VOLPE. In connection with the operation of the business, if the business will have to be operated on a business like basis.

Senator MILLIKIN. Oh, well, that is just what I am talking about. Why should not a man have the privilege of operating his business on an unbusinesslike basis?

Mr. VOLPE. Because it would be detrimental to this community.

Senator MILLIKIN. Then, you do claim the right of control; you claim the right of control under your own admission to determine that the man shall operate on what you consider to be a businesslike basis, correct?

Mr. VOLPE. Senator, that is correct.

Senator MILLIKIN. Correct. That is all I want to know.

Mr. VOLPE. May I add to that?

Senator MILLIKIN. You have got a perfect pattern here for fascistic control over business under your own admission, sir.

Mr. VOLPE. Yes; I agree with that, sir.

Senator MILLIKIN. That is very interesting, and I think that is the point that Senator Hickenlooper intended to get at before I went rampaging around here. [Laughter.]

Mr. VOLPE. May I comment on that here?

Senator MILLIKIN. Yes, sure; and I will have something to say, too.

Mr. VOLPE. I am sure of that, sir. [Laughter.]

As long as the Government is responsible for this community, as I said before, they certainly would not like to be responsible for it, but as long as they are responsible for it, there is a responsibility, Senator Millikin, for assuring this community facilities, commercial facilities, which will be operated on a businesslike basis.

Now, there are many reasons for that; there are many reasons for that. In the first place—

Senator MILLIKIN. It is perfectly absurd.

Mr. VOLPE (continuing). The land is limited, and if a facility is brought into the town, that does not give the service of the community that the community needs, obviously the community will suffer and in turn the operations of the Commission will suffer.

Senator MILLIKIN. Do you not appreciate that everything that you have said is a casebook argument for controls which is the antithesis of the free-enterprise system, and I may say to you that this theory that you are moving forward, that reminds me of the last campaign, "You are moving forward in unity to some day get rid of these controls." [Laughter.]

Everyone who exercises these interim trusteeships under that sort of a political conception always says the same thing.

The CHAIRMAN. You predict disaster, I take it, Senator?

Senator MILLIKIN. You always have disaster in the end if you do not leave a little scope for individuality and individualism. I am not so sure that the Commission is able—I am not at all sure that the Commission has demonstrated that it is able in any substantial degree to manage its affairs or the citizens' affairs better than the citizens can manage them themselves. If the chairman wishes to raise that basic problem—

The CHAIRMAN. No.

Senator MILLIKIN. I am glad he does not wish to raise it.

The CHAIRMAN. No; I was just interested in the fact—

Senator MILLIKIN. I am very much interested, too. That goes to the base of what we are talking about: Is the opinion of someone who is not running the business that he can run it better than the man who is running it?

Mr. VOLPE. Senator, we do not like that, either. We do not like it at all.

Senator MILLIKIN. But you have got it.

Mr. VOLPE. As a matter of fact, we have got it worse—

Senator MILLIKIN. You got it, and you are defending it.

Mr. VOLPE. We are not defending it. What we inherited was worse than that. What we inherited was a situation where everything was owned by the Government, operated under concession, with strict controls over it, and what we are attempting to do now is move away from that.

All I am saying, Senator, is that you cannot move away from that overnight. You cannot move away from it overnight because the Government owns the houses and the Government owns all the land, and these communities are there for a single purpose.

Senator MILLIKIN. How long do you make these leases where a man builds his building?

Mr. VOLPE. They are long-term leases.

Senator MILLIKIN. Is your move away from this system going to be 20 years from now?

Mr. VOLPE. Senator, if we could convert this to a community where the citizens in the community could assume the responsibility for operating the community, we would be very happy to do so tomorrow.

Senator MILLIKIN. You are doing it 20 years, in future, and then some smart fellow will say, "Well, gee, we have still got to tell the businessman how to run his business in a businesslike way," and you will have a 20-year extension.

Mr. VOLPE. Well, Senator, actually the 20-year, long-term clause is not our wish. It is the wish of the individual who wants to put up a building. He would not want to put it up on a 1-year lease.

Senator MILLIKIN. He would be a fool to take that lease.

Mr. VOLPE. That is right.

Senator MILLIKIN. And he would be a fool to allow you under your contract to operate his business. I can understand why you have a selected list of "suckers" that you invite to come in there. [Laughter.]

Mr. VOLPE. I again say we do not operate his business.

Senator MILLIKIN. Do you have a box with a black ball in it when you are considering these people? [Laughter.]

The CHAIRMAN. What practical control do you use? What I want to know is, this clause is in the contract. Under this clause, I think I can agree with Senator Millikin as I heard it read, that if a fellow wanted to run a cut-rate sale in a clothing store he cannot do it. Now, the question arises how have you exercised that power? What kind of actual control do you exercise over the businesses there? Do you attempt to set their prices? Do you attempt to set their volume? Do you attempt to set their sales days? What is the answer to that?

Senator MILLIKIN. May I answer, Mr. Chairman? The answer will be, of course, "No." The offensive part is in the right to do it.

Thank you for allowing me to answer. [Laughter.]

The CHAIRMAN. I am interested not only in the right to do it, but I am also interested in what you have done, even though nobody else should be.

Senator MILLIKIN. Mr. Chairman, I am going over to eat a semi-free enterprise lunch now, in which the Government pays a subsidy toward a part of it. [Laughter.]

The CHAIRMAN. I think that is a very practical question, though. We might have a good deal of criticism of that clause in the lease just because it is there; but I think there would be more criticism if under that clause you attempted to operate, as Senator Millikin has indicated, fascistically.

Now, have you been doing any fascistic things out there?

Mr. VOLPE. Absolutely not.

The CHAIRMAN. What is the answer to that question?

Mr. SCHLEMMER. Indeed we are not, Mr. Chairman. May I suggest, Mr. Chairman, that the form of lease which is presently—

The CHAIRMAN. You can suggest the answer to the question; that is what I would like to have.

Mr. SCHLEMMER. The answer is "No," we do not exercise the control you spoke of.

The CHAIRMAN. When a man comes in there and operates a drug store, are there any instances, either in the case of the drug store that

you have or any of the others, where you have said, "This thing is too high," or "This thing is too low?"

Mr. SCHLEMMER. There are none of which I am aware.

The CHAIRMAN. Well, you would be aware of it?

Mr. SCHLEMMER. I would be.

The CHAIRMAN. If that policy were followed out.

Mr. SCHLEMMER. That is correct.

The CHAIRMAN. That is what I am interested in, what are you doing. I am interested in what you claim you have the right to do, but it is far more important to know what the facts really are.

Mr. SCHLEMMER. Well, the sense of that clause is, as Mr. Volpe has indicated, the use of the building for the operation of a specific kind or type of business. Now, I think it is true that this lease is consistent with leases used by large realtors, insurance organizations.

The CHAIRMAN. I do not think you will find the operation of the business set out, that they have a right—the lessor has the right—to control the operation of the business. I think he has a right, the lessor—and this is common—that the lessor, in renting the store, can rent it for a specific purpose.

Mr. SCHLEMMER. That is the intent of this clause, Mr. Chairman.

The CHAIRMAN. That is frequently done, but no landlord that I have known claims the right, unless he has a peculiar percentage lease of some kind, and these are not percentage leases——

Senator HICKENLOOPER. Yes; they are.

The CHAIRMAN. Percentage——

Mr. SCHLEMMER. The rental is a percentage of the gross.

The CHAIRMAN. Percentage of the gross?

Mr. SCHLEMMER. Yes. However, we exercise no function of any nature with respect to the operation of the business.

Senator HICKENLOOPER. Do you not have a policy in the operation of these stores and facilities there that a certain general level of prices will not be exceeded in various commodities, and do you not check that with competitive buying in other communities and have that restriction on these stores?

Mr. SCHLEMMER. Our desire in that respect, Senator Hickenlooper, is to get additional businesses in the community so that the competition will control prices.

Senator HICKENLOOPER. I am not asking what your desire is. Do you not actually put into practice that kind of a restriction on the facilities, the drug stores and the various other community facilities in many cases, that the level of prices shall not exceed a certain general level based upon competitive experience in other communities?

Mr. SCHLEMMER. If I recall correctly, there is a stipulation in the bid invitation which refers to price level comparisons, and so forth. Is that not correct?

Mr. PROUT. That is correct.

Senator HICKENLOOPER. And, as a matter of fact, do you not maintain periodic shopping investigations in various other places to see whether or not prices in the facilities there do not exceed those competitive prices in other communities?

Mr. SCHLEMMER. That I cannot answer, Senator Hickenlooper.

Senator HICKENLOOPER. Well, I am informed that it definitely is the case in some other installations of the AEC, and inheres as part of the regulations over the doing of business by those concessionnaires.

I was just interested in whether or not you had that practice in Hanford, and you say you do not know whether there is that practice.

Mr. SCHLEMMER. That is correct.

The CHAIRMAN. Do you know, Mr. Prout?

Mr. PROUT. I never have heard of it, Senator. I have no knowledge of our doing it.

Senator HICKENLOOPER. Let me ask you this, Mr. Schlemmer:

All of this talk about this being a peculiar community is utterly beside the point under the free-enterprise theory.

Richland is an open town. Let us say that a town design has been laid out, and I understand you have recently published a very substantial brochure or book showing the future programing or planning of Richland over an extensive—or that area over a very extensive area, very extensive territory; is that true?

Mr. SCHLEMMER. We have not published any such thing; no, sir, that is not true. We have had a master plan prepared.

Senator HICKENLOOPER. Well, I am supposed to have one by the morning. I do not have one at the moment.

Assuming, as I think it is perfectly correct, that you have zoned the area which, in any kind of good town management, would include certain zones for certain types of business, any zoning plan of a city says that within certain boundaries there will be permitted stores of such a type, retail merchandising stores, and other areas will have light industrial establishments, there will be other areas zoned for heavy industry, there will be areas zoned for office buildings, and other things of that kind.

They may come under the light-industry zoning, but the zoning is pretty well defined in city planning, and it is not a new thing.

Mr. SCHLEMMER. We recognize that.

Senator HICKENLOOPER. Now, then, is there any reason why an examination of that territory there and the plan of that open city cannot be reflected in a dollars-and-cents factor in which the Government that owns the land and knows the planning cannot say, "We will furnish the municipality facilities, the police protection, the fire protection; we will furnish what would correspond to the public water system, and the sewage system that normally are the municipal activity. We take the place of the private utility in furnishing electricity and, perhaps, gas," those are all reflected in the operating costs of this area, and establish a factor in dollars and cents reflecting indeed better locations or poorer locations, just as the price of the rental of a lot down here in Washington reflects all those things, when a man wants to establish an independent business enterprise? You cannot put a price tag on that, and a man comes in and says, "I want to establish a business within the zoning limitations in this area. Here is a lot, or here is a lot. How much is it? What is it going to cost me a year," and if he steps up and pays the price and can give the guaranties that he can put up a building within the requirements for the general type of architecture and construction and fire hazard and all those things which are normal municipal functions, is there any reason why the fellow cannot come up and say, "I will take this lot"?

The CHAIRMAN. Would you look at his character, Senator? Would you make an examination of it in view of the fact that this is Hanford?

Senator HICKENLOOPER. Well, the question of looking at a man's

character in a case of free enterprise is certainly a difficult thing. He might be a severe critic of the General Electric Co. or of the Atomic Energy Commission, and they might, in looking at his character, or exercising their selectivity, as they do now, say "No, we do not want any critics in here. We want only people who are harmonious," and they might say, "For this reason, this character is not good."

The CHAIRMAN. I agree they might abuse their discretion in the matter. I also share your desire to see to it that every part of the free enterprise system can be carried on in this free enterprise. The act was so written, as is indicated on every page, to harmonize the terrible inconsistencies that this thing produces with our free-enterprise system.

There are things we did in this act that we certainly would not have done if it was not atomic energy we were dealing with. It is true that the General Electric Co. might, and the Commission might abuse their discretion in passing upon people coming in there, but because atomic energy is what it is, and because Hanford is what it is, I do not see how we can absolve the Commission or the company, as the contractor, from a high degree of responsibility to see to it that people of good character came in there.

You and I know towns in the United States, without naming them, where there is an undue proportion of, shall we say, questionable characters operating businesses. I should think it would be highly necessary in their enterprise to see to it that the people who came in there were people of good character; and I hope they are screened, on my part; I hope they are screened pretty carefully, because while it is true that while people can visit there and visit houses and visit homes, it is also true that we do not want the kind of people in there, the people whose homes are screened, and very carefully screened and, therefore, we do not want disreputable people setting up places of amusement, and other places where questionable activities might be carried on. We are not operating Chillicothe, Ohio, or my home town of Norwalk, Conn. We are operating a facility which is sui generis in this country, and it raises problems just as peculiar, in my opinion, as almost any other phase of the work connected with atomic energy.

Senator HICKENLOOPER. The question of the character of an individual and the character of the business that he operates are two different things. Manifestly, a man, that is, with some bad record behind him, can conceivably come in and operate a perfectly legitimate business and do it economically and competitively.

The CHAIRMAN. Yes, and have in the back room a place where characters might congregate that we do not want around there.

Senator HICKENLOOPER. Yes; but that can happen any place, and that is part of the police duties of our municipality to see those things do not happen, and manifestly, just as any business lease contains, must contain, a provision that no business of illegal character be operated, that is from time immemorial something which has been there, has been a provision in leases; but it is the selectivity and the utter lack of freedom.

For instance, I think the statement was made a moment ago that eighty-some bids were received, and only 40 were granted.

Mr. SCHLEMMER. Of course, Senator Hickenlooper, some of those were unsuccessful bidders.

Senator HICKENLOOPER. Why should they be unsuccessful bidders if there should be a standardized or a fair price put on the location? Why make any selectivity at all? If there are three restaurants in a block, and if the Atomic Energy Commission and General Electric say, "We do not need more than three restaurants in a block," why should they put that limitation on if somebody wants to come in and put up another building and start another restaurant and take his chances?

Mr. SCHLEMMER. There is just one theory, one fact, which is omitted in the theory which you are expressing, Senator Hickenlooper, and that is the matter of housing.

The housing facilities at Hanford are provided specifically for employees engaged in the operation of the Hanford project. The existing facilities have been totally inadequate up to now.

Senator HICKENLOOPER. They have been in Washington and every other large city in the last several years, but the private enterpriser has a responsibility to find his own method of living, and if he wants to live some place else and operate a business where land is available, that is his job; that is not the job of the Atomic Energy Commission necessarily.

The CHAIRMAN. It is now 1:07. I want you to make an inquiry as to whether you have ever exercised this control spoken of in the lease, and if so, what the nature of the action was which was done under that power.

Mr. SCHLEMMER. Very good, sir.

The CHAIRMAN. I want that, and I think we had better have it as quickly as possible. If you get it to me, I will release it to the press.

Mr. SCHLEMMER. All right, sir.

Senator HICKENLOOPER. Just one thing before we go, Mr. Chairman: I asked yesterday for the verification of a copy—I have a copy that was furnished to me as a copy of a communication from Mr. C. W. J. Wende addressed to Mr. Greninger, under date of March 28, 1949. I wonder if that verification is here? Would you care to compare my copy with that?

Mr. PROUT. I will give you this copy which is certified.

Senator HICKENLOOPER. All right, fine, thank you.

The CHAIRMAN. All right, we will meet tomorrow morning in this room at 10:30.

(Whereupon, at 1:10 p. m., the joint committee adjourned, to reconvene at 10:30 a. m., Thursday, June 23, 1949.)

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# INVESTIGATION INTO THE UNITED STATES ATOMIC ENERGY PROJECT

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## HEARING

BEFORE THE

## JOINT COMMITTEE ON ATOMIC ENERGY CONGRESS OF THE UNITED STATES

EIGHTY-FIRST CONGRESS

FIRST SESSION

ON

## INVESTIGATION INTO THE UNITED STATES ATOMIC ENERGY PROJECT

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### PART 14

JUNE 23, 1949

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# INVESTIGATION INTO THE UNITED STATES ATOMIC ENERGY PROJECT

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THURSDAY, JUNE 23, 1949

CONGRESS OF THE UNITED STATES,  
JOINT COMMITTEE ON ATOMIC ENERGY,  
*Washington, D. C.*

The joint committee met, pursuant to adjournment, at 10:35 a. m., in the Caucus Room, Senate Office Building, Washington, D. C., Senator Brien McMahon (chairman) presiding.

Present: Senator McMahon (chairman), Representative Durham (vice chairman), Senators Vandenberg, Knowland, and Hickenlooper, Representatives Holifield, Elston, and Cole.

Also present: Sumner T. Pike, Commissioner; Lewis L. Strauss, Commissioner; Gordon E. Dean, Commissioner; Henry D. Smyth, Commissioner; Carroll L. Wilson, General Manager; Carleton Shugg, Deputy General Manager; Frances Henderson, Assistant to the Chairman; Brig. Gen. James McCormack, Jr., Director, Division of Military Application; Walter J. Williams, Director, and Carroll Towne, Division of Production; Joseph Volpe, Jr., General Counsel; Bennett Boskey and Everett L. Hollis, Office of the General Counsel; Fletcher Waller, Director, Division of Organization and Personnel; Morse Salisbury, Director, and Rodney L. Southwick, Division of Public and Technical Information Service; Edward Brosnan, Division of Security; Fred C. Schlemmer, Manager, Lloyd Bergeson, Assistant to Manager, and Charles Schank, Chief, Finance Division, Hanford Operations Office; Carroll L. Tyler, Manager, and John Macy, Director, Organization and Personnel, Los Alamos Operations Office; Richard W. Cook, Acting Manager, S. H. Sapiirie, Chief of Engineering and Production, and Fred W. Ford, Director of Community Affairs, Oak Ridge Operations Office; all of the United States Atomic Energy Commission:

George R. Prout, Vice President and General Manager, Nucleonics Department, H. W. Winne, Vice President in Charge of Engineering, Forrest E. Baker, Comptroller, Nucleonics Department (Hanford Works), Robert S. Neblett, Assistant General Manager, Nucleonics Department, Schenectady, N. Y., and Robert Milton, Washington representative of the General Electric Co.

Clark Center, General Superintendent, William B. Humes, Superintendent, K-25, Clarence E. Larson, Superintendent, Y-12, Oral Rinehart, Controller, Fred Uffleman, Supervisor of Materials Control Department, Y-12, E. N. McKay, Superintendent of Product Processing and Product Chemical Department, Y-12, J. M. Herndon, Superintendent of Chemical Division, Y-12, and Logan Emlett, Superin-

tendent, Operations Division, Oak Ridge National Laboratory, of the Carbide & Carbon Chemicals Corp. (Oak Ridge).

Clinton Hernandez, Vice President, Lyle D. Worrell, Assistant Project Manager, L. C. MacNeal, Project Manager, and St. John W. Davis, Audit and Budget Division Manager, of the Roane-Anderson Co. (Oak Ridge).

The CHAIRMAN. The committee will come to order.

**STATEMENT OF FRED C. SCHLEMMER, MANAGER, HANFORD OPERATIONS OFFICE, ACCOMPANIED BY CARLETON SHUGG, DEPUTY GENERAL MANAGER, JOSEPH VOLPE, JR., GENERAL COUNSEL, AND LLOYD BERGESON, ASSISTANT TO MANAGER, HANFORD OPERATIONS OFFICE, ALL OF THE UNITED STATES ATOMIC ENERGY COMMISSION; H. A. WINNE, VICE PRESIDENT IN CHARGE OF ENGINEERING, F. E. BAKER, COMPTROLLER, AND G. R. PROUT, VICE PRESIDENT, NUCLEONICS DEPARTMENT, GENERAL ELECTRIC CO.**

The CHAIRMAN. Mr. Schlemmer, do you have with you the answer to the question that I directed yesterday concerning what you had done under the power of your contract in the way of controlling businesses?

Mr. SCHLEMMER. Mr. Chairman, Mr. Shugg has that information, and since it was developed under his administration of Hanford, if you are agreeable, he is prepared to discuss that subject.

The CHAIRMAN. Yes.

Mr. SHUGG. Mr. Chairman and members of the committee, in answer to the direct question as to direct action by us, on our part with respect to the role of the concessionaires, the most specific instance that occurred during my administration was one which I initiated myself about July 1948, when I directed that a spot-check survey be made of the prices being charged by the one-of-a-kind concessionaries then doing business, as compared to the surrounding towns.

That was a spot-check survey which I initiated, and let it be obvious that we were doing it. There is a little background to that which I would like to tell you about.

We had a flood there, which cut off our only access road to the south for 6 weeks; and, while that was cut off, it occasioned a 30-mile detour to the west, to the nearest outside shopping town; and during that period we had complaints that some of the merchants were taking advantage of the situation by hiking prices.

Now, I had this spot check made. It went on through the month of July. We were probably slow in initiating it. It did not show any hiking of prices except possibly in the instance of one chain store, and we compared the prices in that chain store with some prices for the same products in its own branches in nearby towns, and called that to the attention of the General Electric concession department, and asked them to have that operator explain those prices. No other action was necessary.

That is the only official show of interest into the day-to-day operation of the business. I did have many informal instances where we took a day-to-day interest because of the jam that we were in as the town expanded.

We were increasing from 11,000 to 36,000 as a total in a little less than 18 months; and, as soon as we opened up this thing, waiting lines grew up all around.

I myself lived in the town at the hotel, and ate at the cafeteria, and I definitely suggested to the cafeteria manager, for instance, watching the long morning line there, that he open up an unused part of the bench for coffee and doughnuts only. That sort of suggestion was meant to be constructive, and it occurred frequently.

One of the earliest things I did was to contact in a discussion session the chamber of commerce to find out what their top needs were. We could not satisfy them all, and almost the unanimous top one was to enlist our support in getting a liquor store into town, because the people were going so far away to the only State liquor store, and we did get in a Washington State liquor store.

The CHAIRMAN. Thank you.

Senator HICKENLOOPER?

Senator HICKENLOOPER. At that time, Mr. Shugg, were all these businesses operating in Government-owned facilities?

Mr. SHUGG. Yes, sir. We had not the first one yet that they had put up with their own money.

Senator HICKENLOOPER. And under that theory where they were operating under Government-owned facilities they were under Government sponsorship in that, as differentiated from the situation where a man in a free-enterprise system builds his own buildings and is responsible for his own success or failure on a competitive market.

Mr. SHUGG. I think that is right, sir. There were almost the situations where every coin that we looked at had two sides to it there.

We had not opened up new tracts, which commercial businesses could come on; we did not give that first priority in our use of men and materials, and since we, in effect, were the bottlenecks in assigning the use of men and materials to opening up the business end of the town, we had to take some interest in extending the present businesses to be as useful as possible.

We had discussions as to the hours, as to whether we could stagger shifts, and the bus service.

Senator HICKENLOOPER. I am not raising any question about the very tight situation which existed originally, where the only facilities were owned by the Government. The Government felt it was responsible to get facilities in there for what one might say are emergency services to a growing population, and under those circumstances, where the Government owns all the facilities, and the facilities are limited, then, I think, that the operation out there had some responsibility to see to the proper installation of adequate facilities or as many as they could.

The thing that I am talking about now, and the point I am raising now, is not on that question. That question was raised in Oak Ridge; that question was raised in Los Alamos, and has been raised heretofore in all of these originally peculiar installations.

What I am raising is that it is no longer a peculiar installation; that is, the town has been opened; land is available, and theoretically a free-enterprise system should be operated, and people are willing, or at least alleged that they are willing to invest their own money and build their own buildings, subject to such normal and ordinary mu-

nicipal regulations, such as fire hazards and zoning and things of that kind; and I am raising the question and objecting to the continued control over a free-enterprise operation which is lawful, of course, assuming all of these would be lawful, where a free enterpriser is willing to invest his money, and then it should be allowed, and he should be permitted to conduct his own business in a lawful way in a competitive system.

Now, I am fully aware of the difficult situation in the inception of these plants, the necessity for serving a growing and an uncertain community in Government facilities, and I may say parenthetically at this time that the situation at Los Alamos, I think, is completely different from the situation either in Hanford or in Oak Ridge, because Los Alamos sits on top of a postage-stamp-sized mesa, and certainly everyone knows, who has ever been there, that there is a complete limitation on ground and expansion and everything else, and of vital necessity, I think, those towns—that town—has to be given a different consideration because of that complete limitation on any expansion possibilities there insofar as a free enterpriser is concerned.

But I do not believe that situation obtains at Hanford, and I do not believe it obtains at Oak Ridge.

Mr. SHUGG. I think, Senator, also that my administration—if you can call it that—was responsible for a good deal of the rate of this expansion which was taking place this spring.

When we set this up in the early summer of 1948, I did believe, and still do, sir, that we had to control the rate of expansion in that we had two extremes facing us.

We had initially, and as of last June only, I think it was, 37 concessions in town. We were passing the 25,000 mark, and we checked a town almost identical, Walla Walla, and they had almost exactly 10 times the number of same concessions. If we have 37, they had 370; that is why I remember it. So, we had this little, inadequate initial set-up, and then right outside the south border of the Yakima, an example of what absolutely wide open a situation could do.

We had at the "Y" and crossroads, and the town roads between Kennewick and Pasco—there was the most flagrant example of a boom town and tent town that had sprung up there.

Now, we had one other thing that made us feel that we had to control the rate of expansion. We had to spend money, sir, in order to make land available for commercial purposes. Except for a few gaps in the generous spacing of the initial 37 outfits, we had to start with sagebrush, and we had to go to work and grade that, and put in streets and utilities and all the services in order to make more land available; and we were frankly trying to divert as little men and materials to that as we could, and we set aside a limited space, sir, and, therefore, we did control the rate of the new people coming in there.

Senator HICKENLOOPER. I understand those earlier problems; at least, they appeal to me as having a reasonable support for your theory that you are talking about. I think you and I have talked about that before. It is not the emergent situation that I am talking about. It is the situation which has now developed where Hanford is an open town, and if Walla Walla or a similar-sized town has 10 times as many

stores under a free-enterprise system, it would seem to me, that if under proper civic regulations, so far as the type of structure is concerned, so far as the zoning regulations are concerned, and fire hazards and all those municipal responsibilities that the ordinary municipality has to have, it would seem to me that the value of a piece of land for utility for a type of business, light industrial, heavy industrial, commercial, professional or other types—it would seem to me—that the value of that could be easily fixed by a yardstick, and then just to keep hands off as long as the fellow paid the amount that was considered to be adequate in lieu of what he would pay by way of taxes and other things and rental for the land in a normal community, and that in that kind of city, the normal number of service establishments and the normal number of professional and other type of businesses should not be curtailed in any way, but should be limited by free competition, and the ability of a man to make a go of it either by good prices, good merchandising, or other practices, without supervision and control by either the company or by the Government. He should pay a reasonable return for that, and it should reflect, of course, a reasonable and proper amount on municipal management.

I do not say that he should be given it for nothing, but it is a matter of the superimposing of either company control over his activities or company limitation on the number, and I see no reason why the company should say that there should only be three cleaning establishments in the place. I am only using that as an arbitrary number.

There is no reason to say, "We have got eight grocery stores, and we do not need any more, and we will not let anybody else in there."

If 20 people want to set up grocery stores, and if they have the finances to build the proper kind of buildings and pay the proper charges, reflecting on the services, the municipal services they get, it would seem to me that free enterprise ought to be able to operate, and that competitive operation should be left to regulate the number.

Mr. SHUGG. Senator, even at this stage, sir, I do not think we know enough about the value of business lots in Richland to be able to put them on a market—to know the market enough to put them on a flat rate.

We chose, whether it was good or bad judgment, the form of lease which, I am sure, is quite common, and that is a percentage of gross, and that is used elsewhere, and it does have some benefits to the lessee as well as the lessor.

Senator HICKENLOOPER. I think, Mr. Shugg, that it is quite common practice in any city or town of size that has hopes of expansion or an uncertain future, I think it is quite common practice to put a rent—which this would be; we will call it rent to take in all of the charges—renegotiation feature in that contract periodically from time to time based upon certain things; based upon the increase in the population, based upon increased costs of municipal operation, based upon tax raises, and all those things. I mean that in private enterprise can be done by a yardstick, and I do not think that there is any owner of a desirable business lot in a prospectively growing city but what protects himself, and by the same token the tenant wants to protect himself against a recession in that town either of population or lower costs, and it would seem to me that it would be very easy to work out a contract on that basis, so that an investor would know what the future would be, what he could rely upon in the future.

But then, I do not care to pursue that any further. I think we have exhausted that quite enough.

Mr. VOLPE. Mr. Chairman, I wonder if I might comment on this point for just a moment?

The difference here is that the Government is a landlord. If the Government were in a position to sell land, then all of the things that Senator Hickenlooper says are quite true and quite right. You could sell the land for a fair price, and private industry, private commercial facilities, could do what they would want to do with the property.

But here the Government is a landlord, and as a landlord, the Government has to use its property in a prudent fashion.

Now, I would like to, just for a moment, read from a publication put out by the National Institute of Real Estate Brokers of the National Association of Real Estate Boards on the matter of percentage leases. It is quite a common practice, and in one article here by J. F. Brownlow, it says:

The strongest trend of percentage leasing will continue to be the introduction of special provisions tending to produce either true rental value or premature cancellation. This means that we must first discard the idea that there is such a thing as a standard percentage lease applicable to any great number of cases. The standard lease forms are valuable in giving particular provisions, but the final lease will probably be a mosaic.

Throughout the problem of landlord and tenancy, that is, the working out of arrangements, the National Institute of Real Estate Brokers in this book—and I would be very happy to leave it with the committee—points out the difficulties of arriving at an equitable arrangement so that the tenant has all the things that he needs to conduct a good business, and that the landlord, at the same time, is protected so that he gets a fair return on the value of the property.

There was some talk here yesterday about a provision in our lease which would require the lessee to conduct his business in an orderly way. I would like to read a clause which is proposed by the National Institute of Real Estate Brokers. The clause reads as follows:

Lessee shall during the entire term continuously use the demised premises for the purposes stated in this lease, carrying on therein lessee's business undertaking diligently, assiduously, and energetically. Lessee shall maintain on the premises a substantial number of goods, wares, and merchandise and equipment adequate to assure successful operation of lessee's business, and shall employ clerks, salesmen, and others sufficient for the service and convenience of customers. Lessee shall keep the premises open and available for business activity therein during all usual days and hours for such business in the vicinity except when prevented by strikes, fire, casualty or other causes beyond lessee's reasonable control, and except during reasonable periods for repairing, cleaning, and decorating the premises. Lessee shall include the address and identity of its business activity in the demised premises in all advertisements made by lessee in which the address and identity of any other local business activity of like character conducted by lessee shall be mentioned, and shall not divert elsewhere any trade, commerce or business which ordinarily would be transacted by lessee in or from the demised premises. Lessee covenants and agrees that he will expend annually for newspaper, radio, and other mediums of publicity not less than a sum equal to 2 percent of the gross volume of business transacted in demised premises.

Senator HICKENLOOPER. There is nothing new in those regulations, with the exception of certain variables. I do not believe it is customary to put in an advertising budget in the lease. That is the recommendation, but all the rest of those are in every standard lease,

at least as long as I have known anything about practicing law since about 1922. It is a perfectly standard provision; they are perfectly standard provisions. No one was objecting to that in the least.

Mr. VOLPE. No; my only point in that, Senator Hickenlooper, is this suggestion that the Government is no different from anyone else—we are a landlord. There is a landlord-tenant relationship about this.

Senator HICKENLOOPER. But you never say customarily or put into a private lease the provision that the tenant would run his business according to the regulations from time to time issued by the landlord?

Mr. VOLPE. Well; Senator, there is even an answer to that.

Senator HICKENLOOPER. I figured there would be. [Laughter.]

Mr. VOLPE. Here is a selected percentage lease contract suggested by the National Institute of Real Estate Brokers. I would like to read this provision:

Lessee agrees to obey and conform to all laws, ordinances, rules, regulations or orders of all duly constituted authorities of the city, county, State, and Federal Governments, and of all public utilities.

Senator HICKENLOOPER. That is a perfectly normal provision in a lease, because it recognizes the legal sovereignty of certain bodies to regulate from time to time by ordinance, or by statute or others, and most leases contain a provision if the State law changes with respect to that business—it contains a covenant which probably is unnecessary in a lease, but it contains a covenant that the tenant will immediately and strictly adhere to any changes in State law. But it does not say that if a landlord comes down some Monday morning with a hang-over or something, and has not liked his tenant very long and very well, and gives him some whimsical or personally conceived orders as to what to do about his business, that the fellow has to follow them.

Mr. VOLPE. Well, Senator, again here I am afraid we are overlooking this fact. In this situation the Government is not only the landlord, but the Government is also the municipality; the Government is also the governing authority, and the Government here issues rules and regulations with respect to how this municipality is to carry on its affairs. I mean the regulation of traffic and things like that is carried on by the Government, so that again we have a very peculiar situation where the landlord is not only the landlord but he is also the municipality; he is also the governing body for the issuance of rules and regulations which govern the community.

Now, as I said yesterday, nobody likes this, and I agree with your statement and with Senator Millikin's statement about authority of this kind—and there is broad authority, there is no question about that—I think the guts of this is how has it been exercised; and I believe an inquiry into how it has been exercised will show that it has been exercised reasonably, not whimsically, not arbitrarily or capriciously.

Senator HICKENLOOPER. Of course, that is always the argument of paternalism. The argument is that we have been kind paternalistically in the past and, therefore, the broad authority will not be overextended in the future.

So far as I am concerned, Mr. Chairman, unless there is something else which is pertinent, I would like to go on.

The CHAIRMAN. All right, let us get on with the next matter.

Senator HICKENLOOPER. Mr. Chairman, I have had, as I have repeatedly said, the greatest respect for the scientific accomplishments in this whole atom project.

I have had the greatest respect for the integrity that the scientific fraternity has brought to the completion of the technical job of producing atomic energy, and I think the scientists have done a magnificent job, and I think they are continuing to do so.

I have not raised any question about scientific activity in actual production, but I do feel that certain things are important in the administration of this vast enterprise, and some time ago I learned that the Director of Pile Technology at Hanford resigned, and that he had stated his reasons for resigning.

I asked the joint committee staff to secure for me a copy of Dr. C. W. J. Wende's letter of resignation from the Commission. I had never seen it until it was furnished to me through the joint committee staff by the Commission. The letter is not classified; there is no classification, and it is a letter of resignation by Dr. Wende.

Dr. Wende, as taken from American Men of Science in 1944, is, I believe, an able, a highly able, one of the most highly able scientists in his line in this country. He has a doctor's degree, and he was a Dupont Fellow, and a member of the American Chemical Society, and he has had experience in the physics of the high polymers; that he was Director of Pile Technology at Hanford.

For the last 2 weeks I have been attempting—almost 2 weeks; it has been 10 days—to locate Dr. Wende. I have telephoned all over the United States repeatedly.

From his residence in the Middle West I was told that a few days ago Dr. Wende and his wife had left about the middle of June for a camping trip throughout the West; that he had no place of location, and that he was probably camping beside a stream some place and doing a little fishing or things of that kind.

I have been unable to locate Dr. Wende, but I have an authenticated copy of his letter of resignation, not only as furnished by the Commission, but an authenticated copy certified as true by the General Electric Co.

Therefore, my inability to locate Dr. Wende—and I would certainly welcome Dr. Wende's appearance here at some time in the future when he gets through with fishing or vacationing or whatever he is doing, and he and his wife return—but I would like to read for the record at this time Dr. Wende's letter of resignation directed to the General Electric Co. This is dated March 28, 1949, and it is headed as follows:

RICHLAND, WASH., *March 28, 1949.*

Dr. A. B. GRENINGER,

*Manager, Technical Divisions, General Electric Co.,*

*Richland, Wash.*

DEAR AL: Please consider this my resignation from the Hanford Works.

A few details which have been neglected under the pressures of the last few years remain to be cleaned up; however, I expect that these can be put in good shape within a couple of months; and a firm date for termination can be agreed on later. A reorganization of the Pile Technology Division should be put into effect within the next few weeks.

In recognition of an obligation to the company and to your colleagues in management, I have summarized the reasons for this action. I do this reluctantly and with considerable pessimism, for I can see no chance that the future course of events will be affected. I have made no secret of these convictions in discussions with yourself and my other friends in General Electric management,

though I have been guilty of painting a much brighter picture to my subordinates. I should say that this picture was colored rather highly by considerations which are technical and scientific, and are therefore irrelevant to the present discussion.

Many of these points I expressed to you in my letter of August 30, 1948, and subsequently stated before the Nucleonics Committee. At that time I felt that a concerted tug at our bootstraps might do some real good, and asked to be put on special assignment to develop a pile program for Hanford, in the hope that one nucleus might start a crystallization process which ultimately would bring some semblance of order into the amorphous complex of our relations with the Commission.

This mission was abortive. As you know, urgent operating problems interfered with it twice; and since my return additional crises have kept me well back on my heels. My report has not yet gone beyond the stage of a partial rough draft.

In the course of this assignment, however, I became convinced that one of the primary shortcomings of the Commission set-up is that nowhere in it is there a hard knot of practical business sense of the kind that can effectively manage a program of industrial development. Such know-how appears to be alien to governmental agencies, and must of necessity come from industry. Of the possible sources, the General Electric Co., having the biggest stake in the business, has the most to contribute and the most to gain by acting as such a nucleating force.

I expressed this view, among others, to Messrs. Muir, Suits, and Winne, who felt that it was sound.

The chance that we might swing this much weight with the Commission has now gone glimmering. Having had our own house tumble about our ears, we are in no position to recommend ourselves as architects.

Our present difficulty, and the worse ones which are bound to follow it, are clearly the outcome of a lack of direction which has let us get overextended. We have tackled a gigantic job with an organization which has been weak and will continue to be weak for several reasons:

1. General Electric inherited with this plant an organization which was below a safe minimum strength for routine operation. At the same time, the company had relatively little high-grade talent which could be spared from its own organization.

2. There was excessive upgrading to obtain a partial fill-in of key positions.

3. There appeared to be some reluctance to pay the necessary premium prices for new talent of high caliber.

The job itself has grown to overwhelming proportions for another set of reasons:

1. There has been no clearly defined body of men charged exclusively with planning, programming, and policy making. Hence, these important functions have been neglected in the press of other duties.

2. Lacking a coherent program of its own, having no realistic evaluation of its own limited capabilities, but nevertheless being strongly impelled to do its utmost for the good of the Nation, this organization has accepted every demand placed on it by the Commission.

3. These demands have been accepted without extracting from the Commission any assurances that the necessary manpower and facilities would be provided, and without insisting on realistic time schedules.

The unfortunate but predictable resultant of these factors is that the company has for some time been committed to do things which exceed its abilities. From the standpoint of one who is far enough down the line to get an ear to the ground occasionally, it can be said that the prospect which we now face appears to be dominated by the following factors:

1. A number of good men, having thrown their best energies into this job under the conviction that it is an important job, have seen it handled as though it were unimportant. Good men are sensitive to such things; drones are not. The consequences of this will have to be lived with for a long time.

2. Nothing short of the most fanatical interest in nucleonics, or a war, will attract and hold capable technical personnel in the face of adverse working conditions and crisis upon crisis.

3. It takes a little foresight to see that the present drift will lead to fiascos which will far overshadow the current budgetary crisis. Having warned of such dangers, I have very reluctantly become convinced that there is little I can do to forestall their further development.

My own part of the organization has in it more real power than any other division on the plant; yet it has always been and will continue to be adequate to

do only a ragged fraction of the job that is set before it. What successes we have had have come because the boys put their hearts into every pitch. I have told them that they are the hottest crew in the business; they believe this, as I do, and they have performed like champions. But I do not propose to stand by while such a crew is continually swamped by jobs which could be diverted elsewhere or delayed by a little astute horse trading, or to ask them to continue to operate on a shoestring when every principle of sound management demands that they be given hawfers.

By giving what assistance I could during the crises of the past 2½ years, I feel that I have discharged my duties as an employee and a citizen. There is, however, a limit to anyone's capacity for crises. I have met my part of the challenge which faces the company and the Commission; to meet this challenge in its entirety will require many men of my size plus many more men who are much bigger, faster, and smarter. Few of these are within sight.

I consider it as important to be aware of one's limitations as it is to be aware of one's potentialities; there can be no greater failure than to be trapped outside the limits which those things impose.

It is for these reasons that I am submitting my resignation. I sincerely hope that a solution can be found, but I am as sincerely convinced that a solution cannot exist without a radical change whose shape I cannot foresee.

Aside from these discouraging and perhaps unavoidable complications, my association with your divisions and with the General Electric Co. has been very pleasant. I feel a very deep regret in leaving my many friends here, but I know that both they and I would feel a far deeper regret if I failed to back my own judgment.

I sincerely hope that ways will be found to assure you and the company of every success in the future.

Very truly yours,

C. W. J. WENDE.

Again, Mr. Chairman, may I say that I do not have the original letter of Mr. Wendé, so that I do not have his actual signature, but I have the certification of General Electric Co. that this is a true copy of his original letter of resignation.

I have one other matter that I might just as well put in here for discussion at the moment.

A few days ago—well, apparently more than a few days ago—I received it on June 7, 1949, I received a letter of transmittal enclosing a copy of another letter, in fact, a copy of two other letters, from a Mr. Merle E. Smith, who is a member of the Hanford guard force, and is president of Hanford Guards' Union, Local No. 21, at Hanford. This letter is as follows:

Post Office Box 687.

The letterheading is:

Hanford Guards' Union, Local 21, International Guards' Union of America, Richland, Wash., May 30, 1949.

To: Senator Bourke Hickenlooper, Senate Office, Washington, D. C.

From: Merle E. Smith, president, Hanford Guards' Union, Local No. 21, Richland, Wash.

Subject: Security at Hanford.

DEAR SENATOR: I am sending herewith copy of letter sent to Fulton Lewis, Jr. I believe the letter is self-explanatory. Knowing your interest in the atomic picture, I felt that this letter might be of interest to you.

Respectfully,

MERLE E. SMITH,  
Richland, Wash.

A copy of the letter, which I will submit for the record here, to which he refers, has a heading:

HANFORD GUARDS' UNION, LOCAL 21,  
INTERNATIONAL GUARDS' UNION OF AMERICA,  
May 30, 1949.

To: Fulton Lewis, Jr.

From: Merle E. Smith, president, Hanford Guards' Union, Local 21, 808 Sanford, Richland, Wash.

Subject: Security at Hanford.

DEAR MR. LEWIS: Your recent broadcast exposing the laxness of security in one of the Nation's largest atomic plants, together with the subsequent newspaper publicity, is my reason for writing you.

I am a member of the Hanford guards and have been employed here as a guard since August 1943. Your broadcast and the various news items have accentuated the fact that two uranium slugs were carried by an individual through three guard posts with guards on duty. As a result, in the minds of many people, the Hanford guards are pictured as inefficient and guilty of failure in the performance of their duty.

Allow me a word in our defense. I do not believe that there is a single patrolman or patrol officer on the Hanford works' guard who has not been appalled by the security laxness which has existed for some time and still exists. Unfortunately, patrol supervision is allowed little or no voice in the policies laid down for the security of this plant.

These policies are drawn up by the Security Department, headed I believe by Mr. F. C. Schlemmer.

I may say parenthetically that I do not know whether Mr. Schlemmer is charged with that responsibility or not, but that is just what the letter says. I will continue quoting:

We obey and follow the rules laid down by this department.

How could a man walk through three guard posts carrying two slugs of uranium? At two of these posts, there are no orders calling for a search of people entering or leaving. At only one of these posts may a superficial spot search be made. By superficial, I mean a pat search. Spot searching means the searching of perhaps one out of five individuals. For the past year even this type of search has been practically discontinued. Recent developments have brought spot searching back into the picture.

It was my duty recently to spot search an incoming and an outgoing shift. I succeeded in spot searching approximately 7 percent of the incoming shift. When the same shift left I succeeded in spot searching only 5 percent. Perhaps this performance will explain why the uranium-bearing gentleman was not discovered.

Who is responsible for this condition in the security department or departments? The AEC and General Electric both maintain such departments. Some weeks ago some 20 percent of the Hanford patrol force was terminated by order of the security departments. As a consequence of these terminations, we are very shorthanded, and, of necessity, posts have been undermanned or not manned at all. Suggestions both verbal and written have been offered by both patrolmen and patrol officers, pointing out security weaknesses. I am enclosing one of my own suggestions, which is self-explanatory.

You have built up a reputation for fairness and justice. Perhaps you could in some way place the responsibility for the condition, which permitted the incidents related in your broadcast, upon the person, or persons responsible. I know that the Hanford guards, both the patrolmen and officers, would welcome the opportunity to do our jobs here in a more efficient manner. We would welcome working under orders which would really stop all leaks of material and information. We have recognized for some time the laxness of security.

I sincerely hope that as a result of your broadcast conditions here will be changed so that the Hanford guards will be allowed to do the job they are capable of doing, thereby safeguarding not only the security of this plant but, in a small way, the security of the Nation.

We will welcome that responsibility, but we do not feel that we, the Hanford Works' patrol, should be held responsible for the unfortunate incidents which prompted your broadcast. That responsibility is squarely on the shoulders of our security departments. I wish to thank Assistant Chief W. H. Pillsbury for assistance rendered me in writing this letter.

Respectfully—

there is typed in—

MERLE E. SMITH.

Copies were sent to Senator Hickenlooper, Senator Harry Cain, Senator Magnuson, and the press.

As I say, I received this letter on the 7th of June, 1949.

The copy of the letter that he refers to as expressing his own views about the matter of some days before is dated May 28.

To: Capt. D. J. Hensley.

From: M. E. Smith, W-6489-SS.

Subject: X—Material.

DEAR SIR: Several patrolmen have informed me that X material has meant to them only something sealed in a package which was carried in or out of areas on a pass. They had actually never seen a so-called slug.

As one patrolman expressed it, "Now I know what I have been looking for." The newspaper described a uranium slug, giving the length, diameter, and weight. This newspaper description gives a rather incomplete picture.

Only once in my several years in 100-F area, have I been instructed about, and allowed to see and handle the various slugs. This occurred some 3 years ago.

I would suggest that all patrolmen with satisfactory clearances be familiarized with X material—slugs. A patrolman will then know what he is looking for, and will recognize irregularities which may occur.

There is a typed signature, or there is typed at the bottom "Merle Smith, W-6489-SS."

I present those for any comments that anyone cares to make.

The CHAIRMAN. Who is going to answer on these two communications?

Mr. SCHLEMMER. Mr. Chairman, Mr. Winne.

The CHAIRMAN. I take it, Mr. Winne, that you are going to comment on the letter of resignation of Dr. Wende?

Mr. WINNE. Yes, Mr. Chairman. That is the one on which I wish to comment.

Dr. Wende, as Senator Hickenlooper has brought out, is a very distinguished scientist, a very able scientist. He has contributed a great deal to the operation of the Hanford Works, and I believe he did to the design and construction, although I have no personal knowledge.

We were very sorry to have him leave our organization, and very sorry to have him leave the atomic energy project. We asked him, when we learned that he was planning to resign—we asked him to come to Schenectady, and Dr. Suits, Dr. Kingdon, myself, and others, talked with him in an endeavor to persuade him to remain in atomic energy work; if not at Hanford, then at the Knolls Atomic Power Laboratory at Schenectady, and Mr. Prout and I talked with him at Hanford also. But his final decision was that he wished to get entirely out of the field of atomic energy; that he was—I do not know exactly how to express it, but that the continual tremendous pressure and crises which he speaks of in his letter, were, in a sense, not getting him down but at least he felt that he had given as much of himself as he should to the meeting of this pressure and of the crises.

Now, of course, we admit there is pressure; we have been working all this while on this job under pressure, both we and the Commission,

and I think that some of the accomplishments that have been made indicate this tremendous pressure, and as I say, Dr. Wende has contributed very materially to that, to our accomplishments.

The thoughts that he expresses in the letter, of course, are his own. Many of them we would not agree with entirely, but I question whether it is worth while to take the time to go all through that here and now, although I would be glad to do so if you so wish.

On the matter of the guard situation and the security situation at Hanford, that is a matter with which I am not so personally familiar, as is Mr. Prout, and I would much rather that he answer on that particular matter.

Senator HICKENLOOPER. Mr. Chairman, I may say with respect to the guard letter, I have a very thick file, indeed, of letters that have come in from various plants. I do not believe that I shall offend this committee nor anyone else by going into anonymous letters that I received, or by going into—that is publicly, at least—or by going into letters that I receive which indicate that the individual has some special ax to grind, or is especially mad at some particular individual.

I did produce this guard's letter on the theory that he signed his name to it; he made it public, and he is president of the Hanford Guards' Union, local No. 21, and I felt that it took that out of the category of some disgruntled, discharged employee, and this gave it a dignity of acceptance which, I felt, in fairness could be proposed here.

I assure you that I have lots of other letters in which it may seem that people have special targets at somebody, and I shall not clutter this record with special pleaders or special missions, but I felt that under the circumstances, and this man's position, his utter frankness and his apparent pride in the guard force, that I was justified in presenting this letter at this time.

The CHAIRMAN. I think you were.

Mr. PROUT. Mr. Chairman, if I might comment to that point—

The CHAIRMAN. Mr. Durham has a question.

Mr. DURHAM. Before you get away from Dr. Wende's letter here, I would like for you to comment on this statement here. He says:

For some time the company has been committed to do things which exceed its abilities.

When he says "the company", he is speaking about the General Electric Co., and I think you people could answer that, as to whether or not you are committed to things beyond your ability. That raises a serious question in my mind.

Mr. WINNE. Well again, Congressman, that, as I say, is Dr. Wende's opinion. The record of our accomplishments in the operation of that plant and the design of additional production facilities for it, which are the features on which Dr. Wende entered into particularly, I am perfectly willing to let speak for itself as to whether we have been overextended.

I think we have demonstrated that we have been capable of operating that plant and of improving the operations very materially, in spite of Dr. Wende's statements.

As I say, Dr. Wende is an able scientist. He is of a scientific temperament, very impatient type of temperament. I say that with no disparagement whatsoever to him, because many of our best scien-

tists have those same characteristics, and I do have a great respect for his scientific and technical ability.

Mr. DURHAM. Well, I have got a very high personal regard for the abilities of your company.

Mr. WINNE. So do I have. Thank you, sir.

Mr. DURHAM. I don't think that charge should be let to go by without answer by the company.

Mr. WINNE. As I say, on those points we can let the record of the accomplishments speak for themselves, Mr. Congressman.

Mr. HOLIFIELD. Mr. Chairman?

The CHAIRMAN. Yes, Mr. Holifield.

Mr. HOLIFIELD. I would refer you, Mr. Winne, to the third from the last paragraph before the signature at the bottom, where he says:

It is for these reasons that I am submitting my resignation. I sincerely hope that a solution can be found, but I am as sincerely convinced that a solution cannot exist without a radical change whose shape I cannot foresee.

In other words, Dr. Wende puts himself in the position of criticizing on various points the operation of your company, the operation of the Hanford project, but he admits in his own letter that he cannot see how it can be changed, so he rather disqualifies himself as a good critic because he criticizes without constructive suggestion as to how it should be done.

Mr. WINNE. I suppose that might be so construed, Congressman.

Senator HICKENLOOPER. Well, of course, Dr. Wende may be like the fellow who said he never laid an egg, but he could tell a good one from a bad one.

Mr. WINNE. Possibly.

Mr. HOLIFIELD. May I say that the Senator may be an expert in the matter of laying eggs, I do not know. [Laughter.]

Senator HICKENLOOPER. Let me say, Mr. Winne, that, so far as General Electric Co. is concerned, I have highest regard for General Electric, which is a great, successful company. I do have the highest regard for it. I think there may come a time before this is over when I will want to discuss with you certain policies over which, perhaps, General Electric may have no control at all.

Mr. WINNE. Of course, I think that is important, for example, Senator, in the policy of the operation of the village and so forth. Those are set out by the Commission, and we follow that to the best of our ability.

Senator HICKENLOOPER. Before this is over, I may want to discuss with you the question of whether or not the policy of Commission operation under which General Electric must be guided is a policy of boldness and long-range vision and speed of decision on major questions, or whether it has been a mincing policy, and a hesitant policy in opening up essential future programs; and I will assure you that in this letter I do not desire to cast aspersions on General Electric. I think that that is a field of inquiry that we can very profitably go into, but I feel that over-all it involves broad policy, of which General Electric may be an implementer within the limitations of its contract. Now, I want to make that clear.

There may be lots of things wrong with General Electric's operation; I am not foreclosing that thing, that end of it.

Mr. WINNE. That is quite possible.

Senator HICKENLOOPER. And I shall feel perfectly free to criticize General Electric if I come to that conclusion in the long run.

Mr. WINNE. We are only human beings.

Senator HICKENLOOPER. But it is the broad over-all policy, and I will say to you my general interpretation of Dr. Wende's letter, that there are limitations which cause frustration and which result in what he believes to be a lack of progress in this program, and it is the broad program that I am concerned with, and it is the fastest reasonable and most progressive strides in atomic energy that I am concerned within the whole structure.

Mr. WINNE. Of course, if I might stay for just a moment on that point—I understand you do not wish to go into it now—but just on this point: Dr. Wende was particularly interested, I think, in the matter of reactor development.

We, of course, see the picture, perhaps, a little bit more broadly than he did, although he was, in general, familiar with what was going on, because in the Knolls Atomic Power Laboratory at Schenectady we have under way in the Commission's general direction a very intensive program of reactor development which we are pushing ahead just as fast as possible.

Senator HICKENLOOPER. Has final determination been made to build that reactor in the remote site at Schenectady?

Mr. WINNE. I do not know whether we have firm authorization to go ahead with that or not, Senator. The Commission is going ahead, I believe, with the acquisition of additional territory there, so that I assume that there is little question but what that reactor will go ahead.

Senator HICKENLOOPER. In view of the present decision on the reactor farm at Arco?

Mr. WINNE. Well, I think that on that point the Commission should answer, Senator. There are certain——

Senator HICKENLOOPER. But, Mr. Winne, you represent General Electric.

Mr. WINNE. Yes, sir.

Senator HICKENLOOPER. I am really asking you whether you know or not whether a firm decision has been made to build the reactor that was contemplated some considerable time ago, and for which \$100,000 or so has been spent to clear stumps off the land, and other things; whether that firm decision has been made, and whether you are authorized to go ahead with that construction of the reactor.

Mr. WINNE. We may be by this time.

Senator HICKENLOOPER. At Schenectady?

Mr. WINNE. I do not know of my personal knowledge, no, Senator. We have been discussing it with the Commission over some period of time.

Senator HICKENLOOPER. You are head of the nucleonics division of General Electric, are you not?

Mr. WINNE. That is true. But I have been away from that for some considerable time, and it may be——

Senator HICKENLOOPER. You have been here for 4 days.

Mr. WINNE. Yes. It has been under consideration. We have met with the General Advisory Committee and the final decision, so far as I know, has not yet been given to us, although it may have been given through the Schenectady office to my people in my absence. I

have been here and in New York, and I have not inquired within a week.

Senator HICKENLOOPER. I assume you have not been out of communication with your office?

Mr. WINNE. No; not entirely.

Senator VANDENBERG. Mr. Chairman, may I ask one question?

The CHAIRMAN. Yes, Senator.

Senator VANDENBERG. I am still curious about this chain of command, Dr. Winne. Is General Electric entirely autonomous in its operation of Hanford?

Mr. WINNE. By no means.

Senator VANDENBERG. To what extent does the Atomic Energy Commission tie back into the responsibility?

Mr. WINNE. Well, our contract, Senator Vandenberg, provides that our whole program, in fact our whole operations, are subject to the Commission's direction. I forget exactly how it is worded, but it means essentially that.

Our program and our operations must be reviewed by them; programs must be approved by them, and that sort of thing, so that the whole policy of operation and the objectives are laid down by the Commission. We do the job of carrying out these various policies and projects.

Senator VANDENBERG. Well, in practical effect, however, as I listen to these various episodes, is not the effect of the arrangement that you are substantially autonomous?

Mr. WINNE. We do not feel so, Senator, by any means.

Senator VANDENBERG. How often have you had a directive from the Atomic Energy Commission in connection with the operations at Hanford?

Mr. WINNE. I cannot answer that question. I do not know whether Mr. Prout can in those terms.

Mr. PROUT. Well, Senator—

Mr. WINNE. But they are in constant contact. Mr. Prout's office and Mr. Schlemmer's office are on the same floor in the same building at Hanford, and a lot of people of the two organizations are on the same floor.

There are constant discussions in our operations at Schenectady between the Commission's representatives, and our own; at Knolls Atomic Power Laboratory, they are in the same building; the offices of the Commission manager and the head of our laboratory there are adjacent, and we are in constant discussion almost regarding the programs and the carrying-out of the programs, and so forth, Senator.

Senator VANDENBERG. Go ahead.

The CHAIRMAN. I have a question here, Dr. Winne. On paragraph 1, page 2, I read the following:

A number of good men, having thrown their best energies into this job under the conviction that it is an important job, have seen it handled as though it were unimportant.

Mr. WINNE. I disagree with that statement of Dr. Wende's insofar as we are concerned, Senator McMahon. We considered it an important job and endeavored to handle it as an important job.

The CHAIRMAN. I would like to drop down to the paragraph beginning:

My own part of the organization—

starting there, and continuing:

I have told them that they are the hottest crew in the business; they believe this, as I do, and they have performed like champions.

Well, that is not consistent with the statement that they "have seen it handled as though it were unimportant."

I cannot reconcile those two statements, myself; can you?

Mr. WINNE. No; I cannot, Senator. As I say, I do not agree with that first statement: that it has been handled as though it were unimportant.

Senator HICKENLOOPER. I think it would be well to read the next sentence in connection with that.

The CHAIRMAN (continuing).

But I do not propose to stand by while such a crew is continually swamped by jobs which could be diverted elsewhere or delayed by a little astute "horse trading," or to ask them to continue to operate on a shoestring when every principle of sound management demands that they be given hawsers.

Do you know what he means by that?

Mr. WINNE. My inference is that he is again referring to the continued high pressure under which he felt he had to work, as discussed in his conversations with Mr. Prout and myself and that he apparently feels it is possible we might have put pressure on the Commission to endeavor to get some of the technical jobs we were doing there done elsewhere. That is the only interpretation I can put on it.

The CHAIRMAN. Do you feel as though you have loaded them on there, or the General Electric Co. has loaded that end of the business with more than you should have loaded them, where you could have done it elsewhere?

Mr. WINNE. I do not feel so. We have the facilities, the facilities there, with which to do some of the experimental work, which were not available elsewhere.

He speaks also of the working conditions, and so forth.

We have had under discussion with the Commission for some little time the advisability or discussing the advisability of providing better laboratories and better technical facilities for our technical people there.

At present, as in so many of the Commission's facilities which were built by the Manhattan District during the war, the construction for some of them is of a more or less temporary nature, and, of course, not at all comparable to the General Electric's research laboratory, at Schenectady let us say, and so we are in the course of discussing right now the advisability of providing what we term a "technical center" there at Hanford in which these men would have somewhat better working conditions and better facilities than they have now. We are cognizant of these questions.

Senator HICKENLOOPER. Have you discussed those things with the Commission generally over the past 2½ years, since the Commission obtained control?

Mr. WINNE. I cannot tell you how long this has been under discussion. I think this technical center has not been under discussion that long. It has been under discussion for some time. It is an expensive matter, and, of course, it ties—

Senator HICKENLOOPER. Did you consider it to be an essential matter out there?

Mr. WINNE. We consider it very desirable, and it may prove to be quite essential, but, Senator, in the past year or so it has not been so essential in the estimation of the Commission and in our own estimation, as the design and construction of these additional very essential production facilities, in order to be sure of maintaining the desired production of material for weapons.

Now, those are getting behind us to a considerable extent, and we can begin to think of these other things.

The CHAIRMAN. I am through.

Now, are there any other questions in respect to Dr. Wende's resignation?

What comment do we have on this letter from this captain of the guards?

Mr. PROUT. He is not a captain of the guards, Senator. He is a guard, and president of the guards' union, that guards' union.

The CHAIRMAN. That makes him, de facto. [Laughter.]

Mr. PROUT. That guards' union is in the process of organization. It has petitioned the NLRB to call for an election. We have, in discussing the matter with the NLRB, indicated that we would not agree to a consent election. We think the matter of the guards being unionized is one that needs to have a good deal of discussion and consideration. Whether that situation had any influence on the letter this man wrote, or not, of course we do not know; but I thought it would be pertinent to bring out the fact that this union is not a bargaining unit which has been certified to us by the NLRB.

With regard to his allegation of reducing our guard force and thereby not having adequacy of guards, we did have a reduction in guard force, but none of the main patrol points for the checking of personnel was affected by the reduction in the patrol force at the Hanford Works because of this reduction. The force was not reduced at the barricades; it was not reduced at the badge houses or the exclusion areas, but some outlying posts were eliminated in the interest of operating more economically and more efficiently, and this change was made with the approval of the Atomic Energy Commission security personnel, and I might add that AEC security is continually checking to see that our forces and our procedures are adequate for the purpose for which they are intended.

The actual security was strengthened at the control points through the doubling of patrol forces at shift-change time, permitting the efficient handling of added responsibilities with emphasis on these pat searches and barricade spot searches of personnel entering or departing.

I think it is worth pointing out that the material that was taken in this case was natural uranium and not U-235.

I think it is worth pointing out that this was a check conducted by AEC security to see what could be done, and I think perhaps Mr. Schlemmer or some AEC representative might wish to elaborate a little on that.

With regard to security, the most important factor upon which it is based is the clearance check, the character and the loyalty of the people involved, and in this area men can carry out in their heads information that would be much more valuable to the enemy than that which they could carry out on their person.

Now, in Mr. Smith's letter he said that Assistant Chief Pillsbury had helped him to prepare the letter. The matter has been checked into, and Assistant Chief Pillsbury said that he did not advise—he did not help the man write the letter but advised him that it should not be sent because he was disclosing certain security information, what degree to which we go to in searching people, things of that kind, which are things really bordering on secret information. Even we do not talk with others about what we do to make sure that we are carrying the security matters to an adequate degree.

I think that is all I have to say, unless there are some questions or unless Mr. Schlemmer wishes to refer further to this matter of the removal of two slugs from a certain portion of the Hanford Works.

Mr. SCHLEMMER. It is also true, Mr. Chairman, that Mr. Smith, a security patrolman, was not assigned in the area in which this particular check was made. He is incorrect with respect to his statement that F. C. Schlemmer is in direct charge of security. I, of course, have the general total responsibility. The specific responsibility is in the hands of a member of the Manager's staff, who is the AEC security officer.

Senator HICKENLOOPER. The man employed, is in charge of that security office; is he not?

Mr. SCHLEMMER. That is correct. The particular test which is referred to in Mr. Smith's letter, was one of many, many tests and checks which have been made throughout the total program. It was made on the 23d of August of 1948, and was made by an AEC security officer. Two uranium slugs were removed from a certain area, after the person who had removed them had been assigned to perform that specific effort.

Senator HICKENLOOPER. By whom?

Mr. SCHLEMMER. By the security officer at Hanford after consultation, prior consultation; with the Director of Security of the Atomic Energy Commission in Washington.

The slugs remained on the premises, were in control of the security office from the time they were removed from the particular point of their removal until the time they were returned thereto.

The CHAIRMAN. Do those fellows wear uniforms?

Mr. SCHLEMMER. They do not.

The CHAIRMAN. Those security officers?

Mr. SCHLEMMER. They do not.

The CHAIRMAN. Well, they are well known to the operatives in the plant?

Mr. SCHLEMMER. They are well known to the operatives in the plant.

The CHAIRMAN. In other words, when this fellow went into the secured area and took those slugs, he was not particularly watched because he was known to be of the security force, is that it?

Mr. SCHLEMMER. Well, that is not only true, Mr. Chairman, but it is also true that no one has access to those areas except on proper production of credentials. Ordinary persons cannot get within any reasonable distance of that area.

The CHAIRMAN. The point is that it is easy enough to understand how he got in there, how he took the two slugs and how he left. That has never concerned me in the slightest, any more than if a police lieutenant took his fountain pen off the desk of a patrolman and walked

away with it, and vice versa. He is expected to be there; he is in uniform; he is known; he is identified.

But the point is: Why did such a long time go by before the people in the plant knew that the two slugs were gone?

Mr. SCHLEMMER. Well, the purpose of this particular check was to assure that the actual accountability procedures were as effective as they could be and the desire was that these two slugs which represent an infinitesimal portion of the total amount of this raw material would show up in the so-called accountability records.

Now, throughout the entire program, both prior to this and subsequent to this incident, continuing checks, continuing efforts, continuing discussions and requests have been in effect with respect to the tightening up of security controls. The records are very clear with respect to all of these efforts.

The CHAIRMAN. When did the people who are in charge of the place where the slugs were taken from—when did they first indicate to you that they had got wise to the fact that the slugs had been taken out?

Mr. SCHLEMMER. Well, it happened that this particular incident occurred prior to my coming to Hanford. The individual in charge of the project at that particular time was aware of this test; that person was the acting manager, and he was informed regarding it very promptly.

The CHAIRMAN. But the men inside who actually had charge of the slugs, when did they wake up that they were gone?

Mr. SCHLEMMER. Well, they were advised a number of months later, Mr. Chairman, with respect to this.

Mr. PROUT. Mr. Chairman, it was a number of months before the discovery was made by the people responsible for accountability that one slug was gone. They never did report the other one missing. One of the slugs was before it had been through the process, and in the area in which that work is done it must be regarded as similar to a machine shop machining steel, and there is a large amount of this stuff being machined, and—

The CHAIRMAN. That is before processing?

Mr. PROUT. Yes, sir; before processing; and those responsible for accountability did not have a system that would show up the loss of a piece of this material of the relatively small proportion of the total being handled.

The CHAIRMAN. As a result of this experiment, have you corrected that situation?

Mr. PROUT. We have, and consideration was given and is being continually given as to how to improve in this particular matter. Accountability up until this time had been carried on primarily by lot shipments, and accountability by weight of material, because there were so many pieces involved, and, of course, this is the raw material, and accountability has been consistently accounting for all of the material received to within less than a half of 1 percent, so that the portion of the material that is difficult to account for is lost in machining operations; some of it goes into dust, which goes into the ventilating system and goes through the filters; some of that material is dissolved in the processing and is lost in the solutions. Some of it goes into chips which are subsequently washed, and, therefore, the dust is washed from them and goes down the drain. The balance, of course, is weighed and recast into ingots for further use.

It was felt up until that time that accountability for the raw material to within that very small percentage was adequate. It was not considered really feasible, or would not be considered desirable for anyone to remove a piece of the raw material because that would disclose nothing to anyone. As I said previously, a slug after processing would reveal perhaps some secret information, but the guys who do it can reveal a heck of a lot more by what they have in their heads than they can by taking a piece of material out.

Now, we are hard at work trying to develop—we think we have the answer so that no one, no matter who he might be, will be able to carry a piece of this stuff out in his pocket or a dinner pail.

Mr. HOLIFIELD. I was just going to say that you still cannot give security to that area which you spoke of, which is in the man's mind, where he can take out a great deal more information than a small sample of the material.

Mr. PROUT. We have not found a way to do that yet.

Mr. HOLIFIELD. There is no way to do that. So, we might as well face the evident conclusion that it is absolutely impossible to perfect a foolproof system to maintain security as long as it is dependent upon a man's loyalty and patriotism.

Mr. PROUT. Yes, sir; and, of course, as you know, Congressman, on the security checks, at least our experience has been, a considerable amount of time is taken, and very close investigation is made to determine a man's character and his loyalty to the Nation, and that is the basis, the prime basis, it seems to me, for providing for security.

Mr. COLE. Mr. Chairman?

The CHAIRMAN. Yes, Mr. Cole?

Mr. COLE. May I inquire: The individual who removed those two slugs, was he one of the security officers, or was he one of the employees engaged in the operation?

Mr. SCHLEMMER. It was a member of the security staff of the Atomic Energy Commission acting under the direction of the chief of the security staff at Hanford whom I should like to identify as Mr. V. K. Schumann, who was formerly a security and an intelligence officer of the Manhattan Engineer District on the atomic program.

Mr. COLE. One other question: What comment do you have to Mr. Smith's observations that it was only recently that the guards had been shown the appearance of the thing that they have been searching people for, for months?

Mr. PROUT. It is common practice in this business to limit the area of activity of all personnel to just that portion of the work that they do, and it apparently was not felt necessary to show the guards precisely what this material looked like, although, while I have not checked that particular point, I am a little surprised that it was not done, because continual meetings are held in the instruction of guards.

Mr. COLE. You think, then, that Mr. Smith is in error?

Mr. PROUT. I am not saying that he is, but it could be that he is.

The CHAIRMAN. Are there any other questions on this matter?

Senator Hickenlooper, would you like to continue?

Senator HICKENLOOPER. I would like to get the record straight on a phase that was touched on just a few days ago.

Mr. Winne, I believe you stated that General Electric has this contract at a profit of \$1 per year, which means no profit at all, of course—a symbolic profit.

Mr. WINNE. That is right, sir.

Senator HICKENLOOPER. Is it not true that General Electric gets \$200,000 a month, an administrative overhead allowance?

I am not saying that is wrong or right. That is not the purpose, but I would like to have this record clarify that \$200,000-a-month "Administrative overhead" item, which amounts to \$2,400,000 a year.

Mr. WINNE. The error in your statement, Senator, is calling it a \$200,000 "Administrative overhead" item. We receive \$200,000 a month as a fund against which we may charge such administrative overhead as we actually spend and can demonstrate to the satisfaction of a firm of certified public accountants, satisfactory to the Government, and which has not been reimbursed either at the Hanford operations or at Schenectady.

After that accounting at the end of the contract, then if there is excess—and it seems quite apparent that there will be excess—the excess will be returned to the Government. That is, that is not a payment which we get and keep. It is a fund against which we may make such charges as we actually expend, and that is all.

Senator HICKENLOOPER. The operation at Hanford, all cash expenditures, and all salaries of full-time people and materials and things of that kind are reimbursable; are they not?

Mr. WINNE. But not all of them. Practically all of them, Senator; but, for example, Mr. Prout's salary as an officer of the company is not reimbursed at Hanford. We charge that against this administrative fund.

Senator HICKENLOOPER. That is what I am trying to get at. The impression may well be left that General Electric gets \$200,000 on top of all reimbursements.

Mr. WINNE. We do not, because, for example, a portion of my salary—a pretty good portion of my time is getting to be spent on this project, but it is not directly reimbursed. I endeavor to keep a daily record of approximately how many hours I spend, and every quarter that is added up, and a portion of my time is then charged and expenses against this administrative fund.

The same is true of our general accounting department at Schenectady and various other functions of the company.

Senator HICKENLOOPER. Is it fair to say that all full-time people who work at Hanford—that is, who spend all their time there—plus all materials and equipment and other expenses, are fully reimbursed, and then out of the \$200,000 a month the part-time services of General Electric's top management and Schenectady bookkeeping and things of that kind brought into this project or the Schenectady atomic project, a part of which should be charged to atomic energy and part of which should be charged to General Electric's private operations—the part that is devoted to atomic energy in the Schenectady operations and Hanford operations, and any other—that that part-time cost comes out of the \$200,000 fund?

Mr. WINNE. That is substantially true, Senator, although as I said, Mr. Prout being an officer of the company, his salary is paid from our headquarters at Schenectady and is charged against this administrative fund, although he is full time on the project at Hanford.

Of course, he is not full time at Hanford, but that is essentially it. He is full time on the Hanford project.

There are a few other expenditures which I classified under Government accounting as nonreimbursable, but which in our mind are justifiable at Hanford.

For example, we made a payment to the Hanford Community Chest. We do that in all of the cities in which the General Electric Co. operates. We felt it was a very reasonable thing to do there.

Senator HICKENLOOPER. Is that charged against the \$200,000?

Mr. WINNE. That is charged against the \$200,000 fund. That is one.

Senator HICKENLOOPER. The Government pays it one way or the other, whether the General Accounting Office allows the expenditure or not.

Mr. WINNE. That is true, and that is in accordance with the provision in the contract which insures that we shall be reimbursed for expenditures which we make on behalf of this contract and which a firm of certified public accountants feels we are justified in doing. We are getting no profit from that, and neither do we want a loss from it, and we are devoting a good deal of administrative and technical talent to it, which we could very well use in our commercial business.

Senator HICKENLOOPER. How often do you cast up an accounting on this \$200,000 a month?

Mr. WINNE. The accounting has not been worked out in detail as yet, Senator, except insofar as actual time of some of us who are putting a good deal of time against it is concerned. For example, our accounting department sends around to all of us who are putting time on this project every month a card on which we place our best estimate of the percentage of our time we put on it. We do not do that with anyone who puts less than 10 percent of his time on it. There are various expenditures of a corporate nature which we make for the over-all company which to some extent are because of this contract. Mr. Wilson, for example, spends more hours than you would think, I believe, in discussions on this contract with Dr. Suits and Dr. Jeffers and myself, and that sort of thing; and we have to arrive at some formula which is agreeable to a firm of certified public accountants for endeavoring to determine a just charge against this fund for such items. What that will be I do not yet know.

The accounting on this particular fund, as specified in the contract, shall take place at the termination of the contract. This contract terminates December 31, 1950, as I recall.

Senator HICKENLOOPER. So at that time the \$2,400,000 a year will be checked off against the actual overhead items that are supposed to go into it, and—

Mr. WINNE. The present indication is that a considerable portion of it will be returned to the Government. That is my judgment to date.

Senator HICKENLOOPER. That is all.

The CHAIRMAN. Dr. Winne, of course the General Electric naturally will secure a great advantage over anybody else in the electrical-manufacturing industry if and when this power becomes useful for peacetime pursuits.

I, however, would call attention to the provision of the act which provides that, if any device is invented by any private person or private industry for the use of this power, there is a provision for patent-

ing that to use, but there is also a provision in the act which would compel your company to license its use upon the basis of payment of royalties which would be either agreed upon or, in the event of failure to agree, to be set by a board to be appointed by the Commission, from which there would be appeal to the circuit court of appeals. That is correct; is it not?

Mr. WINNE. That is correct, Senator, and more than that, if I may take just a minute, there is a provision in our contract, with which we agree fully, that in the operation of the Knolls Atomic Power Laboratory, where such developments in the power line for the future, we hope, will take place, we shall be willing to employ a considerable number of competent scientists or technical people from other industries who may have interests in this field. During this past year we have had at least five men from the Westinghouse Co. working full time in the Knolls Atomic Power Laboratory in full contact with all the operations going on there, with the entire development, and I think there have been one or two other people brought in. But the contract provides for a number up to a maximum, I think it is, of about 15 percent of our own technical people that we will be willing to employ in the laboratory and give them access to the whole development which is going on there.

As I say, we have done it already for five at least of the Westinghouse people.

The CHAIRMAN. So the possible profit in the future would be the royalties that might be received by the company?

Mr. WINNE. No; I think not on royalties, Senator. I do not look for much profit from that. As I see it, our main reason for going into this project at all is that here is a development of atomic energy which has at least the possibility of being a factor in making electric power more readily available, available over greater areas and possibly at lower costs, for the future than it is now.

Any development of that nature is of interest in the General Electric Co., because we are an electrical-manufacturing company; and the more readily electric power is available to everybody, the more chance we have to sell our products.

The CHAIRMAN. You are really shooting for——

Mr. WINNE. For the long-term future.

The CHAIRMAN. For 2,000,000 times as much power——

Mr. WINNE. I do not know whether it is 2,000,000 times.

The CHAIRMAN. That is the figure I have seen in some of the reports—the possibility of development of two millions as much power from the same unit of matter.

Mr. WINNE. You mean from a given weight?

The CHAIRMAN. From a given weight.

Mr. WINNE. Two or three million times.

The CHAIRMAN. Two or three million times as much. So, those are the stakes you are really shooting for.

Senator HICKENLOOPER. Mr. Chairman, I would like to go down to Los Alamos, but I am not certain that the Los Alamos people are here. I feel that it is not necessary for them to be here, but I think the information on these matters is on file with the Commission.

I would be perfectly willing at this time to go over a number of items, to mention a number of items, and they can either be answered today or tomorrow, what I expect to bring up.

The CHAIRMAN. Mr. Wilson is signalling me.

Mr. WILSON. Mr. Chairman, General McCormack, Director of the Division of Military Application, and Mr. Tyler, the manager of Los Alamos, are here.

The CHAIRMAN. Are they the direct culprits?

Mr. WILSON. Yes.

Mr. VOLPE. Mr. Chairman, before we leave this patent provision of the General Electric Co. contract, I would like to point out that under the General Electric Co. contract with the Atomic Energy Commission they acquire no patent rights. All patent rights vest in the Government.

The CHAIRMAN. Vested in the Commission?

Mr. VOLPE. That is right.

Mr. WINNE. I should have brought that out.

The CHAIRMAN. I think that is a most important point to bring out. I am glad you brought it to our attention, Mr. Volpe, because that makes the contract much more advantageous to the Commission and to the Government than if any future patents were to vest in the General Electric Co.

Mr. PROUT. All invention is handled in a regular procedure where we submit any invention to the Atomic Energy Commission for review, and if they see fit to apply for patents they do so.

Senator HICKENLOOPER. I think that is covered in the law, that provision.

Mr. PROUT. Yes.

Senator HICKENLOOPER. You are following the act.

Mr. PROUT. We do not get any of the patents on any of the inventions that come out of this work.

Mr. WINNE. Unless the Commission feels that it is not connected with the——

The CHAIRMAN. There is the possible exemption there, but I am glad——

Mr. WINNE. The Commission has a right to all of it; that is correct.

The CHAIRMAN. And they have exercised the right, and that is completely covered into the property of the Commission?

Mr. WINNE. We make reports, both from Hanford and from Schenectady, either monthly or quarterly, I forget which it is, to the Commission of all ideas which we think may be new and patentable.

It is within their power to determine whether they shall have title to the patents or whether we shall. Of course, anything which is important to the whole atomic energy program, the Commission naturally retains title.

The CHAIRMAN. Thank you very much.

All right.

Mr. WINNE. Senator McMahon, are we, from Schenectady and Hanford, more or less recessed for the time being?

The CHAIRMAN. Why did you put in the "more or less"?

Senator HICKENLOOPER. I suggested that I think at a later date we should discuss the general policy and progress on industrial development at Hanford, which I assume probably could be taken up at a later time and let these gentlemen go back for a breathing spell.

Mr. PROUT. That will be sometime in the future, not within the next day or two?

Senator HICKENLOOPER. That is right.

Mr. WINNE. May I express our appreciation for the very fair and courteous and objective treatment which you and your committee have accorded to us, Senator McMahon.

The CHAIRMAN. Thank you, sir.

**STATEMENT OF CARROLL L. TYLER, MANAGER, SANTA FE OPERATIONS OFFICE, LOS ALAMOS, ACCOMPANIED BY BRIG. GEN. JAMES McCORMACK, JR., DIRECTOR, DIVISION OF MILITARY APPLICATION; JOHN W. MACY, DIRECTOR OF PERSONNEL AND ORGANIZATION, SANTA FE OPERATIONS OFFICE, LOS ALAMOS; CARROLL L. WILSON, GENERAL MANAGER, AND JOSEPH VOLPE, JR., GENERAL COUNSEL, ALL OF THE UNITED STATES ATOMIC ENERGY COMMISSION**

Senator HICKENLOOPER. Mr. Wilson, you are General Manager of the Commission?

Mr. WILSON. I am, sir.

Senator HICKENLOOPER. And will you describe in whatever way you care to the functions of the Los Alamos installation?

Mr. WILSON. I would like, if I may, Senator, to begin with the Division of Military Application of the Commission.

Senator HICKENLOOPER. Tell us what Los Alamos does.

Mr. WILSON. At Los Alamos there is the laboratory, responsible for research, development, and tests of atomic weapons.

At Sandia, near Albuquerque, also under the responsibility of the Los Alamos office, is the engineering development laboratory associated with weapons.

Senator HICKENLOOPER. And Los Alamos then, I take it, is one of the most vital functions in the atomic energy program.

Mr. WILSON. It represents the most vital function, Senator.

Senator HICKENLOOPER. Who is the Director of that laboratory?

Mr. WILSON. Dr. Norris E. Bradbury.

Senator HICKENLOOPER. What would you say about his responsibilities in the atomic energy program?

Mr. WILSON. They are very great. As Director of that laboratory, he is the scientific leader and administrative head of the Los Alamos Laboratory, has a major part in its program, in the development of staff, in the selection of scientific staff, in the guidance of that program, evaluation of results, and so on.

Senator HICKENLOOPER. And in the production of weapons?

Mr. WILSON. Yes. There is a responsibility in connection with the production of weapons, but the laboratory itself is more in an advisory and pilot-line role in relation to the production of weapons than as a production center.

Senator HICKENLOOPER. I understand that, but let's put it this way: In the design and production of weapons, that is pretty much of a spearhead, is it not?

Mr. WILSON. In the design and development of weapons it is.

Senator HICKENLOOPER. And Dr. Bradbury is the keyman in that position?

Mr. WILSON. He is the Director of the laboratory.

Senator HICKENLOOPER. Dr. Bradbury is a very great atomic scientist?

Mr. WILSON. Yes, sir.

Senator HICKENLOOPER. Probably one of the most outstanding atomic scientists in the world?

Mr. WILSON. We believe he is an excellent head of that laboratory and an outstanding atomic or nuclear scientist.

Senator HICKENLOOPER. In the responsibility for this program would you say his responsibility is either top or that none exceeds him in responsibility in this program in the production end of weapon development?

Mr. WILSON. Not in the production end, Senator.

Senator HICKENLOOPER. I mean design and production.

Mr. WILSON. In the design and development end in connection with the development part of tests, clearly he has a key role.

Senator HICKENLOOPER. He is the top in that?

Mr. WILSON. That is right.

Senator HICKENLOOPER. What is his salary?

Mr. WILSON. \$14,000 a year.

Senator HICKENLOOPER. Then Dr. Bradbury, one of the top atomic scientists in the world, who occupies the top, key position in weapons production, gets almost a third of what Mr. Creedon gets at Hanford for building some houses and schoolhouses and some other production facilities that start out at \$6,000,000 and end up at \$25,000,000.

How do you justify such a comparison and such an authorization of salaries in the Commission?

Mr. WILSON. As to Dr. Bradbury's salary, this is comparable with the salaries of the Directors of the other laboratories which the Commission owns and are operated by the contractors such as the Argonne Laboratory, the Oak Ridge Laboratory, the Brookhaven Laboratory, the radiation laboratory at Berkeley, and so on.

The general scale of salaries for staff within the Los Alamos Laboratory compares favorably with leading industrial research laboratories. A recent review and examination of the laboratories' organization and salary structure was made by Dr. Kelly, executive vice president of the Bell Telephone Laboratories, and he so reported to us.

I think it is fair to say that the salary of Dr. Bradbury, as the head of the laboratory, is less than would be customary in industrial research positions. It is comparable with good top salaries in the leading academic organizations and institutions of the country.

My point is that the salary structure at Los Alamos, including the salary of the director, is comparable with our other laboratories. It is important and we have endeavored to bring about a reasonable degree of comparability for comparable levels of scientific ability within these several laboratories.

This is essential, lest we initiate a spiral of increases of salaries among these people or set up such differentials that there come about important shifts of people from one laboratory to another.

So, as to Mr. Creedon's salary, I believe Mr. Winne yesterday explained the reasons for the General Electric Co. selecting Mr. Creedon for that post and the conditions which they agreed to and were required to agree to in order to get his services.

The Commission approved this as being the best arrangement which the General Electric Co. could make.

Senator KNOWLAND. Might I ask a question?

The CHAIRMAN. Surely.

Senator KNOWLAND. Mr. Wilson, could you estimate the number of people who are on the pay rolls of your contractors having salaries that approximate Mr. Creedon's or run in the ratio, we will say, from \$14,000 for your top laboratory man up to the point where Mr. Creedon is being paid by the General Electric?

Mr. WILSON. Mr. Creedon's salary is in excess of any others which the Commission reimburses to any of its contractors. There are a few people who were among those furnished by the duPont Co. to General Electric in connection with the construction program at Hanford who receive salaries of 16 to 20 or 22 thousands dollars a year. I believe \$22,000 was the maximum.

Senator KNOWLAND. Could you furnish to the committee a list of all such?

Mr. WILSON. We can, sir, and we will.

(The data referred to above are marked "Exhibit 19" and will be found in the appendix.)

Mr. WILSON. Mr. Tyler says that he recently recommended an increase for Dr. Bradbury, which Dr. Bradbury declined.

Mr. TYLER. No. May I amplify on that?

As you realize, Dr. Bradbury's salary is paid by the University of California, which is his employer and is the contractor for us. I recommended an increase for Dr. Bradbury to the president of the University of California, which was not granted at the time, but which he said would be taken up this month when the regular academic salaries are under discussion by the board of regents.

Senator HICKENLOOPER. Mr. Chairman, Los Alamos is a peculiar and very vital functioning unit in the atomic energy set-up. It has problems that I think are not common with any other unit in the program, and there are certain facts that, while interesting, will not lend themselves to a public discussion. Generally speaking, it is a scientific laboratory and it does, as Mr. Wilson has said, assume the responsibility for the design and production of weapon types and things of that sort.

So that it is primarily a scientific laboratory with certain practical aspects that I shan't go into the matter of production or design, which is a scientific thing and which I believe is going forward satisfactorily at Los Alamos. I think it is under the most highly capable management in Dr. Bradbury, and I can say from my own opinion that I think the Commission and the Nation is fortunate in having the services of Dr. Bradbury as the director of that laboratory.

Dr. Bradbury, however, has nothing to do with the ordinary operating policies of the collateral aspects of Los Alamos. He runs the laboratory and he runs the experiments and design development. There are a number of things at Los Alamos that I think are important that I would like to go into or at least start into in the few minutes we have left.

For instance, in the expenditure of money at Los Alamos I have a feeling—and I believe the facts verify it—that money is being spent at Los Alamos with an abandon that is really startling.

For instance, I would like to call your attention, Mr. Wilson, to one item, the addition to Fuller Lodge at Los Alamos in which \$329,220 was spent to add, I believe, 28 additional sleeping rooms to a log lodge at Los Alamos.

This lodge was originally built by the former owner, and while I think perhaps some additional sleeping rooms might be indicated at Los Alamos, yet I feel that the addition of a very beautiful steel-reinforced concrete with a cut-stone facing addition to Fuller Lodge at a cost of somewhere around \$12,000 per room is an extravagance that needs some explanation. The total is \$329,220 in this item, exclusive of land, I understand, and it added 28 additional sleeping quarters.

There may be an additional dining room or some other facilities added, but the net result was to provide 28 additional sleeping rooms to the lodge. I submit that something in the neighborhood of \$12,000 per room is a matter that should be of interest in that one item.

Mr. WILSON. Senator, I would like to ask Mr. Tyler to give you the details on that. Mr. Tyler is the Manager for the Commission at Los Alamos.

Mr. TYLER. Your statement, Senator, naturally, is, in general, correct. The effect comes out a little differently.

The lodge is the oldest building and the center of the old school which used to be there. It is a log structure and is part of the original set-up. It contained 11 rooms.

In the previous administration the plan was made for improving the shopping facilities, et cetera, at the town. In the process they overran another rooming house which we had there. It was also part of the school, which contained some 28 beds, I believe, and about 23 rooms.

That had to be torn down to make room for the shopping center. It was advisable to tear it down in any case. I looked at it myself with the idea of possibly moving it, and it was impractical to move it. It was a fire trap; it had been added to with slabs and wood, et cetera; so it was very inadvisable to try to do anything with it.

We required additional transient rooms. These are not rooms occupied by the residents at Los Alamos. It is the only hotel we have in the community, and it is occupied by transient people who come there for a day or two to visit, inspect, consult, and so forth.

The addition of the 28 rooms, I feel, was done reasonably economically. The original plan, when I arrived there, was to tear the complete lodge down and to put a nice modern cement hotel across the end of the community center. I did not even estimate the cost of that. It appeared to me to be impractical.

Frankly, there was another point of view, which does not have too much sense, but every one of the old-time scientists there and many of the people formerly connected with the project hoped sincerely that the lodge would not disappear. It was the center of activity during the origin of the bomb; it was a place which had a great deal of memory attached to it, and it was a satisfactory hotel. So I determined instead to put additional wings on the lodge.

Further, the 28 rooms you mentioned are in two wings. We provided adequate office space for the manager and added a lobby, which did not exist previously. We also added and were required to add

kitchen facilities and storage facilities, which required a third wing; and in the interests of economical operation of the whole project and to get the thing straightened out, we added in the third wing, I believe eight rooms, which are used by the service people; the servants, maids, and so forth. They are small double rooms.

So we got, in addition to the 28 rooms, a modern, adequate kitchen with modern food-preparation facilities, and with space for the service personnel who had formerly lived over in one of the dormitories and who traveled back and forth.

The total cost per square foot, including the addition of the furniture and the addition of the kitchen equipment, the addition of the ice boxes, and all the equipping of this thing, including rugs and curtains and everything that goes to make a hotel, came to a total of \$21.41 per square foot.

I think that is well within reason on hotel construction. I do not mean to compare it with the Shamrock Hotel or something of that nature, but I think as far as hotels are concerned, \$21.41 per square foot is reasonable.

The CHAIRMAN. I hope you did not have an opening compared with it.

Mr. TYLER. No, sir; we could not afford it. I would be glad to answer any other questions you have on it, sir.

Senator HICKENLOOPER. Well, this addition to Fuller Lodge—it is correct, is it not, that it is a steel concrete-reinforced building added to a log building, and that it has a cut-stone facing?

Mr. TYLER. The construction is reinforced concrete; yes, sir; reinforced concrete because log construction comparable to what was in the main building would have been completely out of the price range. We could not afford to add log wings to this.

It is a normal concrete structure, which is customary, I believe, in most any organization which is building a rooming house, to make it as completely fireproof or fire-resistant as possible.

We consulted with our safety people and we had to put a safety wall between the existing log structure and the two wings before the safety people would permit the construction.

Senator HICKENLOOPER. And it has a cut-stone facing?

Mr. TYLER. The lower part is of native stone, the facing, which you can cut with a saw. It is soft stone. It is to match in with the chimneys and the rest of the lodge.

Senator HICKENLOOPER. What is the rate for a room at the lodge?

Mr. TYLER. We raised the rates on the 1st of January, when we opened the new wings, and they run from \$2.50 to \$4.50 per bed. All of our rooms are equipped with twin beds, and since most of our visitors arrive without families we normally have to double up. People go two to a room. They each pay, varying with the type of room—in the modern rooms in the new wing, from \$3 to \$4.50 per person.

May I add to that—and I think it will come out in the long run, anyway: The lodge was a very inefficient operation. It was run under the contractor, but he was not allowed to change the employees. The Commission or the previous management had set the employees and said, "You will hire so-and-so, and you will not fire them. You just run the business." We lost considerable money on the lodge operation, and it was a difficult thing to arbitrarily change.

Many people had lived in the lodge for 2 and 3 years. We had some 60 people who were eating in the lodge for \$60 a month. They had been promised that when they came there 3 years before, and they were going to be difficult to uproot. It was going to be definitely a morale problem to handle, and, therefore, we waited until the wings were completed. The wings were somewhat late being finished.

When the wings were completed we established new rates for the rooms, new rates for the food, we stopped the monthly procedures. A man eating three meals a day would pay something around \$110 a month. The regular boarders have gone elsewhere.

As of last month the rooms returned a profit to the Government of \$600. The eating facility is still losing money, but over all the lodge only lost \$600 last month, and I predict, with perfect freedom, that within 2 or 3 months the lodge will not cost the Government any money at all. It will be a self-supporting operation.

Senator HICKENLOOPER. When you say the lodge returned \$600, does that mean \$600 more intake than outgo?

Mr. TYLER. Yes, sir, including all expenses and including their own utilities, for which they are charged. They pay their full way. That does not include any amortization of the investment.

Senator HICKENLOOPER. I was going to ask if that included anything on the \$329,000.

Mr. TYLER. That does not, sir, and that is a philosophy which may be open to criticism, but which I must maintain in that town as a whole: The Government cannot expect to amortize its investment in the living facilities which it provides for the people there. They have a right, and very properly a right, to get a return which will cover the complete operation of the town and its utilities and its facilities and its schools, but not to attempt to adjust rents and scales, and so forth, there to get a return on a very expensive investment and construction. I do not mean that we will not take one if we get it. We start there with a mesa, we have to clear land, put in roads, utilities, et cetera. I think if the Government gets its operating expenses back each year to completely operate the town—and we are coming toward that very rapidly, although there is considerable difficulty, I do not feel myself—and I am a member of the Government and I am also a taxpayer—that we have any right logically to try to amortize the cost of that town. It was not built for anything except to provide a service to the laboratory.

Senator HICKENLOOPER. Who built the lodge?

Mr. TYLER. The original lodge or the wings?

Senator HICKENLOOPER. The wings?

Mr. TYLER. The wings were built by Robert E. McKee.

In order to save another question, the lodge was built by Robert E. McKee on a lump-sum bid. All our construction up there now is done by lump-sum bidding. We have no negotiated construction contracts. We have no cost-fixed construction contracts. Every bit of construction we do there and have done since I have been there has been put out for public bid, and we are getting more bidders all the time.

Senator HICKENLOOPER. McKee Construction Co. is the construction company that built Los Alamos, is it not?

Mr. TYLER. To a large extent; yes, sir. They built practically all of it. There was another construction company in there in the very early days, but they pulled out shortly after to go to the Pacific coast, and McKee probably built 90 percent of what is there.

The CHAIRMAN. Where is he from?

Mr. TYLER. He is from El Paso, Tex.

The CHAIRMAN. How many bidders did you have on these wings?

Mr. TYLER. I do not think I have the number. I doubt if there were more than one or two, because at that time we were only getting one or two bidders.

The CHAIRMAN. One or two? It makes a lot of difference.

Mr. TYLER. I do not know, sir. I do not have the figures right here.

Senator HICKENLOOPER. It is fair to say, is it not—

Mr. TYLER. There were not 10. It was a small number.

The CHAIRMAN. The important thing is whether there were two.

Mr. TYLER. I am reasonably certain there were, but I would not swear to it. I probably have opened 200 different bids out there.

The CHAIRMAN. Is it not strange that you would not have more than one bid for the construction of a common, ordinary hotel of this kind?

Mr. TYLER. May I amplify on that?

The CHAIRMAN. Yes.

Mr. TYLER. It does look unreasonable. When I first came up there, McKee was in there definitely. He had been there for pretty close to 3 years. He had done just about all the construction that was done up there, and he had done it on negotiated cost-plus-fixed-fee contracts.

He had a number of his people living in Los Alamos, a great many of his workmen were living in Los Alamos. Many of his supervisors lived there. His equipment was there, and he was in a position to outbid anybody who came along on a building project.

The CHAIRMAN. Was this bid advertised?

Mr. TYLER. We advertised nationally in the contractors' magazines, et cetera. However, at that time—that was early in my career up there—it was difficult for anybody else to bid against McKee. He had everything up there. He had his people living there. He did not have to worry about housing, et cetera.

I came in July of 1947, and in September 1947, McKee was ordered to move his people from the project. I felt I had to do that in order to get fair competition. I could not offer the others housing; therefore, he could not get a fair bid. It took him 3 months to do it, but by the 1st of January all of McKee's employees were living privately outside the project.

That gave an opportunity for somebody else to come in and bid fairly. But it was some time before we began to get bidders. This thing had become pretty much of a closed proposition to most of the contractors, and there are no contractors in that part of the country. We have to go to Texas or up to Denver to get contractors.

The CHAIRMAN. Nobody in Albuquerque?

Mr. TYLER. No major contractors in Albuquerque. We have some small contractors at Albuquerque, but they are small.

The CHAIRMAN. No contractors in the whole State of New Mexico?

Mr. TYLER. Not a major contractor.

The CHAIRMAN. No contractors equipped to do a \$329,000 job?

Mr. TYLER. They probably could have done that job, but could not have underbid McKee.

The CHAIRMAN. They did not bid on it?

Mr. TYLER. I think not. Here is a note that the average number of bids we received on our open bidding in 1947 was two. That was our average in 1947.

From January to November 1948 we got an average of 4.3 on all our bidding. The last 6 months we have had an average of 8.

In other words, we are improving the situation and we are getting more bids all the time.

Mr. HOLIFIELD. Mr. Chairman, having visited the Los Alamos project several times and being somewhat familiar with it, I think that this observation is pertinent.

Los Alamos is a small community located on a mesa some 40 miles from the nearest large town—and I say “large” rather loosely, because Albuquerque in terms of national cities is not a large town, and the State of New Mexico, I believe, has very few more citizens in it than my congressional district.

So the thing you have to keep in mind is that this is a very isolated community. Also that the problem of transportation from the nearest railroad is by truck up tortuous mountain grades. It is true that this original company, due to the fact that it was in on the ground floor during the wartime construction, had in a natural way obtained a very favorable and advantageous position.

During the time of the war, when the construction contracts were let, this company was in a position to do the building, they accumulated great quantities of equipment, and also personnel in the immediate vicinity, and they were in a very advantageous position to bid and to underbid anyone from without that had to bring their equipment in and establish the contacts and develop the personnel necessary to do the job.

This was a thing that existed under the Manhattan project during the days of the war. It developed during that time. As the record shows, it has subsequently been gradually changed. But the gradualness of the change, I believe, is understandable, due to the isolated areas involved and the lack of other large contractors that were willing to come in there and compete with the McKee organization.

I am glad to see that you are getting more bidders in there at the present time.

The CHAIRMAN. They have had it pretty creamy.

Mr. HOLIFIELD. Yes.

Mr. TYLER. They definitely had an advantage, yes, sir. However, I must say in full fairness that the company did an excellent job. I think they deserve considerable credit for the time in which they constructed some of the technical facilities up there. One of the major facilities that the laboratory said they had to have in 9 months, they needed it in 6 months, it was constructed in 4 months, and nobody imagined it could be done.

I hold no special brief for that particular company, but I would like to give them full credit for having done an excellent job. They are still bidders up there and they are still competitive bidders up there. They are not getting much over one-fifth of the work, but they are still there and still fighting for their business.

Senator HICKENLOOPER. Mr. Chairman, I would like to now suggest that the Boy Scout lodge was built at Los Alamos at a cost of approximately \$50,000 and paid for by the Government.

Mr. TYLER. Yes, sir, there was a lodge built there. It is not a Boy Scout lodge. It is a youth lodge. It was misnamed in its design stage and has never been wholly used by the Boy Scouts.

Senator HICKENLOOPER. Is it not correct to say that it was named in its design and proposal stage as a Boy Scout lodge and later objection was made to the extravagance involved in this building and it became a youth lodge and some other things after that?

Mr. TYLER. No, sir, that is not quite it. The name was changed from Boy Scout lodge to youth lodge, but it was changed before the thing was built. It was changed because the intent, the use of it was changed.

The lodge is now used by all the youth organizations. It is used by the Boy Scouts, the Girl Scouts, Rainbow Girls, the DeMolay people, and it is used further by the schools for various exhibitions which they want to hold and not tie the schools up for a number of days. They have Indian art exhibitions, for instance. The lodge is used at least 6 nights a week by some activity, and it is not exclusively used by the Boy Scouts. They have nothing in there that nobody else has.

Senator HICKENLOOPER. Are there not other community facilities in Los Alamos?

Mr. TYLER. Not of that type.

Senator HICKENLOOPER. What are the other community facilities there?

Mr. TYLER. You mean of a type that could be compared to—

Senator HICKENLOOPER. The type of facility where people can gather and hold meetings.

Mr. TYLER. We have what we call the community center recreation hall, which has a dance floor. That has a curtain which will divide it in two parts, and in there we hold the town forum, high-school graduation exercises, and things of that nature; and probably one organization or another will hold about three dances a week there.

We have what used to be an old movie theater which was built by the Army, a barn-type structure, which will seat around 800 and which we use as our only basketball court. We use it for basketball games, big dances, the community concert association fills it in the concert season.

Those are the only two facilities of that nature we have besides the youth lodge.

Senator HICKENLOOPER. I have been in this youth lodge or Boy Scout lodge and it is a very fancy building. It is another stone-faced building, as I recall.

Mr. TYLER. No, sir. I would be very glad—

Senator HICKENLOOPER. I skinned a knuckle on some stone on it.

Mr. TYLER. There is no stone in it other than the fireplace. It has a fireplace. The lodge was built in an experimental set-up. We tried to build it with stucco and found it could be built of logs more cheaply. It is built of prefabricated logs. Some people in the Pecos Valley about 40 miles away set up a system of running logs through a trick mill and they come out the same size and same shape and you put the logs on like a kid's blockhouse.

We did it more cheaply than stucco. The man has since gone broke. He could not afford to make logs like that. There is in the lodge only a kitchen, with iceboxes and food-preparation facilities, a servant's room, and the rest is bare floor.

Senator HICKENLOOPER. I am not an expert on building, I do not claim to be. I have been in the building that is referred to and, having been interested from time to time in the past in building costs for other structures on occasion, it is my impression, although I may be wrong, that a perfectly adequate building of this kind could have been built for much less, if such a building was indicated as being needed in the general scheme of things there.

Mr. TYLER. Again, that went out on bids, sir. That is a lump-sum contract.

Senator HICKENLOOPER. It is rather an intriguingly put-together building with these machine-cut, notched logs, fitted accoutrements, and things of that kind. I submit that in most towns the Boy Scouts and other groups find ways and means of projects in which they create their own facilities.

I want to call to your attention to the amount of money that was spent in remodeling the so-called Kellogg-Manley House, which is somewhere in the neighborhood of \$48,000, I am told, which was the assistant manager's residence, or something of that kind.

Are you familiar with the details of that?

Mr. TYLER. I do not have the exact price of that remodeling, sir.

Senator HICKENLOOPER. I think they went at it twice, did they not?

Mr. TYLER. Not to my knowledge, no, sir. The Kellogg-Manley House, so-called—Dr. Manley, the Associate Director for Research of the Laboratory, and Dr. Kellogg, one of the division directors of the laboratory—Dr. Kellogg no longer lives there. It is a double house, one of the ranch houses, schoolhouses, when it was originally built.

This was done by me in the very early part of my stay there. I do not like to get into philosophy too much, but it is important in this case. I regret to have to say that the laboratory at that time, due to the change in the philosophy of the Government as to whether they wanted a military or civilian organization, and due to the delay in the civilian organization being able to take over, no decision had been made as to what the future of Los Alamos was to be.

Many of the scientists, as you all know, a great percentage of the scientists who were there during the original days of the bomb, the leaders, had of necessity gone back to their own pursuits. The others did not know what the future was going to be and whether there was any future. The program had not been determined upon by anybody.

The program was determined upon about the middle of 1947; the Commission got into action and was able to review the program and decided there was to be one.

As a result, the morale of the laboratory was at a very low ebb when I arrived there in July 1947.

Further, we had built some new housing up in the western area. The morale of the laboratory and the town was such that already that was beginning to be known as Snob Hill, and the people as a whole were dissatisfied and said, "All the good people are going up there and the rest of us can live over here on the other side of the tracks."

In the middle of town, adjacent to the lodge, are these five ranch-type houses, which had been occupied during the war by the senior scientists. I decided, and talked over with Dr. Bradbury and his staff, that unless they had reasonable objection I would like very much for them to stay down in that location and not move up in the western area and isolate themselves from the rest of the town.

Dr. Bradbury and his senior staff agreed with that philosophy and thought it was necessary that there not be two sides of the tracks.

He said, "We cannot live in those old-type ranch houses. They are falling to pieces. They will have to be fixed up."

I said, "Certainly," and assumed responsibility.

The time was important. Dr. Manley was away. Dr. Kellogg wanted to move out and get his house fixed up before school time.

We got a cost-plus-fixed-fee contract. We went to Albuquerque and worked among three or four of the leading builders there and had the one who was willing to do it come up and attack this thing, doing it as we went along.

It resulted in putting in new heating systems, et cetera. It was pretty antiquated. The contractor did not do a good job. When he pulled out, he went broke completely. They were two partners. One is back as a carpenter and the other is an accountant for another firm.

We could not recover from them and had to do additional work ourselves. It was expensive. I did not know it was going to be so expensive. I did not know anything about building when I went up there. I am learning a lot of it the hard way.

I still feel in principle it was well justified. The senior members of the laboratory are still living in the houses. They are not elaborate. They were brought up to date with a bathroom where they needed it, and things like that.

Senator HICKENLOOPER. The issue I raised was that it was approximately \$48,000 on this one structure. Certain of the houses had to be repaired, I realize that.

Now, I reviewed last fall, when I was out there, the difficulty of the collapse of a great number of houses in Los Alamos due to roof failures, to foundation or floor-slab failures, and buckling and the necessity of spending approximately, as my information has it, \$600,000 for repair work and for certain additional improvements in this large number of houses.

I went into it somewhat more thoroughly, and I have the report or did receive the report that approximately half of this, or about \$300,000, could be reflected in and charged to additions such as covers for automobiles—that is, roofs over automobiles on the houses—and certain additions, but that somewhere in the neighborhood of \$250,000 to \$300,000 had to be charged directly to structural failures and faulty construction in the project.

Now, if we credit \$300,000 or half of that approximate amount to additions, it still leaves a loss to the Government of somewhere in the neighborhood of \$300,000 as the result of structural failures and faulty house construction. These houses were constructed during the Manhattan District days, I am told.

I asked last fall of the Commission and otherwise—there are several letters on it—I asked that responsibility for this \$300,000 loss to the Government be fixed, see who was wrong. Up until now—that is, this date—that responsibility has not been fixed by the Commission, so far as I know.

The most recent communication that I know of was a letter from Mr. Lilienthal, as Chairman of the Commission, to Chairman McMahon, which still did not fix the responsibility, but said that the matter had finally been referred to some department or agency in the Attorney General's office, or someone of that kind.

Now, I am aware of the explanations that were given for the structural failures, but in connection with that I want to call attention to the fact that the architect, the supervising architect and general architect who had charge of those houses, I am informed, in their construction, has, at least until very recently—I cannot speak for the last few weeks—been continued on the job as a supervising architect or the organization has, and between January 1, 1947, and September 22, 1948, this same group or this same company or architect had received fees in a total of \$2,252,343.31.

The point that I have repeatedly raised is:

First, the fixing of the responsibility for these failures. That fixing of responsibility has never been had.

Secondly, the continuance, with the payment of very substantial amounts of money to them, the architectural group that had charge of this construction and was supposed to supervise in the public interest reliable construction and acceptable construction for the money paid by the Government for those structures.

I would appreciate any comment on that.

Mr. TYLER. I would like to call your attention again—and as you recognized, the contracts for these houses were let before I came to the project and before the Atomic Energy Commission really had taken over, except as an acting manager with the previous military personnel still there.

The houses were finished to a large extent before I arrived on the project. Most of them were occupied when I got there.

Mr. HOLIFIELD. What was that date, please?

Mr. TYLER. I got there in July.

Mr. HOLIFIELD. What year?

Mr. TYLER. 1947. The defects in the houses did not show up immediately. They showed up sometimes as winter came and we got snow on the roofs and the snow stayed and got wet and gradually some ceilings began dropping into one of the bedrooms in two or three houses. That did not seem an illogical thing to happen, since houses do that and when you have 350 houses in one structure, you are bound to find a defect in one or two of them.

So I was not particularly perturbed until they began falling more consistently.

Senator HICKENLOOPER. Began falling apart?

Mr. TYLER. The ceilings in these particular rooms fell in completely.

Senator HICKENLOOPER. The floors buckled?

Mr. TYLER. No, the floors did not.

Senator HICKENLOOPER. Due to the water and drainage situation.

Mr. TYLER. One or two of the houses were badly sided and the drainage was not good. However, enough of them fell in so we decided to go into the whole business and repair them. The repairs became very extensive.

The question came to my mind as to whether the things were properly designed, and I requested the Army engineers in Texas—I did not want to get anybody locally concerned or the engineers' office in Albuquerque, with whom this architect's office does business—so I requested the Chief of Engineers to send me a board competent to examine into this, and he sent a three-man board up from Texas.

They examined into the whole situation, made a report on it, which I believe you have a copy of. In fact, I know you have a copy.

As a result of the report, it was difficult to decide who was wrong or who was right.

The CHAIRMAN. Who did that work? McKee?

Mr. TYLER. McKee did the construction and Kruger was the architect. The report did not indicate faulty construction.

The CHAIRMAN. He did not do as good a job with that as he did on this facility that he constructed in 4 months.

Mr. TYLER. May I go on, sir? The report did not show faulty construction. It did not show faults on the part of the contractor who did the construction.

The fault indicates, as far as they could decide—a fault was in the design and in the changes in design which were made during the construction period. Material was hard to come by at that time.

The CHAIRMAN. Who was the architect?

Mr. TYLER. W. C. Kruger.

The CHAIRMAN. Is he still working for you?

Mr. TYLER. Yes, sir. He is still working there. I can find no particular fault reflected in that report on either.

The board did not come up with a very solid determination as to who was at fault for a number of reasons, and the records are very unclear on it.

The indications were that, due to the difficulty of getting seasoned lumber, the specifications were changed during the construction period and green lumber was accepted. It was accepted by the Army engineers, who were inspecting the project. They made the determination and said it is O. K.

The changes in structure which should have resulted from that were not done. The architect claims he went to the inspecting engineer officer, who was a lieutenant colonel somebody or other, and said he felt this should be done, and they told him not to bother with it, that it would take too much time, and the houses were needed in a hurry.

The CHAIRMAN. The Corps of Engineers let the contract?

Mr. TYLER. The Manhattan Engineer District.

The CHAIRMAN. That is what I mean.

Mr. TYLER. Let the contract and superintended construction. The report, when it got through, particularly with the lack of records on much of this—the debate between the construction contractor, the architect, and the inspecting officers was done by conversations and by, “Yes, go ahead and do that, don’t do that”—so that the files do not reflect much of the change that was made.

The CHAIRMAN. When you sent for a board to examine into the deficiencies, you sent to have people come and judge themselves. Why did you send for the Corps of Engineers?

Mr. TYLER. This was a completely separate group of people, no connection with the Manhattan Engineer District or even the officers. I thought they were competent. They were civilian engineers with the Corps of Engineers. They did a good job. The report is available. It is a good report.

The CHAIRMAN. Now, it is 1:05. I think we should recess until tomorrow morning at 10:30.

(Whereupon, at 1:05 p. m., the joint committee adjourned, to reconvene at 10:30 a. m., Friday, June 24, 1949.)

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# INVESTIGATION INTO THE UNITED STATES ATOMIC ENERGY PROJECT

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## HEARING

BEFORE THE

## JOINT COMMITTEE ON ATOMIC ENERGY CONGRESS OF THE UNITED STATES

~~EIGHTY-FIRST CONGRESS~~

FIRST SESSION

ON

INVESTIGATION INTO THE UNITED STATES

ATOMIC ENERGY PROJECT

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PART 15

JUNE 24, 1949

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# INVESTIGATION INTO THE UNITED STATES ATOMIC ENERGY PROJECT

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FRIDAY, JUNE 24, 1949

CONGRESS OF THE UNITED STATES,  
JOINT COMMITTEE ON ATOMIC ENERGY,  
*Washington, D. C.*

The joint committee met, pursuant to adjournment, at 10:35 a. m., in the Caucus Room, Senate Office Building, Washington, D. C., Senator Brien McMahon (chairman) presiding.

Present: Senator McMahon (chairman); Representative Durham (vice chairman); Senators Connally, Vandenberg, Millikin, Knowland, and Hickenlooper; Representatives Price, Cole, Elston, and Hinshaw.

Also present: David E. Lilienthal, Chairman; Sumner T. Pike, Commissioner; Lewis L. Strauss, Commissioner; Gordon E. Dean, Commissioner; Henry D. Smyth, Commissioner; Carroll L. Wilson, General Manager; Carleton Shugg, Deputy General Manager; Frances Henderson, Assistant to the Chairman; Brig. Gen. James McCormack, Jr., Director, Division of Military Application; Walter J. Williams, Director, and Carroll Towne, Division of Production; Joseph Volpe, Jr., General Counsel; Everett L. Hollis, Office of the General Counsel; Morse Salisbury, Director, Shelby Thompson, and Rodney L. Southwick, Division of Public and Technical Information Service; Carroll L. Tyler, Manager, and John Macy, Director, Organization and Personnel, Los Alamos Operations Office; Richard W. Cook, Acting Manager, S. H. Cook, Acting Manager, S. H. Sapirie, Chief of Engineering and Production; and Fred W. Ford, Director of Community Affairs, Oak Ridge Operations Office; all of the United States Atomic Energy Commission.

Clark Center, General Superintendent; William B. Humes, Superintendent, K-25; Clarence E. Larson, Superintendent, Y-12; Oral Rinehart, Controller; Fred Uffleman, Supervisor of Materials Control Department, Y-12; E. N. McKay, Superintendent of Product Processing and Product Chemical Department, Y-12; J. M. Herndon, Superintendent of Chemical Division, Y-12; and Logan Emlett, Superintendent, Operations Division, Oak Ridge National Laboratory, of the Carbide & Carbon Chemicals Corp. (Oak Ridge).

Clinton Hernandez, Vice President; Lyle D. Worrell, Assistant Project Manager; L. C. Macneal, Project Manager; and St. John W. Davis, Audit and Budget Division Manager, of the Roane-Anderson Co. (Oak Ridge).

The CHAIRMAN. The meeting will come to order.

I have had delivered to me this morning a letter from Commissioner Strauss, which he would like to have read into the record. It is dated June 24 and addressed to me as chairman of the joint committee:

DEAR SENATOR McMAHON: I send you this letter with the request that it be made a part of the record of the current hearings of your committee. I do this because of my conviction that you desire the record to be as complete and accurate as possible.

On June 9, during testimony before your committee, I read from the New York Times of January 3 which quoted Dr. William Shoupp, manager of the electronics and nuclear physics department of the Westinghouse Laboratories, as follows:

"Isotopes also aid our scientists to find out what happens on the surface of a metal or alloy when it is exposed to extremely high temperatures. This information is vital to the development of new alloys for gas turbines, jet engines, and other high-temperature apparatus."

Four days later it was testified before your committee that "Dr. Shoupp regrets the misinterpretation of what he said." I should like to state that I have since communicated with Dr. Shoupp and offered to correct the record if he had been misquoted or otherwise embarrassed. Dr. Shoupp has written to me to say that the statements made in the New York Times article to which I referred are scientifically correct and that he has not been embarrassed by any reference to them.

Out of consideration for the time of your committee, I did not cite a number of other examples of applied research with radioactive isotopes. For instance, the Fourth Semiannual Report of the Atomic Energy Commission contains the following items: The General Electric Co. reported, "An investigation of high-temperature alloys, as applied to the gas-turbine field, is being carried out with the use of radioactive isotopes as tracers. \* \* \* Such an investigation is impossible without the use of radioisotopes." The Arthur D. Little Co., Inc., state, "Radiosulfur has been used to study the role of sulfur in the coking process for the steel industry. This study could not have been conducted without radioisotopes and was aimed at the ultimate production of better quality steel." The Socony-Vacuum Laboratories report, "In the study of oil production from oil sands, the nature of the three-phase flow of oil, water, and gas is a basic problem, since the most efficient exhaustion of present petroleum reservoirs depends on the nature of this flow. \* \* \* By using radioactive tracers in the oil, the location and quantity of oil flowing through the medium can be determined internally by a Geiger counter."

These and other instances of applied research appearing in our report deal with items which, like steel, oil, jet engines, gas turbines, rubber, and synthetic fuels, are the matériel of modern warfare. It is inaccurate to assume that radioisotopes are not extremely valuable for applied research.

May I now turn briefly from the use of radioactive isotopes generally to the specific matter of the initial export of such isotopes to a foreign military establishment. That fact was minimized in testimony on June 13 by the statement that the military establishment in question also engages in contract research for industry; and that the particular research project is to improve the performance of turbines for generating water power. The transcript does not indicate that any mention was made of the fact that this statement appears to have been based upon advices received by the Commission that morning—almost 2 months after the shipment had been made. Nor was mention made of the fact that also listed as a research objective of that establishment is the development of alloys for jet turbines to operate at high temperatures. It is my understanding that the primary present use of jet turbines is for high-speed military aircraft. The fact that a military research establishment may be located in a friendly country must be considered in the light of the stipulation that scientists, irrespective of nationality, are to have access to research conducted with radioisotopes obtained from the Commission.

In conclusion, may I be permitted to express my vigorous dissent from a philosophy which has been advanced before your committee, namely, that parts of the McMahon Act are not to be taken literally. That is a doctrine to which I cannot subscribe. If parts of laws are not to be taken literally, then the time and effort devoted to careful drafting are wasted—and we shall have to look for some other medium than words to codify them. For the equal and uniform administration of law is one of the pillars of our system of Government, and if public administrators generally were to construe laws other than literally, we would have as many interpretations as there are individual points of view. That would

mean complete administrative disorder. Certainly, the provisions of the Atomic Energy Act must be honored literally, or Congress should change them deliberately. If any of its provisions are ambiguous after nearly 3 years on the statute book, the ambiguity should be clarified by formal action. The implied alternative, that is to say, to permit any part of the law to become a dead letter is, to me, unthinkable.

Sincerely yours,

LEWIS L. STRAUSS.

Now, Senator Hickenlooper?

Senator HICKENLOOPER. Mr. Chairman, in order to complete the record so far as the Hanford situation is concerned—and it may be discussed later if it is felt desirable—this morning I received the so-called master plan for Richland, Wash., prepared by J. Gordon Turnbull and Graham, Anderson, Probst & White, Inc., engineers and architects of Cleveland and Chicago. This plan, as you will notice, consists of a booklet or folder in a leatherette cover. I would say it is 18 to 20 inches long and probably 12 inches wide and contains, in addition to the preliminary 3 pages of title and acknowledgment and index, 74 pages, which would be 36 sheets of paper, of the same approximate size as the cover, which in my judgment constitutes a very thorough canvass of the situation around Washington so far as climate, topography, building sites, previous locations of houses and installations, and the proposed future planning and zoning of that area for the anticipated town size, and seems to be a very thorough and well-developed plan.

In addition to the 74 pages that I mentioned, it has what might be called a supplement, consisting of some sort of plastic overlays, which give in various colors and various outlines on each transparent overlay a ready reference to various zoning locations and various activity locations in the present and future town planning for the city of Richland, Wash.

Unfortunately, I have this from a source to which I have to return it, and I cannot turn it over to the committee for that reason. However, I would suggest, Mr. Chairman, that this is a very thorough study, apparently, of that situation and indicates some very final conclusions about the city of Richland and its zoning. I would suggest that the joint committee request a copy or two of that document for its files, because I will have to return that one.

I may want to discuss it later when the people from Richland are here or when the Commission desires to discuss it and to discuss some of the provisions in it.

Then, in order to further complete the record, I have just this morning received a copy of a bulletin of the Allied Daily Newspapers of Washington, with headquarters at Olympia, Wash., which is dated June 17, 1949. Among other things, most of which are not pertinent to this inquiry and refer to certain journalistic interests out there, there are the following two or three paragraphs, which I believe are pertinent to the question of business policies in and around Richland. I would like to put those in the record at this time.

One section of this bulletin, which for identification is their bulletin entitled "General Bulletin No. 18, June 17, 1949"—this particular section which I would like to read at this time is as follows. It is headed "Atomic Energy Commission Denies Newspaper Monopoly Plan," and reads:

In reply to the resolution adopted by Allied in May, relating to a proposed monopoly newspaper operation at Richland, Sumner T. Pike, Member of the

Atomic Energy Commission, has declared that the Commission does not plan and has not ever contemplated such a monopoly within the Hanford project. He said the resolution "seems to indicate a complete misunderstanding of the action by the management of the project." In support of this statement he pointed to the recent call for bids on the establishment of a newspaper plant or plants on the project in which six sites were open to bidding without restriction on the number of successful bidders up to six.

His reply gave no recognition to the following facts:

1. The Hanford management has consistently followed a monopoly policy or at least closely restricted competition in all lines of business admitted within the area.

2. The AEC through a qualified and authorized representative requested Allied to appoint a committee to draft bid specifications for a *monopoly* operation of a daily newspaper in Richland.

I call attention to the fact that in their bulletin they underline the word "monopoly." To continue:

3. After Allied had refused to accept the responsibility for such a committee a representative of the Commission appeared personally before the executive committee of Allied, seeking publisher support for a *monopoly* bid plan.

Again the word "monopoly" is italicized. To continue:

4. Discussion of a competitive or potentially competitive newspaper operation was publicly entered upon by the Commission only after Allied had declared its support for free and unlimited newspaper competition.

5. The bid form finally offered by the Commission, while ostensibly opening the field to more than one newspaper, so subjects successful bidders to cancellation clauses and other control features as to destroy effectively economic freedom.

6. The successful bidder or bidders would be called upon to operate a newspaper within a market wherein all advertisers or virtually all advertisers could be subjected to external pressure from the AEC through cancellable lease agreements upon which their own economic existence depends.

The executive committee has directed that these points be drawn to Mr. Pike's attention in an effort to clarify the misunderstanding which is presumed to exist.

Mr. Chairman, that is all of the bulletin which pertains to this matter, and I will ask the reporter if he will just put in that portion of the bulletin because the rest of it refers to their own other private business.

Then I have also received a bulletin of the Commission or of General Electric or both, because the bulletin refers inquiries to either the General Electric or the—well, it apparently is put out by the General Electric Co., because it refers inquiries to General Electric Co. Commercial Facilities Division, Municipal Building, Richland, Wash., with telephone number. This bulletin is entitled "Development of Richland, Wash." It contains a foreword of 3½ pages, which I shall not burden the committee at this time repeating, and then an attachment showing the type of stores and business enterprises which are in existence now and the anticipated new number to be added, and then the anticipated total.

For instance, I will read two or three of them. At the time this bulletin was published, there were five combination stores, grocery and meats. They anticipate a new number of six or an additional number of six. In other words, they anticipate that they will permit 11 of those stores to go in.

Milk dealers—they had one. They anticipate that one more will be admitted in the area.

Department stores—they had one. They anticipate that one more will be permitted to come in, or a total of two.

Men's and boys' clothing and furnishings—they had one at the time this bulletin was issued. They anticipate that two more will be permitted to come in; so that there will be three.

Women's accessories stores—they had none at the time this bulletin was printed, and they anticipate that they will permit one to come in and operate.

Shoe stores, all kinds—they had one at the time this bulletin was published. They anticipate that they will permit one more shoe store to come in.

Furniture stores—they had none, but they anticipate that they will permit two.

Motor-vehicle dealers—they had one. They anticipate that four more will be permitted to come in. That is, dealers in new motor vehicles. So that they will have a total of five.

Gasoline stations—they had four at the time this bulletin was printed. They anticipate that seven more will be permitted to operate in Richland, so that all they will have 11 altogether.

Leather- and luggage-goods stores—none at the time this bulletin was printed some several months ago. They anticipate that they will permit one leather- and luggage-goods store to come in.

Drug stores—they had three and anticipate eventually they will permit eight.

Cafeterias—they had one and they anticipate not permitting any more cafeterias to come in; so they will retain one.

Restaurants—they had two and they anticipated that three more will be permitted to come in, or a total of five.

I am skipping along this list, Mr. Chairman, but I give it for illustration as the apparent controls under which they operate in a so-called free-enterprise community.

I submit that for a community of 30,000 people, that the number of business establishments as shown on this list that they anticipate they will permit to come in, is far below and a smaller percentage of the average of each of these classifications of business enterprises in a normal city of that size. I submit that in any kind of a restriction on free enterprise, it furnishes extremely fertile grounds for monopoly and for the centering of profits and opportunities in a few individuals.

I would like, Mr. Chairman, if that full bulletin, together with the attachments that I have referred to, can go in the record at this point.

The CHAIRMAN. Very well.

(The bulletin and attachments referred to above are as follows:)

#### DEVELOPMENT OF RICHLAND, WASH.

##### FOREWORD

The purpose of this bulletin is to furnish information regarding the further development of necessary merchandising, light industrial, warehouse and allied businesses in the Government-owned town of Richland, Wash., under a new policy recently announced by the Atomic Energy Commission, the aim of which is to develop Richland along the lines of a normal American community.

*Location and history.*—Richland is located in Benton County, in southeastern Washington, near the junction of the Columbia and Yakima Rivers. The community is served by the Greyhound bus line on its main-line route from Walla Walla to Seattle, and by the Tri-City bus line, operating out of Pasco, Wash.

Pasco and Kennewick, located respectively 12 and 10 miles east of Richland, provide the nearest passenger-train service. The railroads are the Spokane, Portland & Seattle Railroad, a subsidiary of the Northern Pacific and Great Northern

Railroads, and the Northern Pacific and the Union Pacific. Nearest transcontinental air transportation service is at Walla Walla, Wash., located approximately 65 miles southeast, and Yakima, Wash., located approximately 80 miles northwest of Richland. Connecting air-line service to Walla Walla and Seattle is available through Inland Airways, operating from Vista Field located between Richland and Kennewick.

Until World War II, Richland was an incorporated farm community with an estimated population of 300 persons. The entire town, together with several thousand acres of land lying between the Columbia and Yakima Rivers, was purchased by the United States Government in 1943. Immediately thereafter, a construction program was begun for the erection of housing for operating personnel, for limited commercial facilities, and for the erection of facilities for the production of plutonium, which is an ingredient of the atomic bomb, and which, in addition, has important potential peacetime applications. The first construction program ended during the early part of 1945.

*Population.*—Under the original production program, a maximum population of 15,000 to 16,000 persons was reached during the winter months of 1946-47. It is anticipated that the population in the permanent town of Richland, by July 1, 1949, which is expected to be minimum, will be from 25,000 to 26,000.

In 1947 a temporary construction camp was established at North Richland, approximately  $4\frac{1}{2}$  miles north of Richland proper. This camp now has a population of approximately 13,500, which may remain at the present level for the next 2 or 3 years, and then decline to zero about 1953.

*Housing.*—During the original construction program, a total of 4,303 family units of housing were provided. Dormitory accommodations, to provide for 304 unattached men and 682 unattached women, were also constructed.

When new impetus was given the atomic energy program in the fall of 1947, it became necessary to provide additional housing for operating personnel. As of July 1, 1948, a group of 847 houses and apartment units were nearing completion, and an additional group of 1,000 single family dwellings were under construction, scheduled for completion by December 1948. Additional dormitory space for 230 men also has been provided.

North Richland has barracks for men, dormitories for women, 200 houses for supervisory construction personnel, and about 1,900 spaces for trailers, with room for as many more trailer accommodations as may be required.

*Town operation.*—Richland and North Richland are operated for the Atomic Energy Commission by the General Electric Co., under its contract with the Commission. The General Electric Co. handles the selection of all commercial operators for the permanent town of Richland and the construction camp at North Richland. Only employees of the Commission, General Electric, subcontractors or facility operators are permitted to have housing in these towns.

*Commercial facilities.*—During the war, commercial facilities to meet only the absolute minimum requirements of the local population were provided. All new commercial buildings in the town of Richland were constructed at Government expense, and all of the original buildings which were usable were also occupied.

A recent determination, reached by the Atomic Energy Commission, to develop Richland along the lines of a normal American community, has resulted in a change in policy regarding commercial facilities. Instead of the Federal Government constructing business buildings, land is now available on long-term license agreements, between General Electric, as prime contractor for the Atomic Energy Commission, and businessmen, to permit them to erect their own structures in which to conduct their own business, or to erect complete shopping centers to be subleased.

*Town planning.*—The wartime town of Richland, as originally built, was carefully planned in detail on the drawing boards before construction began. With the present permanent expansion of the town becoming necessary, professional town planners were employed and have laid out the new areas for business and home sites, and for all the essentials that make up a community of 25,000 population.

The growing town will have two business districts, approximately 1 mile apart. This arrangement will prevent the traffic and parking problems that plague the merchants of most American cities. The town has elbow room, and it is designed for modern living. But, at the moment, it lacks the commercial enterprises to complete the pattern.

In keeping with the planning, it is intended that the best type of commercial operators shall serve the residents. It is believed that private enterprise can best meet this requirement for expanded commercial facilities.

The attached diagrams show the expansion of the growing town, as laid out by professional town planners.

*Method of selection of operators.*—Commercial operators for Richland are generally selected by General Electric Co., through invitations to bid. In most instances, the rental bid is based on a percentage of gross sales. All factors, including experience, trade connections, character, and financial resources, are taken into consideration in the selection of commercial facility operators.

The rental offered must be sufficient to cover costs for electricity, water, sewage, such municipal expenses as police and fire protection and street maintenance, and to provide a fair return for the use of the land. At present, electricity and water are not metered.

The attached list shows the present stores in Richland and the probable number of new stores desired. There is no guaranty that these totals will not change in the course of time, but, at present, they appear to be the proper numbers for each type of business.

All inquiries and expressions of interest regarding the possibilities of constructing and operating needed businesses in Richland should be directed to General Electric Co., Commercial Facilities Division, Municipal Building, Richland, Wash.

(If telephone contact is desired, phone Richland, Wn., extension 248 or 384.)

Group	Present number	Anticipated new number	Anticipated total
<b>Food:</b>			
Combination stores (grocery and meat).....	5	6	11
Milk dealers.....	1	1	2
Delicatessen—fish market.....	0	1	1
Bakeries.....	1	1	2
<b>General merchandise:</b>			
Department stores.....	1	1	2
Variety stores.....	1	2	3
<b>Apparel:</b>			
Men's and boys' clothing and furnishings.....	1	2	3
Women's ready-to-wear.....	2	1	3
Women's accessory store.....	0	1	1
Shoe stores (all kinds).....	1	1	2
Fur shop.....	0	1	1
<b>Furniture—household—radio:</b>			
Furniture stores.....	0	2	2
Floor coverings, drapery store.....	0	1	1
Household appliance dealer and electric shop.....	1	1	2
Paint store.....	0	1	1
<b>Automotive:</b>			
Motor-vehicle dealers (new).....	1	4	5
Auto-supply store.....	0	1	1
Garage.....	0	1	1
Gas stations.....	4	7	11
<b>Lumber—building material:</b>			
Lumber and building material dealers.....	0	1	1
Heating and plumbing equipment.....	1	1	2
<b>Hardware stores.....</b>	1	1	2
Luggage and leather-goods store.....	1	1	1
Drug stores.....	3	5	8
<b>Eating places:</b>			
Cafeterias.....	1	0	1
Restaurants.....	2	3	5
Restaurants (drive-in).....	0	1	1
Malt shop and dairy lunch.....	0	4	4
Candy store.....	0	1	1
<b>Other retail stores:</b>			
Jewelry stores.....	1	1	2
Book and stationery stores.....	0	2	2
Cigar store and newsstand.....	0	1	1
Florists.....	1	2	3
Nursery, greenhouse and garden-supply store.....	0	1	1
Music store.....	0	1	1
Photo supply—camera shop.....	0	1	1
Photo studios.....	1	1	2
Sporting-goods stores.....	0	2	2
Gift shops.....	0	3	3
Optical shops.....	1	1	2
<b>Personal service:</b>			
Barber shops.....	1	5	6
Beauty shops.....	1	5	6
Cleaning and dyeing plants.....	1	2	3
Laundry.....	1	0	1
Funeral director.....	0	1	1
Sewing center.....	0	1	1
Custom tailoring.....	0	1	1
Shoe repair.....	1	1	2

Group	Present number	Anticipated new number	Anticipated total
Disinfecting and exterminating service.....	0	1	1
Services allied to transportation:			
Warehouse (cold storage).....	0	1	1
Warehouse (others).....	0	1	1
Cabinet shop.....	0	1	1
Drinking places:			
Taverns.....	1	0	1
Liquor store.....	1	0	1
Beverage store.....	0	1	1
Entertainment:			
Theaters.....	2	1 <sup>1</sup>	3
Bowling alleys.....	1	1	2
Pool rooms.....	1	1	2

<sup>1</sup> 1,000-seat or over.

### *Site locations for commercial facilities*

#### **Additional facilities anticipated and recommended location :**

##### **Food stores (6) :**

- 1 site 30, drawing D.
- 1 area A, drawing E.
- 1 area B, drawing E.
- 1 area C, drawing E, replacing Marcus Whitman store.
- 1 area D, drawing E (possible future).
- 1 area E, drawing E (possible future).

Milk dealer : 1 as noted on drawing F.

Dairy store : 1 site 33, drawing D.

Delicatessen : 1 site 32, drawing D.

Bakery : 1 as noted on drawing F.

Bakery sales : 1 site 31, drawing D.

##### **Restaurants (3) :**

- 1 area C, drawing E.
- 1 site 11, drawing D.
- 1 site 34, drawing D.

Restaurant, drive-in : 1 area D, drawing E (future).

##### **Dairy lunch and malt shops (4) :**

- 1 site 18-A, drawing G.
- 1 site 13, drawing D.
- 1 multiple-business building.
- 1 area C, drawing E.

Candy store : 1 site 12, drawing D.

Department store : 1 site 1, drawing D.

##### **Variety stores (2) :**

- 1 site 2, drawing D.
- 1 area C, drawing E.

##### **Men's and boys' wear (2) :**

- 1 site 9, drawing D.
- 1 multiple-business building.

Custom tailoring : 1 site 2-X, drawing D.

Ladies' apparel : 1 site 7, drawing D.

Ladies' specialty shop : 1 site 8, drawing D.

Sewing center : 1 site 24, drawing D.

Shoe store : 1 site 10, drawing D.

Fur shop : 1 site 8-X, drawing D.

Luggage and leather goods : 1 site 19-X, drawing D.

##### **Furniture stores (2) :**

- 1 site 26, drawing D.
- 1 site 16, drawing G.

Floor coverings, draperies : 1 site 9-X, drawing D.

Household appliances and electric repair shop : 1 as noted on drawing F.

Paint store : 1 as noted on drawing F.

Multiple-business building : 1 site 25, drawing G.

Lumber-building-material dealer : 1 as noted on drawing F.

Cabinet shop : 1 as noted on drawing F.

*Site locations for commercial facilities—Continued*

**Additional facilities anticipated and recommended location—Continued**

Heating, plumbing equipment, and repair: 1 as noted on drawing F (with storage in warehouse area).

Hardware: 1 site 4, drawing D.

Automobile dealers: 4 as noted on drawing F.

Garage: auto parts, tires, etc., 1 as noted on drawing F.

Auto-supply store: 1 site 3, drawing D.

Gas stations (7):

1 site 35, drawing D.

1 site 36, drawing D.

1 area A, drawing E.

1 area B, drawing E.

1 area C, drawing E.

1 area D, drawing E (possible future).

1 area E, drawing E (possible future).

Jewelry store: 1 site 6, drawing D.

Watch repair (3):

1 multiple-business building.

2 neighborhood areas.

Book and stationery store (2):

1 site 18, drawing D.

1 site 13-A, drawing G.

Newsstand and cigar store: 1 multiple-business building.

Florist (2):

1 multiple-business building.

1 site 25, drawing D.

Nursery and greenhouse: 1 as noted on drawing F.

Gift and art shop (3):

1 multiple-business building.

1 site 27, drawing D.

1 neighborhood area.

Music store: 1 site 25-X, drawing G.

Photo supply: 1 site 19, drawing D.

Photo studio: 1 multiple-business building.

Sporting goods (2):

1 site 5, drawing D.

1 multiple-business building.

Barber shops (5):

1 site 20, drawing D.

1 area A, drawing E.

1 area B, drawing E.

1 area C, drawing E.

1 area H, drawing E.

Beauty shops (5):

1 site 23, drawing D.

1 area B, drawing E.

1 area C, drawing E.

1 area H, drawing E.

1 multiple-business building.

Optical shop (2):

1 site 21, drawing D.

1 multiple-business building.

Cleaning and dyeing plant: 1 as noted on drawing F.

Laundry and cleaning pick-up station (4):

1 site 16, drawing D.

3 neighborhood areas.

Shoe-repair shop: 1 site 22, drawing D.

Funeral director: 1 as noted on drawing F.

Drug stores (5):

1 site 15, drawing D.

1 area A, drawing E.

1 area B, drawing E.

1 area C, drawing E.

1 area D, drawing E (possible future).

Public storage warehouse: 1 as noted on drawing F.

*Site locations for commercial facilities—Continued***Additional facilities anticipated and recommended location—Continued**

Fuel dealer: 1 as noted on drawing F.

Job printing plant: 1 as noted on drawing F.

Tavern: 1 site 28, drawing D.

Bowling and pool: 1 site 29, drawing D.

Theater: 1 site 14, drawing D.

Beverage store: 1 site 27-X, drawing D.

Liquor store: Relocate in site 16-X, drawing D.

Bank (enlarge present structure).

Post office (enlarge present structure).

Branch post offices: Substations in site 1, drawing D, and in neighborhood stores.

Total anticipated new facilities, 104.

Mr. HINSHAW. Mr. Chairman, in connection with that list I notice that under the lumber and building material groups there is provided that under "Heating and plumbing equipment" the present number is one, the anticipated new number is one, for a total of two.

I believe that the present number of one includes a concern known as the Richland Plumbing & Heating Co., which is a subsidiary of W. P. Payne Co., of California.

I happen to know that that company is withdrawing from the scene, and I think at this point I would like to have permission to insert in the record the complete correspondence on that subject, both with the Payne Co. and with the Commission, in order to indicate the reasons why they are withdrawing from the scene.

The CHAIRMAN. Very well.

(The correspondence referred to above is marked "Exhibit 20," and will be found in the appendix.)

Mr. HINSHAW. They have made a ground lease with the Commission on a piece of land, constructed a building and furnished it with equipment and supplies at a cost of something like \$70,000, in anticipation that they could enter the plumbing and heating business, and found that they could not do so, and are withdrawing, according to the last word that I have.

Mr. COLE. For the information of the committee, can you tell us why they are withdrawing?

Mr. HINSHAW. There was same indication, as I remember the correspondence, that the local plumbing and heating business, the repair business and that sort of thing, was to be turned over to private enterprise, and so they made the investment; but there was no guaranty to that effect, and the General Electric Co. decided to conduct on its own account, and consequently there was no business for it to do after it constructed the building.

There is a question I would like to raise in that connection. When a company comes in to Richland in good faith and invests its money, as in this case, to the tune of something like \$70,000 in building and equipment and withdraws from the scene, what happens to the building? The land is owned by the Government and must they forfeit all value that they have, or will their investment be returned to them when they have to withdraw from the scene because of no business?

That is a question that is apparently up at this time, and I do not know whether or not it has been settled, but it is a very unfortunate position for a company to be in, I can assure you, from reading the correspondence and talking to the principals in the case.

The CHAIRMAN. Do you have any comment to make, Mr. Shugg?

**STATEMENT OF CARLETON SHUGG, DEPUTY GENERAL MANAGER,  
ACCOMPANIED BY JOSEPH VOLPE, JR., GENERAL COUNSEL,  
UNITED STATES ATOMIC ENERGY COMMISSION**

Mr. SHUGG. I would like to speak of that situation, because I think it is important for me to make clear the situation when these numbers were gotten out. These numbers are not intended to be any long-range or permanent Solomon-like decision as to what the city should have.

The situation when these were gotten out in the summer of 1948 was that there were only 37 concessionaires there, and, except for a few gaps in between those buildings, there was no room for others.

There was also a terrific increase of all facilities out there. Everything was on the increase, as I said in previous testimony. The population was going up from 11,500 to 36,000 total, and it did triple itself that way in less than 18 months.

Now, we were short of everything and we had two extremes in front of us. The 37 original, one-of-a-kind concessionnaires that the MED selected to give a balanced immediate service to their employees—we had that as one extreme of a minimum; and south of our borders we had a boom town there of the most extensive proportions.

Now, the important thing, if I can make it clear, is that I believed then and I believe now that we had to control the rate at which the town was opened up and expanded, because it did cost us money. It cost the Government money for every man in that town. With the increase that was taking place there and the high need for priority of men and materials and equipment to be put on the plant work, any use, even by other contractors, of the short labor supply in that vicinity for just what anybody would like to do in that town did have an effect upon the amount of those short items of labor and material and equipment which we could have for the plant work.

So we definitely did our best to control the rate of expansion. That applied even in our own workings. We had to send architect-engineers' men back to their home offices to do work of the high priority type, which we would ordinarily have liked to have them do out there on the spot, but we accepted the poorer communication and the need to get men off that territory, because as regards water supply, sewage treatment, lights, transportation, eating facilities, we were short on everything and we had waiting lines, as I said yesterday, spring up there overnight.

We did not believe that we could leave it be at 37 only. We had to start and start somewhere. In order for that starting move to open up the amount of facilities there, to be most effective, we did attempt to say what facilities were needed the quickest, and yet there seemed to be two sides or more to almost any coin we picked up.

We did have some landlord responsibility, and we had the very definite responsibility of preparing the land for any of these people that came in. We had to start with sagebrush and grade and put in all the utilities and streets and things for any of these new concessionnaires to come in.

Now, as to how to do that, we did give it a great deal of thought. It was recognized that if we set aside an unlimited piece of land there, even if we did make the decision to use scarce men, materials, and

equipment to open up and develop that land and make it suitable for concessionnaires and then made it a carte blanche as to who came in there, we would almost have to make it like the land rush days to get free competition and we would have to have everybody know about it and we would have to have a starting time.

If it was just first come, first served, I do not think that that would have been as fair as the efforts that we did make to get competition. First come, first served would leave room for leaks through any big organization like that. It almost looked to us as though, if we were to open this up to let nature take its course, we would have to open up a very large piece of that desert land. There was not any of it available in the center of town where these businesses would be wise to set up, and then we would have to practically set, after advertisement, a starting point and a dead-line date and fire a gun and let the first-come, first-served principle take effect. I think that the important thing is that, as I said, you have to consider when we did this. It was in the summer of 1948. We were still on a sharp increase, and any men, any people in Richland cost us money in one way or another, because there was not enough of anything.

There was no thought that this would be the end of it.

Senator HICKENLOOPER. Mr. Shugg, I think you and I are in agreement that there were problems that had to be met, emergency problems in the past.

By the same token, apparently, those problems have been met because this planning survey that I have produced this morning here indicates a beginning of well over a year ago of a master plan anticipating the future, zoning operations, and zoned areas in anticipation of this city of Richland.

It looks to me, without having had time to read it, as though it is an extremely thorough job that has been done. I am not criticizing the scheme of the planning, the scheme of the situation. I might have some criticism when I read it, I do not know, but it looks to me like a great deal of time and trouble has been spent in anticipation of the future needs of this community.

I am not talking about the days when the gold rush was on, nor am I talking about some of the manifest troubles that I know you had and that would try the disposition of a saint, perhaps, at times. I am talking about present policies of the Commission in the operation of a so-called free-enterprise town or the stimulus of a free-enterprise town, and while I think this bulletin that we refer to was developed late last year—it refers to July 1 figures and things of that sort—so I presume it was late in the summer, at least, when it was produced. It is the present policies that I am concerned with, and I am perfectly willing to admit that in the past the emergency of war and the emergency of transition did pose some problems, but it seems to me that those have been pretty well met now by a master plan which seems to be comprehensive, and I am objecting to what I believe is a continuation of the utter monopolistic control or paternalistic control, if you please, over what is supposed to be or bandied about as being a free-enterprise operation of the town of Richland now.

Mr. SHUGG. I think I can help on that, Senator, in that all you have seen so far in print has been based on the Richland problem, which is still not completely licked. I mean the small initial commercial terri-

tory which we did spend the money on to open up, that has not been filled up yet, and all this policy you have seen was based only on Richland. Since the middle of February of this year we have had under consideration here in the Washington office and between Oak Ridge and Washington the commercial policy for Oak Ridge, because it is recognized that there we do not have all the same conditions. We do not have the condition where every foot of land that we open up will cost us money.

The long-range commercial policy for Oak Ridge, which is in our staff right now, is considerably different from the Richland one.

Senator HICKENLOOPER. Oak Ridge just became an open town, you just took the fence down a month or two ago.

Mr. SHUGG. That is—

Senator HICKENLOOPER. Up to that time it was a restricted town.

Mr. SHUGG. The fence was opened up the middle of March and the people foresaw this by at least a month, because if I am not mistaken, it was in early February that the first staff papers as to what would be the commercial policy in Oak Ridge were sent here to Washington.

That policy, which I have seen, is considerably more open than is the interim Richland policy. So that what you have seen in all these things is really cut to suit a situation which was special to Richland, and which is even dependent on time. It need not be so as the Richland jam eases. But the next one that we have under consideration and have had for several months is of an entirely different order because the circumstances at Oak Ridge allow us to relax and make a much more open and competitive basis.

Senator HICKENLOOPER. I really had not intended to go into the Hanford situation this morning, because I had told them yesterday I would not do much about it until a later date, but as long as Mr. Shugg is here, who has a great familiarity with this, I would like to ask him:

Are you familiar, Mr. Shugg, with this so-called master plan for Richland I have here?

Mr. SHUGG. I am quite familiar with the detailed explanation and studies that went to make that up. The fancy format there and all the colors, that is something I did not foresee.

Senator HICKENLOOPER. I am not raising any particular issue on the fancy format. It is pretty fancy, but this may be a special copy or something.

Mr. SHUGG. The basic material there, Senator, we did initiate as soon as we got out to Richland, because everything was on a short-as-your-nose basis. There were women's dormitories that had been placed there next to the commercial district of the town. They could not be expanded.

Senator HICKENLOOPER. I understand the boom-town nature; I have seen it two or three times and understand it thoroughly, and I am in thorough agreement that some master planning for the future of that community is utterly indicated and very proper.

I am not saying that it should not be. Again I say I am familiar, at least to some extent, with some of the historic problems there. It is present policy with which I am concerned. About this so-called master plan, it was prepared by J. Gordon Turnbull, Inc., and Graham, Anderson, Probst & White, engineers and architects. They state in

here in the foreword—this was finished November 30, 1948, incidentally—they say:

With the submittal of this report, the planners climax a year of work devoted to the collection of data relating to the people of Richland, their activities, their present living facilities, and their projected living needs.

Now, that is signed by J. Gordon Turnbull.

Did J. Gordon Turnbull, Inc., do anything else for the project out there besides this work?

Mr. SHUGG. The joint venture, Senator, of those two firms did a good deal of the town work.

Senator HICKENLOOPER. Those two firms, J. Gordon Turnbull, Inc., and Graham, Anderson, Probst & White, Inc., those two firms did the work in the preparation for this master plan for Richland; is that correct?

Mr. SHUGG. Yes, sir.

Senator HICKENLOOPER. They say that it climaxes a year's activity. Do you know what the total amount of money, the gross amount of money paid for the compiling of this master plan to those two companies is?

Mr. SHUGG. No, sir; I do not have that figure with me. I knew I would be asked for it as soon as this thing came under discussion, but I do not have it at the moment.

Senator HICKENLOOPER. I shan't criticize you for not having it this morning, because I did not know it was going to be brought up, but I would like to have the gross total amount of money paid for the compilation of this study and for its printing and its preparation and the whole situation.

Now, I would like to ask this. This was done on separate contract with them, was it not, either through General Electric or the Commission?

Mr. SHUGG. It was a General Electric contract with these people, but my office instructed General Electric to get a town planner and to get a picture of the whole thing.

Senator HICKENLOOPER. Reimbursed by the Government; the cost?

Mr. SHUGG. Yes, sir.

Senator HICKENLOOPER. Now, the Commission maintains at Hanford an office of community management, does it not?

Mr. SHUGG. Yes, sir.

Senator HICKENLOOPER. How many people are in that office?

Mr. SHUGG. I do not think there are more than five or six people. That was a small staff office. In my time there were five or six people who tried to keep in touch with all matters pertaining to the community and town and keep me informed on them.

Senator HICKENLOOPER. The General Electric maintains a community division, does it not?

Mr. SHUGG. Yes, sir. They do the actual operating of the town.

Senator HICKENLOOPER. The town operation, and in neither of those, either the atomic energy community management office or the community division of the General Electric Co., do they have people who are capable of conducting such surveys and charting out the future of that city?

Mr. SHUGG. I did not think so at the time, Senator. I may have done an injustice to the ability of some of those people, but also most

of those people had been living too long in the woods, and I wanted to get—I directed that we get an outside objective professional study of this whole package.

The work to date did not demonstrate that decisions had been made with the whole picture in mind. They were pretty much spot decisions. I think the plan was sound and the 35,000 figure in there, Senator, was also at our suggestion because, although we had no present picture of it going that far, if the original town plan had been laid out with a bigger possibility in it, some mistakes would have been avoided; and so we made a 25,000 step here and a 35, and a 35 is admittedly just to keep any of these dispositions from being too short-sighted.

Senator HICKENLOOPER. That is all I have.

Mr. HINSHAW. Mr. Chairman, I wonder since Mr. Shugg is quite familiar with this situation in reference to the Richland Plumbing Supply Co., if he would be willing at this point to detail the Commission's position in relation to this company and state how it started and why.

Mr. SHUGG. Yes, sir. In the spring of 1948 we first began this move to try and get outside commercial interests and outside light industry to come in at its own expense. Prior to that we had a very large item in the budget for building facilities for all these needed people.

In the spring of 1948 we definitely tried to promote what we felt then were the good business prospects for light industry and for some of these concessionnaires to come into that town.

Lots of those people came to my office. There was a good deal of question in the minds of these people we were trying to get in there and make a business venture; they all had the usual wonderment as to how long this thing was good for and how about the annual appropriation of funds.

Whenever we put up the fact that everybody was at work, they would counter with the fact that as a one-industry town and dependent on annual appropriations, that was not in their favor.

Lots of these people came to my office, Mr. Hinshaw. I encouraged them all I could. Mr. Payne was one, and I remember his coming particularly, because I knew that it could not help but be of assistance in the bargaining which the contractor was then doing with the labor unions if we had an established licensed plumber in town rather than 12 miles away in the nearest town.

I encouraged Mr. Payne personally as to what I thought were the prospects for a plumber in that town. I did the same thing—I went up to Spokane and spoke to the chamber of commerce. I saw Mr. Payne this spring in connection with his present dilemma, and I still encouraged him, because that is the way I honestly feel about it. I do not know why Mr. Payne did not make out.

I tried my best to find out. I think the mistake I made was that I did not get two plumbers in at once. Looking back, if instead of Mr. Payne, we had brought in two, then we would have had no chance for excuses that Payne's prices were too high. We would have had a check between two.

Mr. HINSHAW. Would you mind stating the circumstances under which Mr. Payne happened to come to Richland? I believe he was a contractor in some of the building that went on there, and I believe

that the Commission is willing to admit that upon his entry into the contracting business in Richland and the arrangement whereby his contract did not include this so-called isolation pay, that he saved the Commission something on the order of \$3,000 a day or a week or whatever the period was in that kind of pay.

Mr. SHUGG. You would like, sir, for me talk on that travel-pay point?

Mr. HINSHAW. I do not have it in front of me, but I would like for you to indicate how he happened to come on the scene.

Mr. SHUGG. I believe one of the plumbing contractors there engaged in the labor negotiations made the point that, according to the Washington State plumbers' rules, we were at a disadvantage; that the contractors were at a disadvantage in trying to get the minimum of isolation pay—that was the fancy term given travel pay—because there was no licensed shop in Richland itself. We did have one electrical shop and there was no plumbing shop at all.

Now, without question, Mr. Hinshaw, anything which would help the negotiations of the contractors with the unions to come out with a lower fringe payment we would try to help, if all other things are equal and it was to the good of the Government.

Mr. HINSHAW. Is it true that his entry on the scene saved a considerable amount of this so-called isolation and travel pay?

Mr. SHUGG. I tried the first of this week, Mr. Hinshaw, when I thought this subject might come up; I tried to refresh my own memory by calling the Richland labor-relations man to get first-hand facts on that. He was not there.

The deputy manager, who was closer to it, said that he had asked him before he left the same question and that he has not been able to get it down to a black-and-white basis.

Mr. HINSHAW. In all events, in the work done and offered by this company, there was no isolation pay arranged for?

Mr. SHUGG. I did not hear the first of it.

Mr. HINSHAW. In the work done by this company no isolation pay was paid, was it?

Mr. SHUGG. If Payne, whose shop was in town——

Mr. HINSHAW. I am speaking of prior work—his prior work prior to the erection of the shop. I believe he did certain contracting and plumbing.

Mr. SHUGG. I believe he had certain subcontracts.

Mr. HINSHAW. And it did save the Commission a considerable amount of money by virtue of the fact that there was no isolation pay in those subcontracts?

Mr. SHUGG. I cannot speak with certainty on his contracts prior to his coming in town. I think you are right that he had some small subcontracts, and, if they were lump-sum contracts, he may have been paying his men travel and travel time from the nearest licensed Pasco shop.

The initial payments by lump-sum subcontractors had a good deal of variation in them, according to their own union agreements. The big general agreement that we were up against for the general contracting of the whole technical area is the thing with which I am most familiar and I do not have personally any doubt that the establishment of a licensed plumber in town did have a beneficial effect on our

being able to hold the general plumbers union for the big job down to \$2 a day isolation pay.

Mr. HINSHAW. This was all outside the barricade and, hence, there must have been some general time at which the isolation pay for work outside the barricade was terminated. Do you remember when that was terminated?

Mr. SHUGG. It was not isolation pay. This is just a technicality. Outside the barrier in the town it was not isolation pay. It was pay up from Pasco. It was really travel allowance then up from Pasco, and, to the best of my memory, that did change at the time Mr. Payne set up shop. At least, it should have, because, according to the Washington State rules, the basing point for travel and travel time is from the nearest licensed plumber's shop.

Mr. HINSHAW. You did lease land to him for the purpose of constructing a building to set up a plumbing establishment, did you not?

Mr. SHUGG. Yes, sir; through the General Electric commercial facilities division.

Mr. HINSHAW. And he did erect a building and put in equipment and supplies?

Mr. SHUGG. Yes, sir.

Mr. HINSHAW. And he did offer to bid on certain town-site work in connection with the General Electric Co.'s management program of the town and did bid, I believe.

Mr. SHUGG. I understand he did.

Mr. HINSHAW. And the bid price was found to be too high. Was that too high because General Electric decided to do it at a cheaper price, or was it too high because of the competition of some outside plumber?

Mr. SHUGG. There could have been some cases of each type, sir. Mr. Payne told me this spring that some of the bids that he made on subcontracts or plumbing work, that he had been high bidder or he had not been the low bidder. He did not regret those, he told me, because the low bidder had made out very poorly in some of those cases.

He told me he had done quite a little work for the concessionaires, coming into town and putting up their own buildings. This whole opening of the town to private investment capital did give him some business, and he, being the first man on the spot, was the most advantageously placed to get that business. I think that is the biggest type of business that kept him going.

Mr. HINSHAW. Do you think he was encouraged to believe that he might get any maintenance work being done by the General Electric Co.?

Mr. SHUGG. I think, Mr. Hinshaw, I told him personally in the spring of 1948 that I hoped we would be able to work it out so that the ordinary tenant plumbing work of the houses would cease to be done by the operator and that a town plumber would have that business.

Mr. HINSHAW. But the operator decided to do that work himself, I take it.

Mr. SHUGG. It had been done by him, sir, and the progress in breaking that loose was not as fast as I had hoped when I talked to Mr. Payne.

As a matter of fact, that part of it starts August 1 of this year with a new rental policy, and the fact that the tenant will take care of his

own normal maintenance. That is being put in August 1 this year, which is quite a little later than I had hoped for.

Mr. HINSHAW. Obviously, the gentleman has decided he can no longer afford to stay in Richland. He has an investment there in plant and equipment on the order of \$70,000, according to his statement.

Of course, material and equipment can be removed, but what about the building? Does the Government make any guaranty on the repurchase of buildings constructed there, or does that go to the Government by default?

Mr. SHUGG. I can check that in the terms of the lease. If he terminates on his own decision, he has the right to remove the building. It does not just revert to us. If we terminate him, which is not the case here, we have to make good on the then value of the building.

Mr. HINSHAW. You do not terminate him as such, but in effect he is terminated when he cannot get any business, is he not?

Mr. SHUGG. Well, he evidently has decided, sir, that he does not wish to continue. Therefore, I will try and check.

He has the right to remove the building or sell it.

Mr. HINSHAW. All he can get is the scrap value if he tries to remove it, as I understand it, so it would not be a very profitable venture. Who can he sell it to? Have you any idea?

Mr. SHUGG. No; I do not have a specific idea. There are others coming in there, sir, and the town, which is now 25,000—the town is going to have a plumber. As I said, I think probably the biggest mistake we made was not to get two men in instead of letting one man come in first.

Mr. HINSHAW. Here is a man who built a building on land leased to him by the Government, and the Government has a right to say who can come in and do business in the premises, and the chances are pretty good that he will not have but one bidder on the property if he wants to sell his building.

Now, under those circumstances, how is he going to get a fair price for the building which he has erected?

Mr. SHUGG. I agree with you, Mr. Hinshaw, that I do not see any quick way for him to get a good price.

Mr. HINSHAW. I mean a fair price.

Mr. SHUGG. The same. I think a plumber or plumbers are definitely going to come into town, and, therefore, there is at least somebody who will be interested in his building. I am just speculating.

Mr. HINSHAW. He is at the mercy of anybody the Commission would allow to come in and operate a plumber establishment, is he not, when it comes to negotiations for the sale of his premises?

Mr. SHUGG. Mr. Hinshaw, I think if he is on the spot and studying this problem, he would have other outs. I, on the stand, cannot think of them quickly enough. I do not think he is completely at the mercy of a man coming in.

Mr. HINSHAW. Mr. Chairman, I brought up the subject because obviously when a concessionaire comes into Richland or any other Government-owned town and erects a building on Government-owned land and the Government at the same time has the right to say who shall come in and who may be able to bid on the premises, if for any reason the concessionaire, as he is termed by Mr. Shugg, is forced to withdraw, he is in a rather difficult position so far as the disposition of the property is concerned.

Practically speaking, there is only one fair buyer—if that buyer is fair—and that is the United States Government or its nominee. But there is no guaranty whatever that he can get cost less depreciation out of the premises. He is pretty much, I think, at the mercy of whoever the Government says can operate and occupy those premises.

Mr. SHUGG. I am very sure, Mr. Hinshaw, that we have drawn this so that we definitely avoided any guaranty that anybody who drops out would be made whole, because then we would have a contingent liability for all of this construction of facilities, which is the very thing we are trying to avoid in getting the private capital to come in.

Mr. HINSHAW. I agree that the Government would assume a great liability if it went into that, but at the same time, the Government does control as to who may be able to come in and build on the premises, does it not?

Mr. SHUGG. I do not like to say yes, sir to the word "control." I fairly believe that we have opened this to competition of the best men, except that I have said that we controlled the rate at which we could make new commercial areas available. We have only controlled the rate of expansion, Mr. Hinshaw, and within our best judgment and the amount of funds that we have, for which we first have to get congressional approval—within those limits we have made this thing as open to competition as we know how.

Mr. HINSHAW. I am only using this as a case in example, not because anyone is feeling terribly unhappy about it, but just to show that under a case of this sort anyone who is to come in and establish a service establishment such as this would find himself at the mercy of the Government and operator because, as Mr. Shugg has said, while they intend to open the town as far as home occupation is concerned by leasing the premises and turning the maintenance of those premises over to the lessees and, hence, the lessees would have to go to a private, in this case, plumbing establishment for repair work, that at any time the operator or the Commission decided to take back the operation of the town, which I believe they could do at will, such a concessionaire would be out in the cold so far as any opportunity for profitable business is concerned.

Mr. SHUGG. If we took it back, Mr. Hinshaw, we have to make good.

Mr. HINSHAW. You do not have to take it back.

Mr. SHUGG. It is written in here that if the Government takes over for a proper reason, then we have to make good, but if the tenant fails or does not find it profitable to continue, and if we were to guarantee making him whole, then I think we would have a whole new complicated picture as to what safeguards we would have to set up in picking those tenants, because we would have the contingent liability of the total capital investment that he made.

Mr. HINSHAW. Mr. Chairman, I have not been to Hanford yet, but I was down to Oak Ridge last year, and I remember quite clearly that at that point one of the concessionaires in a Government-owned building decided apparently that he could not make a go of it there under the circumstances, and so he simply jumped shop. He walked out of the place with whatever cash was in the till and left the supplies that he had on hand and whatever equipment he had installed and walked off the job. There was no other way, apparently, for him to get out whole except to do that.

Now, that is a situation which is very difficult to contemplate and one which I think would be somewhat of a restraint upon these so-called concessionaires going into a Government town and doing business. I call that to the attention of the committee for its consideration, and I will place the entire correspondence in this connection that I have been mentioning in the record for the committee's study.

The CHAIRMAN. Very well.

(The correspondence referred to above is marked "Exhibit 20" and will be found in the appendix.)

The CHAIRMAN. I would like to go now to another matter. I do not want to cut you off, Mr. Shugg and Mr. Volpe.

Mr. Volpe, have you anything?

Mr. VOLPE. Just one very brief point.

The CHAIRMAN. I hope it is brief.

Mr. VOLPE. Very brief, sir. I am puzzled by the fact that we have to come before this committee and explain why in letting land at Hanford, which is scarce, we do it by competitive bidding. I have usually found myself in the position of having to explain why it is not done by competitive bidding.

I could imagine the screams that would come out if we attempted to negotiate with private individuals the desirable plots at Hanford.

We have tried very hard to consider ways and means of permitting everyone a fair and equitable opportunity to acquire the desirable commercial locations in these communities, and we do not know how it can be done except by competitive bidding.

Mr. HINSHAW. Mr. Chairman, there was no competitive bidding in this case. This land was leased, a plot of land in the warehouse area, by direct negotiation and the tenant proceeded to build a building.

Mr. VOLPE. I was not discussing the Payne case. This goes to the question of why we have to use competitive bidding.

On the question of controls, as I mentioned the other day, the Manhattan District had—and I think properly so at the time—very restrictive concession arrangements and leases because of necessity. When it was determined that we ought to try to move toward a more normal community, the people on the spot tried a new form of lease and eliminated many of the restrictions. A number of them were kept in.

As a matter of fact, when I first arrived in Washington, a number of us wondered why the restrictions which were left in should be left in. Response from the local people was usually—and I think this is fair: "Well, come out and see for yourselves. It is easy sitting off a couple of thousand miles saying 'This is not necessary' or 'That is not necessary.' We have the responsibility on the spot."

Well, this is just to say that we are not dogmatic about the matter of controls. As a matter of fact, within the Commission itself there have been varying views on how much is necessary and how much should be eliminated. I think it is a matter that will be worked out but will take a little time.

The CHAIRMAN. Now, we have another matter. Will the Los Alamos gentlemen come forward?

**STATEMENT OF CARROLL L. TYLER, MANAGER, SANTA FE OPERATIONS OFFICE, LOS ALAMOS; ACCOMPANIED BY BRIG. GEN. JAMES McCORMACK, JR., DIRECTOR, DIVISION OF MILITARY APPLICATION; JOHN W. MACY, DIRECTOR OF PERSONNEL AND ORGANIZATION, SANTA FE OPERATIONS OFFICE, LOS ALAMOS; CARROLL L. WILSON, GENERAL MANAGER, AND JOSEPH VOLPE, JR., GENERAL COUNSEL, ALL OF THE UNITED STATES ATOMIC ENERGY COMMISSION**

Senator HICKENLOOPER. Mr. Tyler, do you have anything which you wanted to continue with on the housing situation that we left rather in the middle of yesterday?

Mr. TYLER. I have a couple of items to clear up, if I may.

Senator McMahon, you asked about the number of bids we had on this lodge situation.

The CHAIRMAN. Yes.

Mr. TYLER. There were three bidders on that program. The low bid, it was a combination project which included the lodge, the so-called Boy Scout building, the main-gate detachment, and a lot of roads and utilities in the same bid.

Senator HICKENLOOPER. Did that include tearing down the gift shop?

Mr. TYLER. No; that came in on the post-office bid, sir.

The low bid on the total was \$577,083. The second low bidder—

The CHAIRMAN. Who was that?

Mr. TYLER. Robert E. McKee.

The second low bid was by C. W. Via, at \$814,343. The third bidder did not submit a complete bid and his bid was rejected. That was Steinbeck & Cordner, who did that Kellogg-Manley house and went broke. They went broke shortly afterward. I am just as well pleased they did not get that one.

I would like, if I may, sir, to clear up for the record and, I think, for general information, my own status in this project. I so often end up before Appropriations Committees because I choose to appear myself in the status of the man who runs the town of Alamos.

I am assigned by the Commission to the Santa Fe Operations Office. That includes the laboratory and the town of Los Alamos. However, it includes eight other installations in which I have complete control or partial control. It includes the whole production program for weapons.

I receive my directives in considerable detail from the Washington office through the Director of Military Application; however, I am charged with the production of weapons. I think that possibly Senator Hickenlooper may have left the impression yesterday that Dr. Bradbury in the laboratory is charged with the production of weapons. He is not. He is director of the laboratory and is keenly concerned in the design of weapons and has a major interest in the production of nuclear parts of the weapons.

The remainder of the weapons, however, is constructed at other places and I would say that it involves contracts with some 1,400 different vendors in the United States, who make one part or another. That is the responsibility of the Commission. It is exercised by the Commission through my office and my staff.

Senator HICKENLOOPER. There is not a single part of the weapons or a single new design that does not pass through the O. K. of Dr. Bradbury; is there?

Mr. TYLER. Very definitely not. Dr. Bradbury is responsible for the design of weapons, and his laboratory. The production of weapons is the responsibility of the Commission and is executed by the Commission.

Senator HICKENLOOPER. Oh, yes.

Mr. TYLER. Now, I maintain my headquarters at Los Alamos at the desire of the Commission and, I think, wisely. The heart of the program is the Los Alamos laboratory. I take a great interest and a personal interest and probably interfere somewhat too much, perhaps, in the town of Los Alamos, because upon my arrival there a great deal of the low-morale condition and a great deal of the confusion in the laboratory and in the laboratory program stemmed from the town proper.

The town had been a military post that was constructed by the military in an economical manner to do a single job with no objective or no intention of having the town last. It was temporary construction, and the town was run as a military post. The stores were post exchanges and commissaries, and so forth. The people were in a considerable state of confusion.

In order to build the laboratory back up and build the morale of the laboratory and get the program functioning again, the program which the Commission had determined upon and which the country urgently needed, it was necessary to rebuild the town and build the morale of the people up in their own homes. We had to provide them with a community in which they could proudly live and bring up their children.

We do not borrow scientists in this program. We hire them with the hope that they will devote their full energy freely and with no reservation to this program; and in order to do that they must have a home in which they can live comfortably and peacefully, a home to which they can come and not find their wives complaining about the grocery store or the fact that somebody had told her to do this and she did not think she ought to—a home they can plan on and in which their children will be properly raised, schools which they can be proud of. I do not think scientists are a privileged class by any means, but there is no question but that scientists have standards of schooling which are high. Most of them come from universities and university towns, and one of the first questions which we are asked when we try to employ a scientist who has children is: How is the housing and how is the school? Then he goes around and wants to know how much money he is going to get.

For that reason I have devoted a considerable part of my time and the time of my staff building a town which I do not consider elaborate or extravagant or wasteful. I consider it a sound town in which anybody would be pleased and proud to live and in which people now as the result of a considerable effort on our part and on the part of the people—people are now paying their own way. They are being subsidized less and less all the time, and they are not kicking about subsidies or anything else. They are willing to pay their own way if they get something for their money, and I think we are giving them something for their money.

There have been instances, and I am perfectly willing to acknowledge any errors I have made—there have been instances in which I may have spent unwisely, but I will contend definitely that I have not spent extravagantly and I have not wasted funds. I have been unwise in some instances. I am perfectly willing to acknowledge it.

However, the last compilation I had of contracts, we had some 74 construction contracts which totaled around \$60,000,000. I feel that by the manner in which my staff has been organized and the direction in which we have worked to get all of our work into competitive bidding, into lump-sum construction, I have saved the Government many tens of thousands for every thousand dollars I have spent unwisely.

I certainly am open to criticism for spending unwisely and I would be very glad to go on and explain, but I do feel that in general we have conducted, with the full understanding and full support of the Commission, we have conducted a sound program there which is beginning to show results. The laboratory is working full time on their job.

They are not worrying about what is going on at home or in town any more. I think the program reflects that.

Thank you, sir.

Senator KNOWLAND. Referring back to the testimony yesterday on this group of houses that was in a state of collapse after a period of time, I notice on the mimeographed sheet which was passed out today, conclusions—I presume brief conclusions—of the Army engineers who investigated it to the effect that they found that the major deficiencies are improper roofing, overloading of structural members, especially sills, and the waiving of the moisture content of the lumber.

Mr. TYLER. Yes, sir.

Senator KNOWLAND. Frankly, that report was rendered on July 2, 1948.

Then, I notice that it was not until May 27, 1949, almost a year later, when the case was turned over to the Attorney General for possible damage claims against W. C. Kruger & Associates, architect-engineers for the original project.

My query is either to you or to the general manager, Mr. Wilson: In view of the very major deficiencies which were brought in the report to you dated July 2, 1948, why it would take almost a full year before the matter was submitted to the Attorney General for possible damage claims to protect the interests of—

Mr. TYLER. I would like to answer briefly about that, Senator Knowland, and then request Mr. Volpe, the legal counsel of the Commission, to go on with the answer.

Briefly, the impression has been received—

Senator HICKENLOOPER. Mr. Tyler, before you come to that—

Mr. TYLER. Yes, sir.

Senator HICKENLOOPER. May I ask the Senator if he will just read the next sentence in that report which is apropos of the architects where it says:

It is realized that the waiving of the moisture content was approved by higher authority and probably at the request of higher authority, but when this change was made it was the responsibility of the architect-engineer to check framing details and strengthen where necessary. It is also believed that the deficiencies listed above should have been observed and corrected by the inspection force.

Mr. TYLER. That is correct, sir. I am afraid the impression has been received, and I regret it, that in this group of 350 houses, 350 houses

fell down. That is naturally incorrect. The ceilings in one bedroom of a number of houses began to give away. As a matter of fact only two families had to move out of their houses during the repair periods. Only 27 families lost the use of one room of the 350 houses.

Senator HICKENLOOPER. I have a number of letters in my files, which I did not think were particularly appropriate for this hearing, in which people said they had no place to go and they had to stay there.

Mr. TYLER. That is not correct. We had to take care of all those who had to move. Most of them did not want to move; it was too much trouble.

Senator HICKENLOOPER. All I wanted to say is what these people said. I did not want to inject it into this hearing.

Mr. TYLER. It certainly is a privilege, and I think a privilege which is very valuable, for people to be able to write letters of that nature, and I certainly would not want to interfere, and I would be the last person who would think that they should not, but I will say, and I think it is to the credit of the Commission and the management, that those letters are getting fewer and fewer. They find that they can come down to my office and make a complaint and are treated properly and decently.

Senator HICKENLOOPER. Well, the only answer to that, I should say, is that you should see my files in the last 30 days, if you are saying that they are getting fewer and fewer.

Mr. TYLER. That will be very interesting. But the community as a whole knows that my office is open. They do not have to have an appointment; they can come down to my office, and they will be treated fairly, and they have been treated fairly, and the majority of them, I feel, have been treated that way.

However, in answer to the question: In the process of remodeling—that was our newest housing, and it was the best housing we had from the living point of view, and recognizing this deficiency which we went into and found out which was existing, this deficiency in all houses, we repaired all houses during the summer season.

Senator KNOWLAND. What was the total repair bill?

Mr. TYLER. The total repair bill of 350 houses was \$250,000. We did two jobs—we had a total bill of \$530,000—we went back and made changes in the houses which should have been put in the houses originally. I did not build those houses. They were built by the Manhattan Engineer District and were built in a hurry, and I feel that very definitely, and the people living in the houses had a very large number of logical complaints, and while we were doing the job we brought the houses into decent shape, but about \$250,000 was the price to take care of a deficiency in design and construction.

Senator KNOWLAND. I think we had that testimony fairly complete yesterday.

Mr. TYLER. Yes, sir.

Senator KNOWLAND. My particular point is why did almost a year go by between the time that the report indicated some very serious deficiencies on the part of those who were responsible for the design and the supervision of the construction of those houses and the ultimate action of the Commission on May 27, 1949, before the matter was turned over to the Attorney General, and whether there was any significance

between the date of May 27, 1949, and the date of May 22, 1949, when Senator Hickenlooper first made his charges publicly.

Mr. TYLER. Not as far as I know, sir. I have no knowledge of any such connection. I take the responsibility for the initial delay in that, sir, because I received the report—and incidentally, Senator McMahon, the board was composed of two members of the Army Engineer forces from El Paso and the engineer officer of the Los Alamos Scientific Laboratory, who had not been there during this time, and therefore, I felt could give an impartial assistance to the visiting members.

I read the report very carefully, sir, and consulted with my own attorneys and felt myself, and recommended to the Commission, that it would be unprofitable for the Government to attempt to recover on this project, to recover on this contract.

Senator KNOWLAND. When did you make that recommendation to the Commission?

Mr. TYLER. March 25. I received the report—I transmitted it on July 2.

Senator KNOWLAND. Now, wait a minute. What year are you talking about?

Mr. TYLER. 1948, sir.

Senator KNOWLAND. Well, the report was not made to you until July 2, 1948, so how could you have submitted your report to them in March?

Mr. TYLER. The report was submitted to me on the 25th of March, according to my records.

Senator KNOWLAND. 1948?

Mr. TYLER. 1948; yes, sir. I called the board on the 1st of March.

Senator KNOWLAND. I am quoting to you on what the Commission, through our committee staff, passed out this morning, but it says that the report of this engineering board was dated July 2, 1948.

Mr. TYLER. I think probably that was obtained from the Washington office and that was the date on which I transmitted the report to Washington.

Senator KNOWLAND. I see.

Mr. TYLER. The board was called by me and met on the 1st of March and submitted this report to me on the 25th of March. I transmitted the report to Washington on the 2d of July.

Senator KNOWLAND. So there was just a 4-month interval between the time you received your report and when you transmitted it to Washington?

Mr. TYLER. The 25th of March to the 2d of July, a little less than 4 months, yes, sir; because I had to go back and see if I could find anything further in the files to indicate what had been done and who had been responsible, who told the architect to do this, and so forth. The files are very incomplete, and for that reason I felt that it was unprofitable to try to recover on this because there was not enough facts in the files on which to base a prosecution soundly. I made that report to Washington.

Senator KNOWLAND. In other words, the Commission reversed your judgment and determined that there was sufficient bases?

Mr. TYLER. I would like to tell you, sir, through Mr. Volpe, sir, at this point, if I may.

**Mr. VOLPE.** When the report was received in Washington and was reviewed by us in Washington, we felt that the report was not sufficient. We felt there were additional facts which should be checked, and we recommended to Los Alamos that they conduct an additional investigation.

**Senator KNOWLAND.** When did you make that recommendation?

**Mr. VOLPE.** I do not have the date before me, but my recollection is that it was probably around September of 1948. I might say that even today—this is from the standpoint of recovery—there is quite a problem for this reason: The total record in this case will show that there was a great deal of confusion as to who was responsible for what. For example, the company was under the supervision and direction of the contracting officer, a colonel in the Manhattan Engineering District. In going back and trying to reconstruct what happened with respect to authorizations, trying to reconstruct what happened from the standpoint of authorization, it has been extremely difficult to determine the individual who finally passed upon a particular item.

For example, in connection with lumber, the facts that were developed were rather conflicting. Someone said that an Army officer had authorized the use of the lumber even though it was known at the time that the lumber was probably not dry and not suitable. The reason for that was that they had to get the houses built in order to get a roof over the heads of people in Los Alamos. Well, this is just to say that this was not an easy investigation to make in order to determine liability. It was sent back to Los Alamos, and they conducted additional investigations.

There was a good deal of correspondence and discussion back and forth, and it was not until early in March or perhaps April that we felt that we had probably exhausted all possible sources of information. We then presented to the general manager—that is, counsel presented to the general manager—the director of military application, and to Captain Tyler—counsel's views as to whether or not an attempt should be made to recover from this contractor the cost, the additional cost, to the Government. It was also recommended that before a final determination was made it would be referred to the Attorney General, and this was done in May of this year.

**Mr. TYLER.** May I add, Senator Hickenlooper, to that, that Mr. Kruger, the architect, has been associated with the project since 1942 or '43. I have a record here of the amount of work since I have been there, and it is in the beginning of 1946, '47, and '48. He is working on a lump-sum contract which is subject to negotiation upon the completion of his work. We converted his contract for managerial reasons on this last—

**Senator HICKENLOOPER.** Would you just repeat that again, please?

**Mr. TYLER.** He has operated in 1946, '47, and '48 on a series of three lump-sum contracts which are subject to negotiation for fee upon the completion of the work.

Last July, my engineers recommended strongly to me for engineering reasons that we change that to a cost-plus-fixed-fee contract, which we did. His work is just being completed on those other three contracts, just coming to an end, and within the last month, my engineer and my legal staff have been working with a c. p. a. from my Los Angeles office to recompute fees for those three contracts.

In devising the new contract we specifically said that that did not prevent us from recovering any damages or loss to the Government under the old contract.

I feel—I am not at liberty, I do not think, Senator—I have not discussed this with the architect nor with the legal staff here—to prognosticate what we will recover out of those three contracts, but the present indication is, I can say freely, that we will recover over \$100,000 from those contracts.

I am holding that in abeyance, because I am not sure whether that will prejudice the Attorney General's case or whether it will confuse it or not, and I will have to consult with the Washington office to see which is the better way of going at it.

Senator HICKENLOOPER. My record shows that January 1, 1947, to September 22, 1948, Kruger had received \$2,252,343.31 in architect fees.

Mr. TYLER. That may be correct in that he has received them, but some of them are recoverable under this negotiation.

Senator HICKENLOOPER. How much has he received since September 22, 1948?

Mr. TYLER. I do not know, sir, but I think I can cover the principle of this very clearly for you, if you will permit me.

In fiscal year 1948, Kruger was the architect-engineer for, and did the architect work and the inspection work on, \$31,000,000 worth of construction.

In the year 1949, his work, the scope of his work, was reduced and we obtained other architect-engineers, and he did the architect-engineer and the inspection work for \$14,496,000 worth of construction.

We have already made plans, our plans, for the fiscal year of 1950, and the Kruger Co. will be involved in architect-engineer work for only a total of \$8,971,000.

Senator HICKENLOOPER. Are those negotiated contracts?

Mr. TYLER. The construction contracts? No, sir, they are—

Senator HICKENLOOPER. Architectural.

Mr. TYLER. Architect; yes, sir. They are negotiated.

Senator HICKENLOOPER. They are negotiated, and they are not on bids?

Mr. TYLER. No, sir. I think you are aware, Senator Hickenlooper, that architect-engineers do not bid. They will sit down privately and negotiate with you, and they are very reluctant to have the fees shown, but they will not bid.

Senator HICKENLOOPER. Yes, I know that.

Mr. TYLER. When I came there we had two architect-engineers, Kruger involved in architectural work, and the Black & Veatch Co. of Kansas City involved in engineering work as engineering consultants on water lines, and so forth.

We now have six architect-engineers on the project.

Senator HICKENLOOPER. Do you know how many employees the Kruger Co. had on the average from January 1, 1947, to September 22, 1948?

Mr. TYLER. No, sir, I do not, because he does not keep his employees at Los Alamos. Most of his employees are at Santa Fe. One of the reasons, frankly, that we went to a cost-plus-fixed-fee type of contract last July—I did it reluctantly; I do not like that type of contract, but

my engineers requested it and made a pretty good argument for it—the Kruger work was becoming—was extending in such directions and being spread out throughout the area so far that under the lump-sum type of contract he could not afford to hire such inspectors, and if we went to a cost-plus-fixed-fee contract we could require that he hire, because we were reimbursing him for it, and we worked his fee on that basis.

What date did you ask, on the employment strength, sir? September?

Senator HICKENLOOPER. Well, the amount that I have here was brought up to September 22, 1948. The period is from January 1, 1947, to September 22, 1948.

Mr. TYLER. January 1947 he had an average of 47 employees and a peak of 84. In September 1948 there was an incremental increase here. In September 1948 he had an average of 153 employees.

Now, may I explain the fee situation here? You are aware of the manner in which we arrive at fees, I am sure. It is not generally known, but I do not dream up the fees; I do not sit down with a man and see how much I can get him for, and so forth. We use what we now have in the Atomic Energy Commission fee book, which establishes fees for different types of work, a top and a bottom, a perimeter in which we negotiate.

Previous to that we used the Corps of Engineers' fee book, which had been used at the Manhattan District and which is a widely recognized fee book.

We negotiate fees within the limits set by those books, and they are nationally sound fees, and are used by all Government departments in one form or another.

I believe the Atomic Energy Commission fee book, when it was finally put together and we started using it, was put together by the engineering group here in Washington after consultation with a number of Government departments who already had fee books, so I think it is a sound book.

But Kruger's fee, when it was a lump-sum type of thing averaged about 5 percent for both architect-engineer and inspection. His original one, he received 4.2 percent for the architect-engineer work and 2.1 percent for his inspection work. Those are not bad fees; these are consistent fees.

Then we negotiated him down in his other contracts, and now, under the cost-plus-fixed-fee contract, in which we reimburse him for his expenses, he is getting less than 1 percent. That is not a bad national average; in fact, it is a little less than the national average.

Then the Ralph Parsons engineer contract, which we just recently negotiated, his fee is almost exactly 1 percent. That is about the type of fee that we pay. We do not just decide that this man gets so much money. We negotiate fees, and I believe that investigation will reveal that our methods of negotiating fees are recognized in Government work and we have not used any unorthodox or unusual methods of arriving at fees.

Senator HICKENLOOPER. I do not want to, so far as I am concerned, continue with this. I am through talking about Kruger.

Mr. TYLER. All right, sir; I have nothing further.

Senator HICKENLOOPER. Mr. Tyler, when you went to Los Alamos about the middle of 1947—that is when you went there, did you not?

Mr. TYLER. I took over command there—well, I guess it is not command. I took charge there on the 17th.

Senator HICKENLOOPER. You had just left a command.

Mr. TYLER. Well, I mean, it is a phrase that I am in the habit of using.

Senator HICKENLOOPER. You came from the Navy?

Mr. TYLER. Yes, sir; I came from the Navy. I took over there on the 17th of July 1947.

Senator HICKENLOOPER. Yes. And at that time there was considerable confusion and uncertainty as to just what the future program would be, and it was not exactly a quiet or a reliable situation, was it?

Mr. TYLER. The Commission had expressed considerable concern as to the situation before I took over, sir.

Senator HICKENLOOPER. Well, I mean there had been a period of uncertainty when we did not know what kind of policy we were going to use toward atomic energy.

Mr. TYLER. That is right.

Senator HICKENLOOPER. And then the transition from Army operation into a civilian operation—

Mr. TYLER. Yes.

Senator HICKENLOOPER. And you did find some considerable degree of uncertainty and restlessness at that time. Is that not a fair statement?

Mr. TYLER. Yes, sir; I think that is a fair statement.

Senator HICKENLOOPER. And that was in the scientific personnel as well as other people around there?

Mr. TYLER. Those were the people I was mostly concerned with.

Senator HICKENLOOPER. Well, the scientific personnel composed that?

Mr. TYLER. Yes, sir.

Senator HICKENLOOPER. You began to bring order out of uncertainty there, I am sure; and after the program or our atomic energy policies of the country as fixed by the McMahon Act had become determined, you were able to try to go to work to straighten that situation out; is that true?

Mr. TYLER. That was determined before I arrived there, sir, but it gave us a groundwork on which to work; yes, sir.

Senator HICKENLOOPER. Yes.

Dr. Bradbury had been there before, had he not?

Mr. TYLER. Yes, sir. Dr. Bradbury came there, I believe, in 1944.

Senator HICKENLOOPER. And he is still there?

Mr. TYLER. Yes, sir; he is still there.

Senator HICKENLOOPER. Now, I think it is a fair statement to make—and if it is not, you correct me—that you did start in out there and that you began to orient the town situation and the living conditions and began to establish a degree of confidence and efficiency in that laboratory; is that not true?

Mr. TYLER. With the assistance of—I must give credit. With the assistance of the Commission. The Commission established a program—

Senator HICKENLOOPER. Yes; certainly.

Mr. TYLER. For the laboratory which they had not had.

Senator HICKENLOOPER. Certainly. But you were in direct charge on the ground there?

Mr. TYLER. Yes, sir.

Senator HICKENLOOPER. And the laboratory has increased steadily in efficiency and productivity?

Mr. TYLER. It has, definitely; yes, sir.

Senator HICKENLOOPER. And that increase in efficiency and productivity has been steady; has it not?

Mr. TYLER. It has; yes, sir.

Senator HICKENLOOPER. How many people do you have working for the University of California there at this time?

Mr. TYLER. There are 1,700 at Los Alamos working for the University of California.

Senator HICKENLOOPER. Do you think, as a result of town operations and getting more reliable and satisfactory living conditions and a more reliable and satisfactory program in effect, that morale has steadily increased?

Mr. TYLER. I feel it has, myself, but I am not an expert on morale. I say it has increased, because the laboratory is producing.

Senator HICKENLOOPER. Yes; that has been a steady growth since 1947?

Mr. TYLER. The production of the laboratory has improved steadily since 1947.

Senator HICKENLOOPER. Yes; and do you not feel that the people have increasingly been more satisfied and more content to live there and work there?

Mr. TYLER. I do not get as many gripes as I used to, and we have very few separations.

Senator HICKENLOOPER. Yes. In other words, it has become, as a result of these activities, again a functioning operation to a satisfactory degree. Would you say that?

Mr. TYLER. I do not think I could say that as well as Dr. Oppenheimer said it in earlier testimony to your committee, sir.

Senator HICKENLOOPER. Well, I am just asking for your opinion, and you are a layman as far as being a scientist is concerned.

Mr. TYLER. I definitely am not a scientist.

Senator HICKENLOOPER. Yes.

Mr. TYLER. For what it is worth, sir, I think that the operation has increased and is making progress continually.

Senator HICKENLOOPER. Yes.

Mr. TYLER. It has not increased to the extent that it is going to, I am sure, under Dr. Bradbury's leadership.

Senator HICKENLOOPER. What was the number of the University of California people who were there?

Mr. TYLER. 1,700, sir.

Senator HICKENLOOPER. 1,700? For the sake of brevity, I would like to refer to some of these hearings that we had this spring. I find, Mr. Tyler, on page 1150 of the hearings with respect to the independent-offices appropriation bill for 1950 of the House of Representatives, a statement that is in conflict, a statement that you made before that committee, and I am sure it was an oversight, but I would like to get it straightened out.

At the bottom of the page, you say as follows, in answer to a question of Mr. Thomas:

The University of California, I might say, will have increased last November 1,554 to 2,200 in 2 years. That will be the increase in the laboratory personnel.

Now, on page 1151, you say :

The University of California had, as of January 1, 1957.

Now, I am taking no issue with your statement there except that I think it is a statement which was probably not clarified, and I want to know whether that 2,200 that you refer to is an anticipated number or just what the fact was, and that was the reason I asked you about the present number.

Mr. TYLER. Well, yes, sir. The numbers are bound to be somewhat confusing there because in some cases they refer to the University of California at Los Alamos, and the others refer to the University of California contract, which also includes Sandia. The University of California runs the Sandia Laboratory, which is right next door at Albuquerque, and it is under Dr. Bradbury's control.

In my charge, I have University of California employees as of now 3,300 total employment. They are not at Los Alamos; they are at Los Alamos and Sandia.

Senator HICKENLOOPER. Yes, but there are approximately 1,700—

Mr. TYLER. At Los Alamos.

Senator HICKENLOOPER. Living and working at Los Alamos. That is correct; is it not?

Mr. TYLER. Yes, sir, and the prospects are within the year it will increase to 2,000. They are endeavoring to recruit additional personnel now, as soon as we can find places for them to live and work, in view of the increased program.

Senator HICKENLOOPER. Now, with regard to the accounting system at Los Alamos, if you will turn to page 1148 of that record, if you have it—

Mr. TYLER. I do not have it, sir.

Senator HICKENLOOPER (continuing). A statement is made by you, as I read it here, as follows:

Last year before your committee—  
that is, the House committee—

I made a rather impassioned and undocumented appeal to leave me alone for another year and I would give you some costs. I did not have them last year, and in the intervening time I naturally have done my best. I would like to have another 3 months to consolidate my figures, but due to your efficiency I did not have the extra time. However, we have sound figures, and in the intervening period we have put in an adequate cost-accounting system so that we know where the money is going, where it had been wasted, and how to correct it.

Now, Mr. Thomas then says:

Mr. Tyler, if you have all that good system in there—no doubt you have—you did not put it down in this justification, because it is not here at any place.

Mr. TYLER. It is not here, sir.

Now, you later said on page 1150, after the insertion of some tables:

Mr. TYLER. Yes, sir. It is not in here. When this was written the system was not in effect. We got the accounting system started as of the 1st of July.

Could you explain that? I mean, is there an accounting system new and in effect at Los Alamos now?

Mr. TYLER. Yes, sir. The accounting system is in effect. It is working and it is paying dividends.

Senator HICKENLOOPER. When was it put into effect?

Mr. TYLER. It was put into operation—we first changed the books and started the system in July of 1948.

Senator HICKENLOOPER. Of last year?

Mr. TYLER. It was of very little value to us for the first 3 or 4 months. It was a new system. We had to actually get the accountants who helped set it up—back to pull some of the bugs out of it—because it is rather a complicated set-up.

As of the 1st of January, I would say rather definitely it was paying dividends. I had in January, March, and April a monthly operating statement with which I would work. It was a management statement. Previously we did not have that type of thing.

Senator HICKENLOOPER. You had various management surveys and accounting surveys there in Los Alamos; did you not?

Mr. TYLER. In the late fall of 1947 and the early spring of 1948.

Senator HICKENLOOPER. Yes. Do you know what the total costs were of those surveys?

Mr. TYLER. Of all the surveys, the total costs were \$230,000. That included the management survey which I instituted, and the accountant survey which was instituted by the Commission in Washington.

Senator HICKENLOOPER. Yes.

Now, then, I would like to talk about the Zia Co. contract. The Zia Co. is the town operating company—is it not?—that takes care of the management of the town and its operation.

Mr. TYLER. No, sir.

Senator HICKENLOOPER. What is the Zia Co.?

Mr. TYLER. I feel this is very important and that it must be cleared up. Again at the appropriation hearings, and things of that nature, I invariably end up with the same impression that Zia is there to run a town.

Zia is the operating contractor for the whole project. The University of California, unlike G. E. at Hanford, or the Carbon & Carbide Co. at Oak Ridge, the University of California does not operate and maintain and run the laboratory. They staff the laboratory and do the technical work. The Commission is responsible for the structures and the buildings and the maintenance and the steam and the heat and the repairs and so forth, and we do that through the Zia corporation.

They maintain and operate all facilities of the whole 65,000 acres, roads, steam plants, electric plants, water wells, and so forth, as well as the maintenance of the real estate in the town which is only—roughly as of this year, 50 percent of their dollar volume of business is done in projects other than in the town.

Senator HICKENLOOPER. Yes; but the Zia Co. is a corporation which was formed there for this purpose that you have outlined.

Mr. TYLER. Yes, sir.

Senator HICKENLOOPER. The Zia Co. is really an offshoot of the McKee Construction Co.; is it not?

Mr. TYLER. Mr. McKee owns the majority stock in the corporation, and most of the stockholders are former McKee employees who are now working for Zia.

Senator HICKENLOOPER. I believe his son is president—is he not?—of the corporation.

Mr. TYLER. No, sir; he is the president of the corporation.

Senator HICKENLOOPER. Mr. McKee is?

Mr. TYLER. Yes, sir. His son is the project manager at Los Alamos.

Senator HICKENLOOPER. Yes. The McKee Construction Co. was the company that built most of Los Alamos?

Mr. TYLER. That was the company that was there during most of the war.

May I amplify that a little bit for the record?

Senator HICKENLOOPER. Yes.

Mr. TYLER. I was not there at the time, and I searched the records to find as much information as I could and made a number of inquiries.

The Army engineers used to do this work themselves with enlisted men and a number of contract employees, who they hired individually.

When the Army engineers saw that they were going out of Los Alamos, and the Commission was coming in, they recognized that some permanent set-up had to be made to insure the continuation of the maintenance and the operation; and, as I understand it, they searched that part of the field to try to find somebody who would do that, and they received no help from anybody. In fact, most of of the people wanted nothing to do with it, and it is also my understanding—and I have confirmed this with the elder Mr. McKee in conversation—that he was approached by the Manhattan Engineer District and asked if he would undertake to supply an organization to maintain and operate the project, and he said that he would.

He formed a corporation; he staffed it, naturally, I would say, out of people whom he knew. They were mostly construction people and not maintenance people.

We have had trouble with that in getting them back into a decent lay-out, but it was done, not at his suggestion but at the request of the Manhattan Engineer District, and I can say that except for the corporate structure and stockholding, and so forth, that the Zia Co. and the McKee Co. are two complete and separate concerns, and I can say that advisedly because I have watched projects which the McKee Co. were low bidders on, and in which the Zia Co. was going to occupy—well, they might easily not even be members of the same family because they fight rather bitterly about the construction work.

I am satisfied in my own mind, sir, that the relationship, the fact that Mr. McKee is a construction contractor and owns stock in the Zia Co. has nothing to do with it.

Senator HICKENLOOPER. I have not raised any criticism, but I was just curious.

Mr. TYLER. Well, it is a fact.

Senator HICKENLOOPER. How many employees does the Zia Co. have there at Los Alamos?

Mr. TYLER. Let me get you the exact figure, sir; 2,412, sir.

Senator HICKENLOOPER. At this time?

Mr. TYLER. At this time; yes, sir.

Senator HICKENLOOPER. How many of them work in the maintenance of structures within the restricted area, that is, as separate from the town operations?

Mr. TYLER. There are 600 permanently stationed in that area, that is, they do nothing but that. A great many of the others work in there at intervals when jobs which are in their specialty come in, but there are 600 who stay in that area and are under one superintendent and do nothing but that.

Senator HICKENLOOPER. How many are assigned to what might be called the town management and town maintenance?

Mr. TYLER. That is not a clear figure, sir. I have, for instance, an electrical shop and electricians. The electricians sometimes work in a house, sometimes they are working in a garage, sometimes they are working in the transportation division, and sometimes they have to go over and assist the people in the laboratory. We do not divide them between town and county, and so forth. We maintain the shops.

Senator HICKENLOOPER. I was prompted on that question by your statement on page 1151 of the hearings to which I have referred as follows:

Mr. TYLER. Well, Zia, for operation and maintenance work, has 2,643 at the present time.

I understand that is 2,400 now.

Mr. TYLER. Yes, sir.

Senator HICKENLOOPER. This states:

Zia, for operation and maintenance work, has 2,643 at the present time and breaks down into 1,520 in town, 810 in the laboratory, and 313 in the operation of the schools and the hospitals.

Mr. TYLER. That at that time was a general break-down, sir.

Senator HICKENLOOPER. Can you give me a general break-down at this time?

Mr. TYLER. No, sir, I cannot because we do not operate that way any more.

Senator HICKENLOOPER. Have you changed your system?

Mr. TYLER. We are trying to get the operation of the shops as such.

Senator HICKENLOOPER. Have you changed your system?

Mr. TYLER. We have changed the Zia system rather completely.

Senator HICKENLOOPER. I was wondering why you were specific there and you cannot be specific at this time?

Mr. TYLER. Well, I can give you a break-down here, sir, which covers some of the different departments. I will have to pick my numbers over rather clearly.

In the Safety Division—I am picking out of a small-scale chart—

Senator HICKENLOOPER. Can you break them down, as you did in the appropriations hearing?

Mr. TYLER. That was a rather arbitrary break-down, and we do not operate that way at this time. We do not have a group who do nothing but town. We cannot have a group who do nothing but town. It would be an inefficient operation; I would have to maintain an electrical shop for the town, an electrical shop for the laboratory, and an electrical shop for somebody else. We have one shop. We have spent a great deal of time and effort as a result of this management survey in reorganizing the Zia Co. on an efficient basis. They have gone down since last September from some 3,700 employees to this 2,400.

The project has not suffered. We are getting better utilization of employees; we are getting a better distribution of work. I can give you the break-down by the divisions of the Zia Co.—maintenance, transportation, property, fiscal, and administrative, and so forth—if that is of any value to you, sir. Again, I would like to emphasize, Senator, that the town does not stand out as a town. There are 65,000

acres of it, and it includes all public utilities as well as the real estate operation.

Senator HICKENLOOPER. Yes; I understand that.

Mr. TYLER. It is not comparable to a town operation.

Senator HICKENLOOPER. How many do you have operating the schools, the schools and hospitals?

Mr. TYLER. We have a total of—this is the third quarter of 1949—67 teachers in the school who are on the Zia pay roll.

Senator HICKENLOOPER. Sixty-seven teachers?

Mr. TYLER. Yes, sir.

Senator HICKENLOOPER. Who are these 313 that you mentioned this spring? They—

Mr. TYLER. Where is the hospital?

There are 178 people involved in the operation of the hospital.

Senator HICKENLOOPER. Do you have any school janitors or anything of that kind?

Mr. TYLER. Yes, sir; but they do not stand out separately. They come under the janitorial system, and I do not know how many there are. We have changed that system recently also.

Senator HICKENLOOPER. When did you change it? I am trying to fix the reason why you had specific break-downs this spring, and you do not have specific break-downs now.

Mr. TYLER. Because, as I say, it is a different type of operation than it was. It does not stand out clearly.

Senator HICKENLOOPER. Am I to understand that you had a system that you could break down this spring, and you now have one of confusion that you cannot break down?

Mr. TYLER. No; it is quite the opposite, sir. That was the condition of confusion before in which we arbitrarily pulled—and said that this many are running the town.

Now, I know where the people are, but they are not assigned to the town as a town. They are assigned to their own job. They are assigned to the electrical shop or the transportation division, to the power plant, and things of that nature.

The power plant supplies power for the town. It supplies power for all of the outlying sites, the majority of them, and it supplies power for the laboratory, and it is very difficult to say how many of the people in the power plant supply power for the town.

Senator HICKENLOOPER. Well, I am not trying to be that technical.

Mr. TYLER. I am sure you are not, sir.

Senator HICKENLOOPER. But manifestly there are certain of these maintenance people who devote all of their time or the big majority of their time within the restricted area.

Mr. TYLER. Well, I gave you that figure, sir. There are 600 who spend all of their time within the restricted area.

Senator HICKENLOOPER. Within the restricted area?

Mr. TYLER. Yes, sir.

Senator HICKENLOOPER. And, generally speaking, that would correspond roughly with the reduction in force, with 810 in the laboratory, as you testified to this spring?

Mr. TYLER. Yes, sir; roughly.

Senator HICKENLOOPER. Now, then, about 240-some, including 67 teachers and 178 in the hospital, the 240-some in the schools and hos-

pitals in those categories, that might have some relationship to the 313 in the operation of the schools and hospitals as testified to this year?

Mr. TYLER. That is a comparable figure; yes, sir.

Senator HICKENLOOPER. I presume there are some janitors?

Mr. TYLER. There are a few; yes, sir.

Senator HICKENLOOPER. Your statement earlier this year in this appropriations hearing that I have is, "1,520 in the town." I take it that it would be town street maintenance, repairs, and the electricity, electric-light plants, the water works, and whatever operation there is, the gas installations you have, and things of that sort, electricians to take care of trouble?

Mr. TYLER. Yes, sir.

Senator HICKENLOOPER. Streets?

Mr. TYLER. I think the expression there is another reason that I endeavored to clear up when I started. I always end up with Zia as a town operator. The word "town" in that case is actually what is left after you take out the hospital and the schools and the people who spend all their time in the laboratory. That is all the rest of the operation which, as I say, is town, but is also power plants and water works which supply both the laboratory and the town and also people who operate some 33 outlying sites.

Senator HICKENLOOPER. I certainly understand that.

Now, there are residents there, resident workers there on the hill at Los Alamos, approximately 1,700 for the University of California, and about 2,400 Zia?

Mr. TYLER. Not residents, no, sir.

Senator HICKENLOOPER. Zia people are not residents?

Mr. TYLER. A great many of them are not residents. We have probably 2,000—I cannot state the figure exactly—we have over 2,000 people on our waiting list for housing who are employed at the project at the present time.

Senator HICKENLOOPER. How many houses and dwelling units do you have at the present time? That is, break it down, how many houses do you have, first?

Mr. TYLER. We have 2,100 houses, sir.

Senator HICKENLOOPER. 2,100 houses?

Mr. TYLER. This last figure here is the 1st of March, sir. We had 2,075 housing units.

Senator HICKENLOOPER. As of March 1?

Mr. TYLER. Yes, as of March 1.

Senator HICKENLOOPER. Does that include apartments?

Mr. TYLER. Yes, sir; that includes apartments.

Senator HICKENLOOPER. Do you know how many houses you have, that is, single-dwelling houses?

Mr. TYLER. These I would call family-type units because with rare exceptions only families are given houses or apartments.

Senator HICKENLOOPER. How many rooms do you have available?

Mr. TYLER. We have a total of—

Senator HICKENLOOPER. For single people?

Mr. TYLER. We have 1,333 dormitory rooms as of the 1st of March.

Senator HICKENLOOPER. And the 2,100 include houses and apartments?

Mr. TYLER. Houses and apartments; yes, sir.

Senator HICKENLOOPER. What is your total population on the hill there, that is, by that I mean resident population?

Mr. TYLER. The last count that we had, we have no means of taking a sound census—we take it by way of our school children, who do it for us—the last count that we had was approximately 8,600.

Senator HICKENLOOPER. Eight thousand six hundred people resident on the hill?

Mr. TYLER. Yes, sir. That was our last census which, as I say, was done by the school children for us.

Senator HICKENLOOPER. So, of all the people employed on the hill there at Los Alamos, it would figure out—I have not figured it exactly, but it would figure out some 30 or 35 percent of all of them work for the Zia Corp. I arrived at that figure as follows: 1,700 working for the University of California; 2,400 for Zia, and that is a total of 4,100 people working on the hill.

Mr. TYLER. I have those figures here, sir. You have neglected the AEC population.

Senator HICKENLOOPER. How many do they have?

Mr. TYLER. I have figures here as of April 1, sir, and there are 2,199 directly employed by the Zia Co.; there are 311 others employed by the Zia Co. to operate the hospital and the schools; there are 383 people who are employed by the concessionaires running the stores, and so forth.

Senator HICKENLOOPER. 383?

Mr. TYLER. 383; yes, sir. There are 2,039 people employed up there in construction who do not live on the hill, other than a few inspectors and superintendents. There are 1,069 employees of the Atomic Energy Commission.

Senator HICKENLOOPER. 1,069?

Mr. TYLER. And at this time, April 1, 1949, 1,741 employees of the University of California. This is at Los Alamos, and it gives a total of 7,742.

Senator HICKENLOOPER. 7,742?

Mr. TYLER. Yes, sir.

Senator HICKENLOOPER. Does that include the construction people?

Mr. TYLER. That includes the construction people. Those are people who are employed.

Senator HICKENLOOPER. How many of them are construction people?

Mr. TYLER. Two thousand and thirty-nine.

Senator HICKENLOOPER. Two thousand and thirty-nine?

Mr. TYLER. Yes, sir.

Senator HICKENLOOPER. That would leave 5,700 people roughly, because I believe those construction people do not live on the hill.

Mr. TYLER. Very few of them. I mean a few inspectors.

Senator HICKENLOOPER. Roughly, 5,700 people are working and living on the hill?

Mr. TYLER. They are working on the hill, sir, but they are not living there. I do not know the exact number of the employees who actually live on the hill because I do not have records here. I could find out for you exactly how many of them are living there, but the janitors, as a rule, do not live on the hill. Most of the common labor does not live up there, because they are pretty fluctuating.

Our common laborers are, to a large extent, Spanish-Americans from the surrounding communities; a considerable number of them are of

the various Indian tribes who come from the pueblos down at the foot of the hill, and that neighborhood. They prefer to live at home, and actually we do not have the type of accommodation yet available up there which they can afford to pay for at their rate of pay. They prefer to live in their pueblos.

Senator HICKENLOOPER. Leaving out the construction workers who are purely temporary on construction, who live off the hill, it leaves a total of 5,700, and if you subtract from that these laborers who come in and live some place else, assuming that there would be roughly 5,000 working people who lived on the hill, some of them, a great many of them, having families—I realize that—which increases the population. The point I want to make is that at least 50 percent of that entire number work for the Zia Co. in that neighborhood, and that for a town of that size, somewhere in the neighborhood of 1,500 people are on what might be called the municipal pay roll. I am leaving out the people who work in the laboratories and the people who work in the schools. If we added those, there would be at least 300 more. It would seem to me that is a pretty heavy load for any municipality to bear in relation to its population, and for street maintenance and water-works and things of that kind.

Mr. TYLER. Well, Senator, I would like to try to express an answer to that as well as I can, sir. I have tried this a number of times. This comes up very frequently, "That is an awful lot of people to run a town."

Of course, I have emphasized that that is not a town; and that apparently did not get across very well.

Senator HICKENLOOPER. It has paved streets, it has curbs, it has sidewalks, it has repair work to be done, and it has utilities to maintain, and to that extent it is a town, and it was my impression that it has been created into a livable town where people enjoy comfortable living and where every attempt has been made to convert it into a town, into a normal community.

Mr. TYLER. This is a town there, yes, sir; but the comparison is not easily apparent. I would not expect, and I have said frequently myself—if I worked in a town of 8,000 people, I would not expect to find 1,500 people employed in maintenance and operation. They are not a town. They operate, as I explained, a great percentage of the facilities, all the facilities and utilities which are used by this large factory.

The 600 people who are in the laboratory are there for repair, maintenance, and operation work. However, the utilities for that factory, the power, specifically, the water, the steam, the sewerage, and so forth, are all operated by the Zia Co. for the factory and the town, and then I might add to that, we have 33 outlying sites spread around this 65,000 acres, and the maintenance and operation of those and the utilities that go with them are the responsibilities of the Zia Co.

Senator HICKENLOOPER. What do you mean by outlying sites?

Mr. TYLER. I can only explain them in this way.

Senator HICKENLOOPER. Within 2 or 3 miles?

Mr. TYLER. They are within the 65,000-acre project, and they are spread pretty well around in there.

Senator HICKENLOOPER. Let us get down to the Zia Corp.'s activities. All of the expenses of the Zia Corp., including the salaries of all of these people are reimbursable by the Government, are they not?

Mr. TYLER. Yes, sir; they are.

Senator HICKENLOOPER. So that everything the Zia Corp. spends by way of salary or equipment or supplies there is reimbursable by the Government.

Mr. TYLER. That is correct, sir.

Senator HICKENLOOPER. In addition to that, you pay them on top of all of that, you pay to the Zia Corp. \$17,000 a month, do you not?

Mr. TYLER. For the fiscal year 1949; yes, sir.

Senator HICKENLOOPER. And that has been—that was paid for 1948, was it not?

Mr. TYLER. It was something more than that—1948, I believe.

Senator HICKENLOOPER. About \$18,000 for 1948?

Mr. TYLER. Somewhere in that vicinity.

Senator HICKENLOOPER. How do you justify what amounts to apparently a carte blanche operation with numbers of people and equipment fully reimbursable by the Government in every particular, including salaries and wages, how do you justify \$17,000 a month, a lump sum, or \$216,000 a year, in that neighborhood, on top of all those things to the corporation?

Mr. TYLER. I would like to go back to my earlier statement, sir, about cost-plus-fixed-fee contracts. The fee for the Zia Corp. is negotiated just as all other cost-plus-fixed-fee contract fees are negotiated. We have used the fee book on the management problem. It is not as clear on management as it is sometimes on A-E or as it is on construction, but it is clear, and the fees are fair and appropriate on that basis.

Now, in computing last year's fees—that was the first time that I was involved with that—and under the new 3-year-type contract which we have built with them, we are permitted under the fee manual, under the fee book, to set valuations on the efficiency of the operation.

I would like to say that in a town operation part of the Zia facility, that is, that type of thing, we gave them credit for only 46 percent efficiency, and they got only 46 percent of the allowable fee under the fee-management set-up.

Now, of course, I am sure that you will recognize that a corporation set up as a corporation with stock is in business to make money. They are not going to do it for nothing and because some of the people who are working for the Zia Corp. may or may not be stockholders does not prevent the corporation from still expecting to be paid for what it is doing.

Senator HICKENLOOPER. That is true. May I correct the figure I gave? Instead of \$216,000, it should be \$204,000. If it were \$18,000, I guess it would be \$12,000 more.

But the point is this, Mr. Tyler: The Government reimburses everything that the Zia Corp. does. It pays all the salaries; it pays all the wages; it pays all the expenses for all the equipment, and then dumps into the Zia Corp. at least under the present arrangement \$204,000 on top of that.

If the Government pays everything anyway, if the Government is responsible for all the expenses, why does not the Government run the situation or why does not the AEC put somebody in there who is skilled to do that and save the taxpayers \$204,000 a year on that situation? That is incredible to me, if I may use the term.

Mr. TYLER. Well, I hate to make generalizations, sir, but let me give you an example: I am reasonably certain, although I cannot specifically name it, but I am reasonably certain in the operation of a housing project which is owned and built and run by, let us say, an insurance company which builds a group of a thousand houses, they hire a man to maintain and operate that, and they pay him a profit. They do not try to do it themselves and save the difference. They hire people who are competent to do it, and they pay them a profit.

The CHAIRMAN. Is this comparable to a profit secured in the cases that you are talking about?

Mr. TYLER. I feel frankly, sir, and I have a number of figures, but they are not available, and I have gone into it—I may say this: This profit is very low for the amount of work they do.

The CHAIRMAN. But they were only 46 percent efficient.

Mr. TYLER. That was the efficiency we permitted them under last year's contract; that is all we were paying.

The CHAIRMAN. If they were 100 percent efficient they would have got pretty close to \$500,000?

Mr. TYLER. That is right. I did not dream up these figures; I got these out of a fee book. I did not say this was a good way of doing business. I used a standard fee-book method of computation, and sat down with them.

Senator HICKENLOOPER. Well, Mr. Tyler, in your staff at Los Alamos, you checked the operations of the Zia Co. and what they spend for reimbursement purposes, do you not?

Mr. TYLER. Very definitely, sir. I checked them also from the management point of view.

Senator HICKENLOOPER. I mean your staff—I do not expect that you check every dollar.

Mr. TYLER. No; my fiscal division checks it, sir. They have to do it.

Senator HICKENLOOPER. Your division undertakes to say whether the Zia Co. has properly spent this amount, does it not, before you reimburse them?

Mr. TYLER. Very definitely, sir. That is not a very good statement. We insure that they are doing the jobs we want as economically as they can.

The General Accounting Office decides whether or not they will be reimbursed.

Senator HICKENLOOPER. Yes; I understand. You pass on their efficiency?

Mr. TYLER. Yes.

Senator HICKENLOOPER. And you pass on the wisdom or the judgment with which they are operating this thing?

Mr. TYLER. Yes.

Senator HICKENLOOPER. Is that not true?

Mr. TYLER. Oh, yes.

Senator HICKENLOOPER. And you check these things very thoroughly before you reimburse them or you recommend that it be passed for reimbursement by the General Accounting Office?

Mr. TYLER. My fiscal division does; yes, sir.

Senator HICKENLOOPER. You have capable people checking these people, have you not?

Mr. TYLER. The fiscal people are capable fiscal people.

Senator HICKENLOOPER. Yes.

Mr. TYLER. I only have one man on my staff who checks their operations.

Senator HICKENLOOPER. Well, he is a capable man; is he not?

Mr. TYLER. He is a very capable man.

Senator HICKENLOOPER. Why do you not do it yourself? You are doing all the checking; you are assuming all the responsibility for recommending reimbursement. Why do you not do it with your own organization? Why spend \$204,000 a year on top of that if you have the responsibility? If you check it and if you O. K. it and if you pass on whether or not they are doing an efficient job, why spend that \$204,000?

Mr. VOLPE. Mr. Chairman—

Senator HICKENLOOPER. I am asking Mr. Tyler.

Mr. VOLPE. Well, I simply wanted to say this, Senator—

Senator HICKENLOOPER. Will you please let Mr. Tyler answer the question, Mr. Volpe?

Mr. VOLPE. Very good, sir.

Senator HICKENLOOPER. I will be glad to give you an opportunity in just a moment.

Mr. TYLER. I have operated a couple of other plants in my time, both of which were operated and run by employees of the Government.

We did not hire somebody to do it. I have some knowledge of that type of operation—rather limited, perhaps. I do not say that it is not a good type of operation, but it involves a great many headaches which a contract operation does not involve.

I do not have to worry as to whether he can hire competent engineers or whether he can fire competent engineers. He runs his own organization, and I get the results out of it that I want.

I would have to have personnel to hire, fire, and handle it—I would end up with a very similar type of set-up.

Now, we have studied—frankly, when I first came there I had the same thought: Why do we not have a direct operation at Los Alamos? Well, the first thing that I had to do, and I think it is sound to have done it in any case, was to find out what kind of an operation I needed, and that obviously was not it.

So, I had to clean house in the Zia Co. before I could go out and hire a bunch of Government employees to replace them. If I had hired 3,100 people which the Zia Co. had, I would have had too many and it would not have been a good operation.

We are cleaning that up and getting the operation into decent shape. At the same time, my personnel and organization office are spending a great deal of time with my office and the Zia office, and are actually documenting the results of a Government operation to find out whether we can do it as efficient and as cheaply to the Government, or whether we cannot. It is a very simple thing, sir, and many people have told me the same thing, to just say "Why don't you hire them and then you won't have to pay them the profit?"

I do not know what the full implications of this are until I have had full opportunity to examine it. I certainly could not turn it over overnight. I mean the town has to be run in an orderly manner, and it has to be run when and as we chose to do it, but as an example, sir, the Zia Co. allows 15 days a year leave.

If I employed, hired Government employees, I would allow 26 days a year leave, and I would further allow, I believe, 15 days sick leave.

That would require that I have a considerably larger number of employees in order to keep the same number working all the time.

The Zia Co. pays no retirement funds; they pay nothing of that nature. The Government would have to pay enough to pay retirement, and obligate itself for retirement of all of its employees. I do not say that those are not good things, but they are two or three of the things that immediately come to light when you try to compare a Government operation as a direct operation, with a contractor operation.

Now, I have had presented to me by some of my more enthusiastic staff members, who jump at things a little quickly, figures which indicated that it would cost us more in dollars and cents to run this project under Government direct operation. I have not accepted those figures. I want them better documented than I have had them, and I want a sounder understanding.

I have no objection to a Government operation, but I want to be sure that the Government is saving money, and that the Government is also getting a good operation out of it, and I could not even begin to do it with Government employees until I get this one straight, and I know what is right and what is needed.

Having got that, as I say, we are definitely studying, at your suggestion previously, sir, and at the suggestion of the Appropriations Committee, we are definitely studying a Government type of operation; and if and when it develops that it is cheaper or would be simpler, I certainly would be delighted to do it. But we have a problem there now also which would make a Government operation very difficult. Nobody hires Government employees in an outlying site unless they can provide housing for them. I could not guarantee all those people housing.

It is customary, and people do not come to an outlying site like that in a Government employment without housing.

Senator HICKENLOOPER. They come on private employment, apparently, without a house?

Mr. TYLER. Yes; and they get paid that way. Further, I am paying to the Zia Co., by necessity, not by choice, I assure you, construction wages, with various types of construction going on there, running, I would say, offhand, around \$5,000,000 a month.

If a man does not get paid by the Zia Co. the same rate of pay that he gets paid by the ABC construction company across the street, he is going across the street and going to work for the ABC construction company, so I have to pay construction type of wages, which is a high scale of wages.

I will always have to pay that type of wages as long as there is construction going on there, A, B, as long as I cannot provide housing. If I could provide that man with a house to live in on the site, and he did not have to travel 50 miles a day, he would be willing to work 52 weeks a year for less money, but as long as I cannot provide him a house he is going to go where he can get the most money.

Senator HICKENLOOPER. Well, that has been a long-time source of restlessness with me, this lump-sum payment on top of an operation of this kind such as the Zia Co. gets.

Mr. TYLER. May I give you another example?

Senator HICKENLOOPER. Yes.

Mr. TYLER. During last year's operation we have cut out a considerable amount of this, but during last year's operation the Zia Co. itself did architect-engineer services on a volume of \$3,000,000 worth of construction. One percent, which is a standard fee for an architect-engineer on a cost-plus-fixed-fee fund, 1 percent of that would have been \$30,000 there. That is only one item of their work; but if we paid an architect-engineer to do that, we would have had to pay him \$30,000, which services we got from Zia. They did the inspection work on \$1,200,000 worth of construction, and on the same basis of a fee we would have had to again pay them, roughly, \$12,000 for that. That is over and above all of their operation of the technical facilities and utilities, and so forth.

If we had to employ an architect-engineer to do those things, we would have been down another \$42,000, and Zia did that. You could, with logic, subtract that from their fee and say they did the town work and the laboratory work for the difference. They did \$7,300,000 worth of procurement for us; on most of our operating fees we pay a percentage of the total volume of procurement to the operator for his bookkeeping and his efforts, and the personnel that he has to work in there for procurement. If we take just that procurement off, we used up another piece of their fee.

Senator HICKENLOOPER. Well, is he not supposed to get the materials to operate this city, and does not the Government reimburse him for those?

Mr. TYLER. Yes, but, as I say—

Senator HICKENLOOPER. Does not the Government reimburse him for the salaries and the wages of the people who do that procurement?

Mr. TYLER. Well, we reimburse, let us say, the Ralph Parsons Co., which is an architect-engineer, for all their expenses, and we pay them 1 percent of the total volume of construction work as their fee.

Senator HICKENLOOPER. Mr. Chairman, I would like to just go on to one other matter here to get this closed up at this time, because it is approaching 1 o'clock.

The CHAIRMAN. Can I make one observation?

Senator HICKENLOOPER. Yes.

The CHAIRMAN. If you have a good claim—apparently you have because you have sent it to the Attorney General's office—against Kruger & Associates for \$250,000 and now you have him in line for the supervision of \$8,000,000 worth of work in the coming year, well, I would kick him out of there.

Mr. TYLER. That is a logical assumption, sir, but it has not yet been proven to my satisfaction that this fault can be laid to Kruger's door. It is still questionable.

In addition to that there is such a small part of the construction work, we will say, supervised there—I gave you the figures recently—in this period of time, that an error in that particular thing, aided and abetted probably by the engineers who erected the project, and by the engineers who inspected it, I feel do not damn him as an incompetent architect in my mind.

The CHAIRMAN. Do you think he is competent?

Mr. TYLER. I think he is a competent architect, and I think he is no less competent than most any architect of that type that I could get in there. I will have to watch all architects.

I think if you ever tried to build a house you realize that unless you watch the architect yourself you are not quite sure what is going on. It is standard, but I do not have to watch and guide him at this point any more than I do any other architect, and I feel he is a competent architect.

However, I have, as I say now, six architects, A-E's on that job, and Kruger is confining his work solely to the town type of construction, housing and hospital and things of that nature.

The technical construction I have under contract with a number of other architects because I do not feel that Kruger is a technical construction type of architect. He is an architect and not an engineer.

Mr. VOLPE. Mr. Chairman, on the question of the suit, I think we need to clarify one point. We have not recommended to the Attorney General that suit be brought against this contractor. We have merely sent over to the Attorney General, because it seems to be sufficient, information to raise a fairly serious question about the possibilities of recovering, and we have asked the Attorney General to consider that, so there has not been a recommendation that a suit be brought.

The CHAIRMAN. Well, Captain Tyler said that he had supervised some \$36,000,000 worth of construction for which he had gotten fees aggregating some two million-some-odd hundred thousand dollars.

Now, Captain, you say that he is an ordinary run-of-the-mill architect. He is not an engineer.

Mr. TYLER. He is an architectural type of A-E, as opposed to an engineer. We have another architect-engineer, Black & Veatch, who are recognized, and I would not ask them to build a house. Their field, their specific field—

The CHAIRMAN. But Kruger is supervising architect on \$36,000,000 worth of construction.

Mr. TYLER. He has been over a period of 3 years.

The CHAIRMAN. You did not bring him in, but the Manhattan Engineer District brought him in there, and he seems to have done pretty well.

Mr. TYLER. He has done a good job within reason, I feel.

He made one mistake, and, as I say, that is why I had the investigating board of people whom I did not know and had no relation to me nor my project, to find out whether the mistake was his fault, and I read the thing, and in my opinion, it is not conclusively proven that it was his fault or that it was the Manhattan Engineer District's fault or that it was the contracting engineer's fault. I cannot derive from that mess of investigation a fault definitely placeable at anybody's door. It was a combination of bad judgment.

The CHAIRMAN. You have a short matter, Senator?

Senator HICKENLOOPER. Yes, I have.

Mr. Tyler, what is your present need for housing on the hill? That is, what type of people actually need housing?

Mr. TYLER. What type of people, sir?

Senator HICKENLOOPER. What type. I mean, for instance, guards and other people? Do people of that kind need housing?

Mr. TYLER. Yes, sir. Our need for housing is pretty well spread out. May I explain how we allocate our housing, and then that will give you an idea as to who needs housing.

Senator HICKENLOOPER. Yes, sir.

Mr. TYLER. We have a housing-policy board composed of a member of my staff, the Assistant Director of the laboratory, and the head of the Zia Co. There are three employers there. The housing-policy board allocates new housing as it becomes available to the three employers, not necessarily dividing it by three by any means. They each express their needs, and they arrive at an allocation. I reserve the right to review that allocation. Dr. Bradbury reserves the right to review that allocation, but at no time since that board was set up has either Dr. Bradbury nor myself found it necessary to change the recommendations. Therefore, we have employees of the three companies who need housing.

The CHAIRMAN. How much?

Senator HICKENLOOPER. Well, you have here in the budget, I believe, for this year \$3,744,000 for 196 housing units.

Mr. TYLER. I beg your pardon, sir?

Senator HICKENLOOPER. You have in the budget \$3,744,000 for 196 housing units.

Mr. TYLER. That is for the coming year, yes, sir; 1950, fiscal 1950.

Senator HICKENLOOPER. One hundred and ninety-six. Now, that figure is \$19,000-plus per unit.

Mr. TYLER. Yes, sir.

Senator HICKENLOOPER. Are you building \$19,000, \$20,000 houses out there?

Mr. TYLER. I am very glad that you asked that because I am getting some shocks myself in the last day or two.

When I charge for a house I charge for the whole business. I have got to go over on the mesa, which is now a mass of scrub trees, second growth, and rocks, and clear that out, clear out a hunk of a mountain, put in roads, utilities, sewerage, and attach that over to the sewerage system in the town, and so forth, so that brings the cost per house up pretty high.

However, in our group 11 housing, which is the housing now under construction there, we pay roughly, depending on the type of house, from \$14 to \$17 per square foot on a competitive bid.

The housing before that, which is a better type of housing, we are now trying to build as cheaply as we can build, because we want to keep the rents down; people cannot afford to pay too much rent; housing before that had only run about \$12 per square foot.

I estimated this housing that I am not building on this \$12-per-square-foot basis, and as a result, when the bids came in I could not build as many houses because I did not have as much money.

On Saturday, we had bids out for the 1949 program for 458 houses. My engineer's estimate on that was very close to \$7,000,000. I had \$6,400,000 in the budget for that purpose.

To everybody's complete consternation—I do not know why—we got those 458 houses for \$5,400,000.

Senator HICKENLOOPER. Did that include all the land and grading?

Mr. TYLER. That includes the works, and it comes down to \$10 a square foot, and if anybody can explain to me why, I will be delighted. It is ridiculous, but there it is.

The CHAIRMAN. You awarded the bid?

Mr. TYLER. We awarded the bid this week. The bids were opened Saturday at noon when I left.

The CHAIRMAN. What kind of houses?

Mr. TYLER. They are wooden frame houses with asbestos shingles, with sloping roofs.

Senator HICKENLOOPER. How many bedrooms?

Mr. TYLER. Most of these in the incoming group are three and four.

The CHAIRMAN. Did McKee get the contract?

Mr. TYLER. No; that is an association of two or three engineering firms from the San Francisco area. They are the ones who bid the \$14 to \$17 job that they are now working on, and they are also the ones who turned around and bid \$10. That is why I like competitive bidding. Frequently I get a pleasant surprise instead of a disagreeable one.

Senator HICKENLOOPER. Then, on this new unit—

Mr. TYLER. That was the 1949 construction.

Senator HICKENLOOPER. The cost, as I figure it on the 196 houses, divided into \$3,744,000 is approximately \$19,100 a unit.

Mr. TYLER. That is an estimate for budgetary purposes. We do not spend that. That was the best estimate we could figure out at the time for a new development of an area, and with the then existing cost per square foot which we had under contract at that time. As I said—

Senator HICKENLOOPER. Who lives in these houses?

Mr. TYLER. Everybody.

Senator HICKENLOOPER. Well, is it laboratory personnel?

Mr. TYLER. It can be anybody, sir.

Senator HICKENLOOPER. How much rent do you charge for these houses?

Mr. TYLER. The rents vary, Senator. I have a complete list of the rents here. They run from a low in the cheapest type of housing, which is this Wingfoot house—you are familiar with that—it is the one that come up with a truck, with the house and utilities for \$31.80 a month, up to—

Senator HICKENLOOPER. That includes all utilities?

Mr. TYLER. Yes. The rent is in that type of house \$28 a month, and the utilities run about \$3.80. You know what it is. It is really a glorified trailer, except that it has no wheels on it.

The highest rent we have is a four-bedroom house which costs \$89.50, with utilities of \$14.45, making a total of \$103.95.

Senator HICKENLOOPER. What do you get for your two-bedroom houses?

Mr. TYLER. Single house in the western area, which is our best house, we have not yet rented any of these new wooden houses which we are building; we just took 97 of them over last week, and as soon as the road is down this week we will start renting those, but a two-bedroom house in the western area with utilities, single house, runs \$78.45.

Senator HICKENLOOPER. What does it cost to build a four-bedroom house of the type built out there?

Mr. TYLER. As I say, it varies. The ones we are going to build now will cost us about \$10 a square foot. We are building housing—

Senator HICKENLOOPER. You have a fairly standard four-bedroom house?

Mr. TYLER. We have not—this new lot, we have not been building.

Senator HICKENLOOPER. Give me an accurate sample of four-bedroom houses, total costs.

Mr. TYLER. At that rate which we just got on this bid?

Senator HICKENLOOPER. I am not talking about this rate you got on this bid; I am talking of what you have been building them for out there.

Mr. TYLER. Well, I have a four-bedroom apartment type of house—there are four units in a house, two of which are two-bedrooms, and two are four-bedroom, which went for \$10.60 a square foot, and which averaged 1,380 square feet, so that would be——

The CHAIRMAN. \$13,800.

Mr. TYLER. \$13,800, 1,380 square feet.

Senator HICKENLOOPER. What is your so-called western type, four-bedroom ranch house?

Mr. TYLER. That is the only one that we have. Those are the ones that are renting for \$103, as I said. We did not build those; they were there.

Senator HICKENLOOPER. And your three-bedroom houses?

Mr. TYLER. The three-bedroom houses in the western area, sir, a single unit rents for \$87, and one that is in a duplex, two houses in one unit, rents for \$81.50.

Senator HICKENLOOPER. What do they cost to build or what do they cost to erect?

Mr. TYLER. Well, I can find that for you exactly. The duplex was contracted for in 1947 and cost \$9.91 a square foot, and two houses, of which one is a three-bedroom, and one is a two-bedroom, a total of 1,900 square feet, divide it by two, and call it 950 square feet, \$9.91, call it \$10, and you have \$9,500. That was contracted for in July. The same house—not the same house, but the same size house presently under construction, a three-bedroom house, which is a bigger house, is 1,203 square feet, and cost us \$13.29 a square foot.

Senator HICKENLOOPER. There are two more items which I would like to call to your attention.

Mr. TYLER. Yes, sir.

Senator HICKENLOOPER. What is the report as contained in the budget, Mr. Tyler, of expenditures of \$10,000 approximately to landscape the grounds around your cottage at Los Alamos, and about seven or eight thousand dollars for furniture that went into the cottage there. Are there any comments on that?

Mr. TYLER. I have not been aware of the landscaping program because that is part of the whole area there, and I do not pay much attention to it.

Senator HICKENLOOPER. Well, it was contained specifically in the budget some months ago.

Mr. TYLER. The furniture is probably correct, sir. I amortized the furniture in my rent for a 10-year period or something like that.

Senator HICKENLOOPER. Now, the furniture was purchased by McKee?

Mr. TYLER. That was probably one of those complicated stories.

Senator HICKENLOOPER. Well, I think the story roughly is this: It was purchased by Mr. McKee. The matter was not allowed, and then they, Zia, undertook to put it through the Zia accounting, and something got balled up there, and I do not know just where it ended.

Mr. TYLER. I do not know. Every once in a while somebody would come into my office and we would start all over again. The original idea, which I did not pay much attention to—I actually was not there when the contract was let to remodel the house—

Senator HICKENLOOPER. I am not insinuating that you instigated the purchase of the furniture, but it was purchased and put into your house.

Mr. TYLER. Mr. McKee negotiated, was negotiated—Mr. McKee was the contractor for remodeling the house, and in the process of negotiation, somebody in the engineer department very logically said that if they remodeled the house, why, they should buy the furniture. They remodeled it and they bought the furniture, and they said that the building contractor cannot provide furniture under a building contract; it had to be a separate contract, and there the furniture was.

So, they shuffled back and forth and tried to get it through McKee and tried to get Zia to buy it. It is just paid for. It is just one of those accounting messes. The fiscal division and the legal division and everybody got into it, and every once in a while, somebody would come in and say, "Would you mind discussing your furniture again?" I do not know what the answer is. It still is there, and it belongs to the Government, and I use it, and when I leave—and I do not know when that may be—it will still be there.

Senator HICKENLOOPER. The difficulty of chasing furniture through the complications of the books of the Zia Co., the McKee Corp., Atomic Energy Commission, is another incredible item in my book.

Mr. TYLER. Well, that was a question, as I say, of General Accounting Office rules which were uncovered by my fiscal division when it came around to paying the bill.

Senator HICKENLOOPER. I will hurry along to just another item. I have received a number of communications, of which I have one here.

First I would like to read into the record some excerpts—I will put the entire story into the record, Mr. Chairman—but I do not want to hold you any longer. This is a story from, I believe, the Albuquerque Journal, of June 3 or 2, in which it is stated as follows:

The director of the Sandia base laboratories and the field manager for the Atomic Energy Commission will each occupy \$38,000 homes in the near future if the bid of L. M. Mauldin, Albuquerque contractor, is accepted.

Now, there is an editorial in the Albuquerque Journal of June 3, calling attention to that fact, and two paragraphs, for instance, from that editorial, are as follows:

Take our own Sandia base. Its operations are clothed in secrecy as they should be. But such matters as the cost of housing at the base are worth the scrutiny of the taxpayers.

For instance, the director of the Sandia base laboratories and the field manager for the Atomic Energy Commission will each occupy a house on the base that will cost about \$38,000.

(The newspaper items referred to follow:)

[From the Albuquerque Journal, Friday, June 3, 1949]

#### TOO EARLY TO PREDICT

Representative Fernandez confidently predicts that Atomic Energy Commission Chairman Lillienthal will be completely cleared of charges of "gross mismanagement."

Maybe so. But we fail to apprehend how Congressman Fernandez or any other governmental official can forecast so early the outcome of an atomic management investigation that involves America's vital defenses.

Congressman Fernandez on most major issues has shown an independent attitude that commended him to the electorate as a lawmaker of courage and high ideals.

We submit, however, that neither Congressman Fernandez nor any other Congressman, Senator, or what not should speculate on the Lillenthal case until all the evidence is in.

Even more matters than our national security are involved. There's the matter of cost. Americans will not balk at the cost of security so long as that cost is on the basis of "dollar for dollar" value. However, there must be a check somewhere on the cost of the vast so-called preparedness program.

Take our own Sandia base. Its operations are clothed in secrecy as they should be. But such matters as the cost of housing at the base are worth the scrutiny of the taxpayers.

For instance, the director of the Sandia base laboratories and the field manager for the Atomic Energy Commission will each occupy a house on the base that will cost about \$38,000.

The American taxpayer will dig up to the limit to provide adequate security and protection for this Nation. He rebels, however, at providing frills and finery.

The atomic energy investigation now going on in Washington is centered on how our national security is being guarded. That is, of course, the No. 1 problem. But we hope the quiz also will delve into the expense angle. The American people are interested in that too.

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#### SANDIA EXECUTIVES TO OCCUPY TWO \$38,000 HOMES

The director of the Sandia base laboratories and the field manager for the Atomic Energy Commission will each occupy \$38,000 homes in the near future if the bid of L. M. Mauldin, Albuquerque contractor, is accepted.

Mauldin bid \$76,462 Wednesday for construction of the two four-bedroom homes at Sandia base for the Atomic Energy Commission.

Some difficulty was encountered in determining for whom the two homes were to be built. Original notices of the work from the district engineer's office here stated merely that the homes were of the type generally built for general officers or fleet rank Navy officers.

Capt. George Kraker, field manager for the AEC at Sandia base, disclosed the occupancy plans for the homes—one of them for himself.

Kraker gave the information only after notifying a reporter who called him at his quarters at 6 p. m. Wednesday that he objected to being called after his office hours, which end at 4:30 p. m.

Bids will be opened this afternoon at the district engineer's office here for the construction of 40 three-bedroom family quarters at Hollaman Air Force Base at Alamogordo.

Senator HICKENLOOPER. Now, I have a letter from a taxpayer which—in fact, I have some more letters from taxpayers, but this is rather typical—object very strongly to the \$38,000 homes for these two executives of the Sandia base, paid for by the Government.

Do you have any comment on that, Mr. Tyler?

Mr. TYLER. Yes, sir.

The director of the laboratory and my field manager felt and requested that they have a larger house than was available in the standard construction down there because of their needs, both private and professional, as I am sure that you recognize that a field manager or the laboratory director have many occasions to work at home or where people come in at night and leave work, and they need a study and a few odds and ends, which are not provided in other houses.

They wanted two bathrooms instead of one because they have three children, or something, so I asked them to get an architect-engineer to estimate on it and see what it would look like, and they came up with a house of about 2,100 square feet which, I think, is well within

the Army and Navy requirements for commanding officers' houses in square footage.

This architect-engineer came up with a price of about \$22,000, which was a reasonable price for a house that large. So we advertised for bids. When the bids came in the houses averaged \$38,000 apiece. I called Mr. Kraker, Mr. Kraker called me rather, and said, "I could not be happy living in a house that cost that much money. I do not want it."

We canceled the bids and are not going to build the houses.

Senator HICKENLOOPER. The cancellation came, I take it——

Mr. TYLER. The bids were rejected, may I say that. When they were opened they were immediately rejected. I do not know, but the bids were probably opened about the time that you have that clipping from the newspaper.

Senator HICKENLOOPER. Well, I think the bids were opened about the second of June.

Mr. TYLER. The bids were canceled, were rejected immediately.

Senator HICKENLOOPER. Yes.

Mr. TYLER. By telephone.

Senator HICKENLOOPER. I am pleased about that.

Now, I think, Mr. Chairman, I have one or two other matters that I would like to take up. For instance, I would have liked to have gone into the matter of—I will just ask quickly, and I will not go into it in detail—about, for instance, when I was in Los Alamos last fall, an examination of the operating loss for the cafeterias and the restaurant or the feeding establishment in the Fuller Lodge had run an operating loss of some \$68,000 over the previous 6 months. I do not know; I have not seen the figures; I do not know whether that is continuing or not, but it seems to be an unconscionable loss, considering the patronage that was available, and the monopolistic—I say that kindly—it was a monopolistic operation of the feeding establishments for the people there, and to run that kind of loss, \$10,000 a month, seemed to me to be so far out of line as to be totally un-understandable.

Mr. TYLER. I agree with you, sir; very briefly on that, I recognize the time element—as I mentioned the other day, the lodge is the only eating establishment the Government still runs or Zia runs for us, and the lodge, with its eating and rooming establishment, lost in the month of April \$600.

Senator HICKENLOOPER. Who runs the cafeteria?

Mr. TYLER. The cafeteria is out on concession.

Senator HICKENLOOPER. Concession?

Mr. TYLER. And the Government gets a return, I believe 2 percent, of his gross, and his gross runs about \$18,000 a month, so we are making money on that one.

Senator HICKENLOOPER. My point in that was that I did not have the figures since that period of time.

Mr. TYLER. No, sir.

Senator HICKENLOOPER. I wanted your assurance as to whether or not we were still operating on that kind of a losing basis or whether that situation has been corrected.

So far as the cafeteria is concerned, I understand it has been corrected?

Mr. TYLER. We are out of business in the cafeteria business.

**Senator HICKENLOOPER.** It was a matter of some moment at the time out there, and I made some observations about it, and I am glad that it has been corrected.

Now, Mr. Chairman, I shall not hold you any longer.

**The CHAIRMAN.** I would like to stay, Senator, but I have two guests for lunch.

Now, as I understand it, Senator Hickenlooper has a long-standing engagement in Iowa on Monday which he made some months ago, so we will be unable to resume the hearings until Tuesday.

On Tuesday, Senator, do you intend to pursue Los Alamos any further?

**Senator HICKENLOOPER.** Well, there are a number of lesser items on Los Alamos that I would like to pursue, and there are some of these that I would like to pursue in more detail, but I think in the interest of time, that at least for the moment, I will want to go on down to Oak Ridge from Los Alamos, and probably will want to take up Oak Ridge matters on Tuesday.

**Mr. TYLER.** Mr. Chairman and Senator Hickenlooper, I am naturally available and will continue to be available. I would like to go home. I have been away from the project for a week, and this is an extremely busy month, being the end of the fiscal year.

I would like to go back to work. I can get over here on 12 hours' notice on an overnight flight, and would be very glad to return. I think actually the Military Application Division, General McCormack, has a great deal of information; I try to keep him fully informed, and I think he would be able to answer your questions. I am not trying to pass this on to General McCormack and put him in a bad spot.

**Senator HICKENLOOPER.** I would not open up without letting somebody know that I intend to. I feel some of these matters have been very inadequately probed, but I do want to hurry along.

**Mr. WILSON.** Mr. Chairman, I would hope that we would have an opportunity to go into all the matters that Senator Hickenlooper has in regard to Los Alamos, and if we do not do it now or on Tuesday, that the opportunity would be presented later.

**The CHAIRMAN.** Of course, Mr. Wilson. We have not deviated from the standard we set down at the beginning of this matter, that you will have a full opportunity to go into those matters at Los Alamos.

(Whereupon, at 1:25 p. m., the joint committee adjourned, to reconvene at 10:30 a. m., Tuesday, June 28, 1949.)

X

[illegible]

# INVESTIGATION INTO THE UNITED STATES ATOMIC ENERGY PROJECT

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## HEARING

BEFORE THE

## JOINT COMMITTEE ON ATOMIC ENERGY CONGRESS OF THE UNITED STATES

EIGHTY-FIRST CONGRESS

FIRST SESSION

ON

## INVESTIGATION INTO THE UNITED STATES ATOMIC ENERGY PROJECT

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**PART 16**

JUNE 28, 1949

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# INVESTIGATION INTO THE UNITED STATES ATOMIC ENERGY PROJECT

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TUESDAY, JUNE 28, 1949

CONGRESS OF THE UNITED STATES,  
JOINT COMMITTEE ON ATOMIC ENERGY,  
*Washington, D. C.*

The joint committee met, pursuant to adjournment, at 10:35 a. m., in the Caucus Room, Senate Office Building, Washington, D. C., Senator Brien McMahon (chairman) presiding.

Present: Senator McMahon (chairman), Representative Durham (vice chairman), Senators Millikin and Hickenlooper, and Representatives Price and Hinshaw.

Also present: David E. Lilienthal, Chairman; Sumner T. Pike, Commissioner; Lewis L. Strauss, Commissioner; Gordon E. Dean, Commissioner; Henry D. Smyth, Commissioner; Carroll L. Wilson, General Manager; Carleton Shugg, Deputy General Manager; Frances Henderson, Assistant to the Chairman; Brig. Gen. James McCormack, Jr., Director, Division of Military Application; Walter J. Williams, Director, and Carroll Towne, Division of Production; Joseph Volpe, Jr., General Counsel; Bennett Boskey and Everett L. Hollis, Office of the General Counsel; Morse Salisbury, Director, and Rodney L. Southwick, Division of Public and Technical Information Service; Fletcher C. Waller, Director, Division of Organization and Personnel; Richard W. Cook, Acting Manager; S. H. Sapirie, Chief of Engineering and Production; and Fred W. Ford, Director of Community Affairs, Oak Ridge Operations Office—all of the United States Atomic Energy Commission.

Clinton Hernandez, Vice President; Lyle D. Worrell, Assistant Project Manager; L. C. Macneal, Project Manager; and St. John W. Davis, Audit and Budget Division Manager, of the Roane-Anderson Co. (Oak Ridge); Clark Center, General Superintendent; William B. Humes, Superintendent, K-25; Clarence E. Larson, Superintendent, Y-12; Oral Rinehart, Controller; and Logan Emlett, Superintendent, Operations Division, Oak Ridge National Laboratory, of the Carbide and Carbon Chemicals Corporation (Oak Ridge).

The CHAIRMAN. The meeting will come to order.

Senator, I think you have something on the Oak Ridge situation today.

Senator HICKENLOOPER. That is right. I expect to go into that today, but there is a little clean-up of information on Hanford and Los Alamos that I would like to get into just to complete the record at this point.

I had asked Mr. Shugg if he would get me the total amount of money that had been paid to J. Gordon Turnbull, Inc., and to Graham,

Anderson, Probst & White, who were the groups that completed this town-planning survey there. I have no particular desire to discuss it one way or the other, except to get the total amount in the record, together with any itemization Mr. Shugg might want to give.

**STATEMENT OF CARLETON SHUGG, DEPUTY GENERAL MANAGER,  
UNITED STATES ATOMIC ENERGY COMMISSION**

Mr. SHUGG. That total fee, which includes direct costs and overhead and profit, was \$47,500. That is for the entire study and the make-up of the final plan.

Senator HICKENLOOPER. That is all the money they have received?

Mr. SHUGG. Yes, sir; for that particular master plan. They also had other projects, though.

Senator HICKENLOOPER. What was the nature of the other projects? Did they have anything to do with this town planning and town management, zoning, operation?

Mr. SHUGG. The entire study of the town, Senator—that is, all the water system and sewage system and the zoning and school districts and all of the utilities—that was all part of the master plan and that was the joint venture for \$47,500.

Senator HICKENLOOPER. That is the total amount paid to both companies?

Mr. SHUGG. Yes, sir.

Senator HICKENLOOPER. Now, I think that is all, unless you had some other break-down on that.

Mr. SHUGG. No, sir.

Senator HICKENLOOPER. Thank you very much.

Now, so far as Los Alamos is concerned, first, I have the committee file here, Mr. Chairman, on correspondence with respect to western housing. I would like to have the record show at this time the copy of my letter of September 14, 1948, directed to Mr. Lilienthal, Chairman of the Atomic Energy Commission, calling attention to the loss to the Government of at least \$250,000. I would like to read it into the record at this time, because that was the letter in which I asked for the fixing of responsibility. It is dated September 14, 1948, and reads as follows:

DAVID E. LILIENTHAL,

*Chairman, Atomic Energy Commission,  
Washington, D. C.*

DEAR MR. LILIENTHAL: The staff of the joint committee has recently completed an examination of the "Report on Defects in Housing Located in Western Housing Area, United States Atomic Energy Commission, Los Alamos, N. Mex."

On my recent trip to Los Alamos, I discussed some of the points raised with the local AEC officials who, in general, seemed to concur with the findings contained in the aforementioned report. It was the consensus that because of faulty construction, the Government sustained a loss of \$250,000.

In a matter involving such a substantial amount of money, it is surprising to me that no responsibility has been fixed and no attempt has been made to secure reimbursement to the Government.

In order that the joint committee may be fully informed on this matter, therefore, it is requested that the Atomic Energy Commission submit its official opinion on the question of responsibility in this matter, together with a statement as to any action to be taken in connection therewith.

I find no record here in the file of a reply, but it seems that a reply was given, either by telephone or otherwise, to this letter, saying that the Commission would look into it.

The next formal action on this matter is a letter from Mr. Lilienthal as Chairman of the Commission, dated June 3, 1949, addressed to Senator McMahon as chairman of the joint committee, in which Mr. Lilienthal says that the matter has been referred to the Attorney General, together with an analysis of the situation.

The staff prepared or sent a copy of those letters, Mr. Chairman, and I wonder if my letter of September 14, 1948, a copy, and Mr. Lilienthal's letter of June 3, 1949, and a copy of the Commission's letter to the Attorney General in this matter may go in the record at this point.

The CHAIRMAN. It is so ordered.

Senator HICKENLOOPER. I think there is nothing classified about those letters.

(The correspondence referred to follows:)

[Copy]

SEPTEMBER 14, 1948.

DAVID E. LILIENTHAL,  
*Chairman, Atomic Energy Commission,  
Washington, D. C.*

DEAR MR. LILIENTHAL: The staff of the joint committee has recently completed an examination of the "Report on Defects in Housing Located in Western Housing Area, United States Atomic Energy Commission, Los Alamos, N. Mex."

On my recent trip to Los Alamos I discussed some of the points raised with the local AEC officials who, in general, seemed to concur with the findings contained in the afore-mentioned report. It was the consensus that because of faulty construction the Government sustained a loss of \$250,000.

In a matter involving such a substantial amount of money it is surprising to me that no responsibility has been fixed and no attempt has been made to secure reimbursement to the Government.

In order that the joint committee may be fully informed on this matter, therefore, it is requested that the Atomic Energy Commission submit its official opinion on the question of responsibility in this matter, together with a statement as to any action to be taken in connection therewith.

Sincerely yours,

B. B. HICKENLOOPER,  
*Chairman, Joint Committee on Atomic Energy.*

(The above was taken over the phone)

JUNE 3, 1949.

HON. BRIEN MCMAHON,  
*Chairman, Joint Committee on Atomic Energy,  
Senate Office Building, Washington 25, D. C.*

DEAR SENATOR MCMAHON: This is in further reference to a letter, dated September 14, 1948, from the Chairman, Joint Committee on Atomic Energy, concerning the matter of defects in housing in the western housing area at Los Alamos, N. Mex. This matter was the subject of considerable inquiry during the hearings at Los Alamos conducted by the House Expenditures Committee last December.

The housing project was initiated and carried to substantial completion under the jurisdiction of the Manhattan Engineer District. Soon after jurisdiction over the project was transferred from the district to the Atomic Energy Commission, it became apparent to our Los Alamos office that the housing units did not meet ordinary standards for permanent construction and that modifications and repairs would be necessary in order to meet such standards. We are informed that the need for housing at the time, however, was so urgent that it was considered advisable to complete the construction of the few remaining houses without change in design or specification and to make the necessary changes in all houses after completion and occupation of the entire area.

It has been possible to establish rather conclusively the facts concerning the nature and scope of the defects in the housing units and to ascertain with consid-

erable definiteness the facts regarding the primary causes of the defects. It has proved a much more difficult undertaking, however, to develop the facts necessary to fix responsibility for the defects.

We are informed that due to an acute shortage of Government personnel to supervise the construction program, the working relationships between the Government, the architect-engineer, and contractor personnel were apparently conducted in a very informal manner. It appears to have been customary procedure for Government personnel to confer with the architect-engineer and contractor personnel, to reach decisions in these conferences, and to issue verbal instructions and directions, which seldom were reduced to writing. Furthermore, we understand that immediately prior to and during the planning and construction stages of the western housing project the Manhattan Engineer District had numerous changes in personnel as a result of demobilization of Army personnel and the influx of civilians as replacements. This fact has increased the difficulty of verifying verbal instructions.

Notwithstanding diligent attempts to ascertain the facts, we have had great difficulty in obtaining information which in our judgment is adequate for the purpose of fixing responsibility for the housing defects. Indeed, the information we now have is less complete than we would like. Nevertheless, the information is now probably about as complete as the circumstances permit. Since the facts indicate a possible claim by the Government against W. C. Kruger Co., an individual trading under the company name, and its successor W. C. Kruger & Associates, Architects-Engineers, Inc., for the damages suffered by the Government as a result of the housing defects, we have informed the Department of Justice concerning such possible claim and requested that the Department of Justice take such steps as it considers appropriate to protect the interests of the United States in this matter. A copy of our letter to the Department of Justice, together with summary of the facts transmitted therewith, is enclosed for your information.

During the investigation of this matter, appropriate steps have been taken by the Commission to avoid any action which might jeopardize the position of the Government and its chances of recovery of damages. A recent contract with W. C. Kruger & Associates contains an express reservation of claims under previous contracts. We are also withholding final payment in connection with the completion of the work under the contract relating to the housing development, and are deferring action under the price adjustment provisions of that contract, in view of the possible claim.

Sincerely yours,

UNITED STATES ATOMIC ENERGY COMMISSION,  
DAVID E. LILIENTHAL, *Chairman*.

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UNITED STATES ATOMIC ENERGY COMMISSION,  
*Washington, D. C. May 27, 1949.*

HON. TOM C. CLARK,

*Attorney General, Department of Justice, Washington 25, D. C.*

DEAR MR. ATTORNEY GENERAL: This is to advise you concerning a possible claim for damages by the United States against W. C. Kruger, an individual trading under the company name, W. C. Kruger Co., and his successor, W. C. Kruger & Associates, Architects-Engineers, Inc., based upon breach of a contract relating to a housing development of the Atomic Energy Commission at Los Alamos, N. Mex., and to request that the Department of Justice take such steps as it considers appropriate to protect the interests of the United States in this matter. While the amount of the possible claim is uncertain, the facts available indicate that the amount may be substantial and possibly as much as \$250,000.

The housing project in question was initiated and carried to substantial completion under the jurisdiction of the Manhattan Engineer District of the War Department. We are informed that due to an acute shortage of Government personnel to supervise the construction program, the working relationships between the Government and the architect-engineer were conducted in a very informal manner. It appears to have been the customary procedure for Government personnel to confer with the architect-engineer personnel, to reach decisions in these conferences, and to issue verbal instructions and directions, which seldom were reduced to writing. We understand also that immediately prior to and during the planning and construction stages of the project, the Man-

hattan Engineer District had numerous changes in personnel as a result of demobilization of Army personnel and the influx of civilians as replacements. These factors have measurably increased the difficulty of ascertaining the full facts, including the facts concerning the extent to which the actions taken were pursuant to instructions and directions of the Government or approved by the Government. However, the pertinent facts, to the extent we have been able to develop them, are summarized in a memorandum enclosed herewith.

We shall be pleased to make available to the Department of Justice the various contracts, reports, and other documents relating to this matter, and we suggest that representatives of your Department inform the Office of General Counsel of the Commission concerning your Department's desires in this regard. If you desire additional information, please inform us and we shall endeavor to furnish it.

Sincerely yours,

CARROLL L. WILSON,  
*General Manager.*

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#### MEMORANDUM

##### SUMMARY OF FACTS CONCERNING WESTERN HOUSING AREA DEFECTS

The United States, represented by the Corps of Engineers, War Department, entered into a lump-sum contract W-17-028-ENG-98 of March 4, 1946, with W. C. Kruger Co., an individual trading under the company name. The contract was transferred to the United States Atomic Energy Commission by Executive Order No. 9816, dated December 31, 1946. This contract, as amended on June 11, 1946, provided for performance by the Kruger Co. of title I and title II architect-engineer services for a specified project which involved, in part, a housing development within the so-called western housing area at Los Alamos.

The title I services included preparation, subject to approval of the contracting officer, of preliminary studies, sketches, and lay-out plans and reports; upon approval of the preliminary drawings by the contracting officer, preparation of final designs and detailed working drawings and specifications in accordance with Government standards necessary for the effective coordination and efficient execution of the construction work, and revision of such drawings and specifications if necessary; checking and approval of all shop and working drawings submitted by the constructor in connection with the construction work to assure that they conform with approved drawings.

The title II services included making all necessary field surveys required to adapt construction to terrain conditions and furnishing all grades which are essential to the construction of the project, furnishing a resident engineer and other personnel approved by the contracting officer to supervise the construction to assure that every part of the work was done in accordance with the approved drawings and specifications and within the areas and boundaries designated for the project, making all field tests at the site of the work and reporting to the contracting officer in writing as to the conformity or nonconformity of the materials and workmanship to specifications, upon termination or completion of the contract, supervising the testing of operating units to assure their conformance with specifications and furnishing all engineering services necessary to secure such conformance.

The contract provided that the extent and character of the work to be done thereunder by the Kruger Co. was subject to the general supervision, direction control and approval of the contracting officer to whom the Kruger Co. was to report and be responsible.

The contract provided for payment to the Kruger Co. of a lump sum of \$73,700 for the title I services (\$61,000 of this sum being applicable to services involving the unit housing development), subject to negotiation of an adjusted price after completion or termination of the contract on the basis of various factors including the efficiency, economy, and ingenuity of contractor but with adjusted price in no event to exceed \$90,000. The contract, as amended on June 11, 1946, also provided for payment to the Kruger Co. of \$15,000 for its title II services involving the housing development. The contract was further amended on April 10, 1947, and April 24, 1947, to provide for additional title I and title II services with regard to the housing development and for an increase of \$6,257 in the payment for the title I services and an increase of \$22,413 for the title II services. Final payment with respect to both the title I and title II services

was to be made under the terms of the contract upon "satisfactory completion of the construction work and its final acceptance."

The contract, as amended, was further amended from time to time to provide for performance by the Kruger Co. of additional title I and title II services which did not involve the housing units and for additional payments to the Kruger Co. for these services. Under these amendments, there was substantial increase in the top limit of the adjusted price.

The contract was also amended on February 1, 1948, to substitute W. C. Kruger and Associates, Architects-Engineers, Inc., for the W. C. Kruger Co. as contracting party, with the proviso that the W. C. Kruger Co. remained liable to the Government with respect to any and all obligations arising under the contract founded on matters which occurred prior to February 1, 1948, and that the Government was accorded the added right to proceed against the corporation therefor.

The Commission on July 15, 1948, entered into a letter agreement with W. C. Kruger and Associates, Architect-Engineers, Inc., which stated the contemplation of the parties to enter into a cost-plus-a-fixed-fee contract, effective as of July 16, 1948, which, among other things, would supersede existing uncompleted lump-sum contracts between the Commission and W. C. Kruger and Associates. The letter agreement provided for performance by W. C. Kruger and Associates on a cost-plus-a-fixed-fee basis pending execution of the definition contract. It is understood that performance of all title I and title II services relating to the housing units had been completed at the time the letter agreement was executed, as well as performance with respect to the other work under the contract. However, final payment under the contract had not been made and the adjusted price had not been negotiated.

The definitive contract contemplated under the letter agreement was executed by the Commission and W. C. Kruger and Associates on February 15, 1949, but effective as of July 16, 1948. This contract contained a whereas clause stating that "there is and has been no intent on the part of the A-E (W. C. Kruger and Associates) and the Commission to in any way effect any of their rights or obligations existing under any previous contracts between the parties by the execution of this definitive agreement or the letter contract superseded thereby."

The construction of the housing units was performed by Robert E. McKee, general contractor, under Contract No. W-17-028-ENG-112 with the War Department, effective as of June 28, 1946. Under the terms of the contract, all material and workmanship (if not otherwise designated by the specifications) were subject to inspection, examination, and test by Government inspectors at any and all times during the manufacture and/or construction and at any and all places where such manufacture and/or construction were carried on. The Government had the right to reject defective material and workmanship or require its correction. Rejected workmanship was to be satisfactorily corrected and rejected material was to be satisfactorily replaced with proper material without charge therefor.

A fact-finding board appointed by the manager, Los Alamos project, on March 1, 1948, reported that a field inspection of the houses in the western housing area disclosed numerous specific defects in many of the houses, including grading and drainage defects, floor settlement from partitions, heater room settlement, floor settlement at prefabricated closets, tub settlement, floor buckling, wall and ceiling cracks, ceiling collapse, beamed ceiling deflection, fireplace cracks in back of firebox, roof leaks, and cracks in the stucco. The board's report concluded that the defects were caused primarily by certain deficiencies in the basic design, the major deficiencies specified being "improper roofing, overloading of structural members, especially sills, and the waiving of the moisture content of the lumber." The report stated, in the latter connection, that, although the waiver was approved by higher authority and probably was at the request of higher authority, it was the responsibility of the architect-engineer, when this change was made, to check framing details and strengthen where necessary. The report further concluded that the "deficiencies should have been observed and corrected by the inspection force." While the report found that in a few instances the work had not been executed in the best and most workmanlike manner, the board concluded that the quality of construction was good since speed of construction was of major importance.

A memorandum from Mr. Carroll Tyler to General McCormack, dated October 14, 1948, contains certain additional pertinent facts. This memorandum states, in part, as follows:

"Prior to initiating the plans and specifications for the western housing area, the Manhattan Engineer District employed a city planning engineer recommended by the Planning Division, Corps of Engineers. One of his duties was to assist in determining the building materials and style of architecture most suitable for Los Alamos. As a result of this planning, the Southwestern type of architecture with flat roofs and adobe type exteriors was selected. Two such houses were designed by the architect-engineer and constructed as a test of the basic design, the utility of floor plan and suitability of available construction materials to the geographical area. These two houses were satisfactory and the architect-engineer was instructed to use them as a basis for final plans and specifications, deleting unnecessary frills. The normal procedure was then followed by the architect-engineer; using the basic designs of the experimental houses, he prepared preliminary plans and specifications and submitted same to the representatives of the Government. Numerous changes were made in the preliminary plans by the Government representatives in collaboration with some of the people who would eventually occupy the houses; the architect-engineer was instructed to prepare the final plans and specifications incorporating these changes. Additional changes were required by representatives of the Government during the preparation of the final plans and specifications, after completion of final plans and specifications and approval thereof by the Government, and after the contract for construction of the houses was let."

The memorandum also states that if the quality of lumber originally specified by the architect-engineer had been used, many of the difficulties experienced would not have arisen. Since it was impossible to procure lumber of the quality specified, the specifications were changed prior to bidding to provide that framing lumber from various depots and War Department establishments would be furnished by the Government. The memorandum concludes that it was impossible to exercise any control over the moisture content of the lumber used.

The report of the fact-finding board contains no estimates of the costs to the Government of the housing defects. However, a memorandum from General McCormack to Mr. Carroll Wilson, dated September 17, 1948, estimates at \$250,000 the direct cost for reroofing, shoring, patching, and painting to correct the defects.

Following the report of the fact-finding board and preparation of the Tyler memorandum setting forth additional facts, a further review was made of the appropriate files relative to the design and construction of the western housing area in an effort to obtain more definite information concerning the extent to which the Kruger Co. acted pursuant to directions and instructions of the Government and the extent to which the plans and drawings prepared by the Kruger Co. were approved by the Government. This further review indicated that little additional information of significance was found, except the fact that the contract drawings which were prepared by the Kruger Co. bear the signature approval of the acting commanding officer, Col. A. W. Betts. The report dated April 12, 1949, based upon the additional review, lists the following as the key Government representatives in charge of administration of the Kruger contract during the design of the housing units:

- L. E. Seeman, colonel, C. E., commanding officer
- A. W. Betts, colonel, C. E., technical deputy
- W. A. Stevens, lieutenant colonel, C. E., post deputy
- W. J. Penley, lieutenant colonel, C. E., operation officer
- Max Flatow, lieutenant, C. E., Head, Engineering Division
- Frank DiLuzio, Master Sergeant, Chief, Civil Engineering and Contracts Branch

The report also includes certain documentary materials indicating that the cost of extraordinary maintenance work with respect to the housing units up to June 30, 1948, amounted to approximately \$64,000. On June 30, 1948, a contract No. AT-29-1-GEN-454, which included repairs and improvements with respect to the housing units, was executed. The extent to which the costs involved under this contract are attributable to the defects in the housing units has not yet been ascertained. The Commission is withholding final payment under the provisions of the contract of March 4, 1946, as amended, and is deferring action under the price adjustment provisions of that contract in view of the possible claim against W. C. Kruger and W. C. Kruger & Associates, Inc., for the housing defects. The final payment retention, however, probably involves only a small part of the total damages suffered by the Government because of such defects.

Senator HICKENLOOPER. In regard to the Los Alamos situation, I shall not press this point this morning, because I said that Mr. Tyler could go back to Los Alamos, but this is information I would like to have in the record at the moment.

I would like to have the total amount of money paid, reimbursed to the Zia Corp. for the years 1947 and 1948. That is in total.

I would like to have the reimbursable salaries or wages paid by the Government to the Zia Corp. for any administrative or executive officials, such as any officers of the corporation or the general manager or the man who has charge of the Zia Corp. actively in the field, and the top three salaries paid by the Zia Corp.

I sent word about 9 o'clock through the committee to the Commission asking for those figures. If you have them, I would appreciate it if they could be put in the record at the moment. If you do not, perhaps you can get them within a day or two.

(The data referred to above are marked "Exhibit 21" and will be found in the appendix.)

General McCORMACK. I have the figures, Senator Hickenlooper, for a date that is not quite current. I am checking the specific figures on these questions with Los Alamos at the moment, and I will have them for you at the end of this morning's hearing.

Senator HICKENLOOPER. You may have the time to be sure your figures are accurate.

General McCORMACK. May I inquire whether you mean fiscal years or calendar years for the method of presenting this? The fiscal year would tie in better with our budget presentation, if there is a desire for a back-check there.

Senator HICKENLOOPER. The fiscal year—would that bring you up to July 1 this year?

General McCORMACK. It would take us through the last monthly payment, which is not quite the fiscal year.

Senator HICKENLOOPER. Make it the fiscal year, so we will have it divided by annual payments. I am interested in the reimbursable salaries of executive officials or managing officials of the Zia Corp., the top three. I do not care to go below the top three salaries paid by the Zia Corp. which are reimbursed by the Government.

I would like to hurry and get on down to Oak Ridge, Mr. Chairman, and for a preface of the Oak Ridge situation I would like to read some telegrams I have received from veterans' organizations in Oak Ridge.

This is a telegram addressed to me, dated May 18, 1949, and reads:

The Raymond C. Mason Post No. 6351, Veterans of Foreign Wars, Oak Ridge, Tenn., tonight passed unanimously a resolution calling for the immediate discharge of David E. Lillenthal as Chairman of the Atomic Energy Commission due to his statement before the Senate-House committee investigating fellowship awards to Communist students on Monday, May 16, 1949, at which time he stated, that he (Lillenthal) would accept a known Communist in the fellowship student-aid program in scientific research if the National Research Council recommended the student. The resolution also requests that President Truman immediately demand Lillenthal's resignation. The resolution further asks that all veterans' organizations throughout the United States pass similar resolutions at their next regular meeting. A resolution also asks the immediate withdrawal of all fellowship awards to known Communists.

The Raymond C. Mason Post No. 6351, Veterans Foreign Wars, Oak Ridge, Tenn.

I have this telegram, dated May 27, from the Disabled American Veterans of Oak Ridge, reading:

Chapter No. 26, Disabled American Veterans, of Oak Ridge, last night passed unanimously a resolution requesting the Joint House-Senate Atomic Energy Committee to inquire into and investigate the Atomic Energy Commission's new personnel policy set-up which became effective January 9, 1949, at which time all AEC and permanent civil-service employees of the AEC became regular AEC excepted appointment employees. The resolution alleges that the AEC has grossly violated section 12 of Public Law 585, of the Seventy-ninth Congress, commonly known as the Atomic Energy Act of 1946. The act does provide for excepted appointments for scientific and professional employees. However, the law specifically states that such officers and employees shall be appointed in accordance with civil-service laws, except that to the extent the AEC Commission deems such action necessary to the discharge of its responsibilities, personnel may be employed and their compensation fixed without regard to such laws. In view of the above this Disabled American Veterans chapter feels that it was strictly the intent of Congress that all AEC employees be civil-service employees with the exception of scientific and professional, such as project managers, scientists, doctors, lawyers, engineers, et cetera.

The resolution further alleges that the AEC arbitrarily withdrew from civil-service rules and regulations and without consultation and regard to its permanent civil-service employees this personnel action was taken against the wishes of the overwhelming majority of AEC's permanent civil-service employees. The AEC's new personnel action has resulted in the wholesale discharge of competent and capable disabled veterans as well as nondisabled veterans, which in the majority of cases could not have occurred under civil-service rules and regulations.

The resolution further states that the members of this chapter feel that it is both a dangerous and unfair situation when the AEC does not have to account to anyone for its personnel actions with the exception of the joint AEC congressional committee and the President.

The CHAIRMAN. I wonder if they want them to report to them—nobody but the committee and the President.

Senator HICKENLOOPER (continuing):

We sincerely ask and trust that the Congress will immediately ask a ruling and decision as to just what was the intent of Congress in this respect at the time the Atomic Energy Act was enacted. In the event the intent of Congress permits the AEC to continue its present personnel policy, we kindly request the act be amended as follows: That the only excepted employees be professional and scientific such as set out previously in this resolution.

We further ask that the law be amended to restore all other employees such as typists, clerks, stenographers, warehousemen, guards, patrolmen, supervisors, etc., back to and under civil-service rules and regulations.

We further allege that the morale of all previous permanent civil-service employees now working with the AEC has declined to a very low stage.

We sincerely solicit your fair and impartial assistance in this very important matter.

TENNESSEE DISABLED AMERICAN VETERANS CHAPTER,  
Box 145, Oak Ridge, Tenn.

Then on June 27 I got another telegram from the Veterans of Foreign Wars, Oak Ridge, Tenn., signed Raymond C. Mason, Post No. 6351, reading:

May it be resolved that our post protests the absolute disregard of the Veterans' Preference Act of 1944, as amended, to effect AEC and subcontractors or any other place that Government money is disbursed. After State convention last week in Jackson, Tenn., similar resolutions were passed, copies of which I am mailing to you. We respectfully request that you give this matter your attention.

I have a telegram dated June 27, 1949, addressed to me, reading as follows:

The AMVETS Oak Ridge Post No. 2 has unanimously passed a resolution opposing the personnel policy that the AEC here has adopted and made effective since

January 9, 1949. There has been veterans terminated from their position when nonveterans are remaining on the job, just because of a job title that is slightly different than the nonveteran although the veteran is more qualified than nonveteran. It is our belief in accordance with the Veterans' Preference Act of 1944 that if a veteran is qualified for the job, the veteran takes the position in preference to the nonveteran where Government money is spent. This is not the policy of the AEC here in Oak Ridge, Tenn. If you desire instances and names of 10-point veterans and veterans that have been terminated and nonveterans remaining on the job we will gladly forward them to you without delay. We feel that something should be done about the treatment that the veterans are getting here in Oak Ridge. We have tried locally but without results.

HOWARD L. WILKINSON,  
*Commander, Oak Ridge Post No. 2.*

Here is a resolution from the Rockwood Post No. 4782 of the Veterans of Foreign Wars in that vicinity, reading:

Whereas it appears that the Atomic Energy Commission has granted AEC scholarships to avowed Communists and, whereas, it appears that David E. Lilienthal, Chairman of the Atomic Energy Commission, has publicly approved the appointment of one Hans Freistadt, an avowed Communist, to an AEC scholarship, and that the said David E. Lilienthal has condoned other acts believed to be detrimental to the United States: Now, therefore, be it

*Resolved, by Rockwood Post No. 4782, Veterans of Foreign Wars*, Shall go on record as condemning the granting of such scholarships to Communists, and that a letter be forwarded to Comrade Harry Truman, President of the United States, condemning such appointments, and demanding the resignation of the said David E. Lilienthal, Chairman of the Atomic Energy Commission; and that the said post also opposes Government awards of scholarships to anyone who is a Communist, or who otherwise believes in any philosophy of life contrary to the basic principles upon which this Government is based and under which it has prospered so well for so many years; be it further

*Resolved*, That a copy of this resolution be forwarded to Senator Hickenlooper, chairman of the Senate Atomic Committee—

I will correct that, Mr. Chairman, and apologize—Senate Chamber, Washington, D. C.

Read, and adopted this the 6th day of June 1949.

It is signed by "Fred Eackles, Jr.," I presume that name is, and then "Attest: O. C. Gibson, Adjutant."

I have a letter here to which I will just refer, Mr. Chairman, from an attorney in Knoxville, stating that the American Legion Post at Oak Ridge has adopted resolutions touching this matter and that copies of the resolutions are being forwarded to me; but I have not yet received them. So I will not pretend to say exactly what is in the resolutions until they arrive.

Now, I would like to start an inquiry into some of the administrative and business practices at Oak Ridge. I would first like to go into the operation of the Roane-Anderson Co., which is a maintenance company in Oak Ridge, of a somewhat similar character to the Zia Co. in Los Alamos.

Mr. VOLPE. Excuse me, sir. Before we leave the subject of these telegrams, I would merely like to say that the action taken by the Commission with respect to personnel in no way affects the status of veterans under the Veterans' Preference Act.

Senator HICKENLOOPER. I have a number of private letters from veterans taking direct issue with that statement. Their position is that veterans' preference has been thrown out the window at Oak Ridge. I do not know. We may be able to go into that later. I am merely putting the protests in the record.

**STATEMENT OF RICHARD W. COOK, ACTING MANAGER, OAK RIDGE OPERATIONS OFFICE, ACCOMPANIED BY CARROLL L. WILSON, GENERAL MANAGER, WALTER J. WILLIAMS, DIRECTOR, DIVISION OF PRODUCTION, AND JOSEPH VOLPE, JR., GENERAL COUNSEL, ALL OF THE UNITED STATES ATOMIC ENERGY COMMISSION**

Senator HICKENLOOPER. It is my understanding that the Roane-Anderson Co., as I said a moment ago, is a management company employed by the Commission to operate the town of Oak Ridge. It is also my information that Roane-Anderson in operating the town of Oak Ridge is fully reimbursed for all expenditures—that is, within the allowable limits of expenditures in that town—the costs of all materials, the costs of wages of employees, and all such things are fully reimbursed by the Government, that is, by the Atomic Energy Commission—and that after such reimbursement, the firm of Roane-Anderson gets \$192,000 clear for what has been referred to as “know-how” and that out of that \$192,000 there are no expenses and no salaries paid whatsoever, except it is turned in to the corporation, the Roane-Anderson Co., presumably in the nature of a fixed profit on top of all reimbursable items.

Now, is there any comment on that, or can we get that explored?

Mr. WILSON. Mr. Chairman, we have here this morning Mr. R. W. Cook, who is acting manager for the Oak Ridge operations office of the AEC; Mr. Fred Ford, who is in charge of community operations for AEC under Mr. Cook at Oak Ridge; we also have present in the meeting room representatives of the Carbide & Carbon Chemical Corp., which operates the plants and laboratories, and representatives of the Roane-Anderson Co.

I would like to ask Mr. Cook or Mr. Williams, to whom Mr. Cook reports in the organization, to speak to the subject of the Roane-Anderson contract and functions which the Roane-Anderson Co. performs for the Commission at Oak Ridge.

Mr. Cook. I think the best way to give you a complete picture of the work done by Roane-Anderson Co. for the Commission is to read excerpts from a prepared statement.

The Roane-Anderson Co. is a Tennessee corporation, a wholly-owned subsidiary of the Turner Construction Co., of New York, and entered into a cost-plus-a-fixed-fee contract with the Manhattan District, effective September 23, 1943, to operate and maintain Government-owned facilities and properties, with the exception of production plants in the Oak Ridge area.

On January 1, 1947, in accordance with the provisions of the Atomic Energy Act and Executive orders, the contract was transferred from the Manhattan District to the Atomic Energy Commission. The Roane-Anderson Co. was formed for the sole purpose of carrying on the work required by this contract and no other activities are carried on by this company.

In carrying out its responsibilities under the contract, the company proceeds as directed by the Commission under policies established by the Commission or in accordance with policies and procedures recom-

mended by the company and approved by the Commission. At the present time the company operations include the following:

Operation and maintenance of 8,999 family units, housing approximately 30,000 individuals, 15 active dormitories housing approximately 1,850 individuals, a private trailer camp housing approximately 145 individuals, and other miscellaneous housing covering the total housing requirements of a population of approximately 32,000 people.

Senator MILLIKIN. May I interrupt a moment?

Mr. Chairman, are we on the roll?

The CHAIRMAN. Yes; I think so, Senator. I made an arrangement to have it announced that we would be here.

Proceed, Mr. Cook.

Mr. COOK. Under real-estate management is included maintenance of commercial properties rented on concession lease or license basis for the operations of all types of retail or service establishments normally found in any community such as grocery stores, department stores, barber shops, automotive repair shops, restaurants, office buildings for doctors, insurance agents, dentists, and others.

The company collects revenue for the rental of these commercial properties of approximately \$1,118,000 per year. They collect a revenue for the operation and maintenance of the family-type housing of over \$4,000,000 per year.

Senator HICKENLOOPER. What was the first figure?

Mr. COOK. \$1,118,000.

Senator HICKENLOOPER. And the second figure?

Mr. COOK. Over \$4,000,000. They also operate and maintain the outside electrical distribution system, covering 482 miles of distribution lines with over 9,000 service connections.

Senator MILLIKIN. Mr. Chairman, might I interrupt to ask the witness if he has the figures: What is our total investment in housing at Oak Ridge?

Mr. COOK. I do not have that figure handy, sir, but I can furnish it for the record, if you desire.

(The data referred to above are marked "Exhibit 22" and will be found in the appendix.)

The power transmitted over the distribution system they operate averages approximately 11,000,000 kilowatt-hours per month.

They operate and maintain a water supply system furnishing over 10,000,000 gallons of water per day to approximately 9,000 residential, commercial, and industrial users, including the Y-12 plant and the Oak Ridge National Laboratory.

The system includes 146 miles of water mains, a river pumping station, booster pumping station, reservoirs, filtration plant with a capacity of 18,000,000 gallons per day.

They operate and maintain a steam plant and steam distribution system, furnishing approximately 900,000 pounds of steam per day to the commercial and industrial and Government facilities at Oak Ridge.

They operate and maintain a sewage system serving approximately 9,000—or the same number of units.

They maintain 233 miles of roads, 64 miles of wooden sidewalks, 82 miles of stone sidewalks, 94 miles of bituminous and concrete sidewalks, 54 cemeteries, 146 parking areas.

They are responsible for the construction and erection of traffic and safety signs.

Senator HICKENLOOPER. Did you say 54 cemeteries?

Mr. COOK. Yes, sir. Those are the cemeteries that were on the area when the Manhattan District formally took over, and it is the responsibility—

Senator HICKENLOOPER. You mean cemeteries of very small towns in that area; is that it?

Mr. COOK. Community cemeteries. There are quite a few churches and each church has a cemetery, and it is our responsibility to maintain them and to permit people who desire to use them.

They maintain the drainage system, including construction of necessary additions and improvements to the system; also carry on a soil erosion control program and the construction of necessary improvement and additions to the roads and streets system.

Problems in connection with the drainage and soil-erosion control are complicated by the fact that the Oak Ridge area has an average rainfall of from 50 to 70 inches per year.

They operate warehousing, classifying, and handling of all activities necessary for the disposal of excess serviceable Government-owned materials, equipment, and supplies. The value of such materials presently being handled is over \$850,000 per year.

They handle all of the activities necessary for the sale of Government-owned unserviceable material, equipment, and supplies, including scrap salvage and small lots of serviceable items. Revenue collected by the company for these operations since July 1, 1948, exceeds \$350,000.

They furnish all types of fuel and engineering services needed in connection with the construction of improvements and additions to Government-owned facilities, utilities, property in the Oak Ridge area, with the exception of the production plants.

Senator HICKENLOOPER. Facilities—you mean housing, buildings?

Mr. COOK. Commercial facilities, houses, public utilities.

They operate a U-Drive-It and chauffeur-driven motor pool, providing both on-area and off-area transportation service to representatives of the Commission, the Roane-Anderson Co., and other Commission contractors on the area.

They install, maintain, and repair the radio facilities and equipment used by the Commission on the area.

They provide payment of compensation to individuals carried on the company pay roll, but working under the direct supervision of the Commission engaged in such activities as police, fire protection, public safety, public-library operation, public health, community recreation, welfare department, and other miscellaneous municipal activities.

The company procures and maintains the necessary supplies, equipment, and materials used in carrying on these activities and accounts for any revenues accruing to the Government from such activities.

They maintain and repair, including the furnishing of utilities and cleaning service, the structures used by the Commission as office space for the Commission employees at Oak Ridge and for such other Commission contractors as the Oak Ridge Institute of Nuclear Studies, the Anderson County School Board, and others.

They maintain public grounds such as parks, playgrounds, recreation halls, chapels, and others.

They furnish and deliver coal to 9,000 residential, commercial, industrial, and public buildings and also provide garbage and refuse removal.

In carrying out the activities as just reviewed, the company is organized on a division-operating basis with functions, responsibilities, and authority assigned to each operating division.

In addition to the line operating divisions, it is necessary for the company to have staff departments and divisions that any other company carrying on activities similar in scope would have, such as office services, personnel, employment, organization, procurement, central warehousing, audit, budget, accounting, control, and administration.

The work for which the Roane-Anderson Co. is responsible is carried out by the employees on the company pay roll or is subcontracted on an incentive lump sum or unit price contract or concession basis.

On June 13, 1949, there was a total of 1,881 individuals on the company pay roll, 1,564 of whom worked under the direct supervision of the company, 317 worked under the direct supervision of the Commission on municipal activities.

As of the same date—

The CHAIRMAN. Why should you carry on the Roane-Anderson roll the people that work for the Commission on municipal activities?

Mr. Cook. Initially all of the municipal activities since the beginning of the project have been carried on by employees on the Roane-Anderson pay roll. We feel that since they have been on the pay roll for this period of time, built up company service credit, that they should be maintained on Roane-Anderson's pay roll until Oak Ridge can become an incorporated municipal city, and then they will transfer from the Roane-Anderson Corp. to the city pay roll.

Senator HICKENLOOPER. How many total employees does Roane-Anderson have?

Mr. Cook. On June 13 they had 1,881 on their pay roll performing Roane-Anderson activities and 317 on the pay roll performing municipal activities.

Senator HICKENLOOPER. That would be 2,198; is that correct?

Mr. Cook. I made a mistake, sir. The total included the 317.

Senator HICKENLOOPER. How many employees of Roane-Anderson are devoting their time to municipal activities as compared strictly to production or industrial activities of the Commission?

Mr. Cook. I have that figure here, sir, if you will bear with me a minute. On that break-down that I have there are 190 employees performing—this 190 is the proration of the total Roane-Anderson pay roll that might be allocable to municipal employees.

Senator HICKENLOOPER. That means taking care of the streets and other things?

Mr. Cook. That is right, but it does not include the electrical distribution, which is an operation—

Senator HICKENLOOPER. Have you got a break-down as to what these—as I understand it, you say that the total employees of Roane-Anderson is 1,881?

Mr. Cook. That is right.

Senator HICKENLOOPER. Is that correct?

Mr. COOK. That is the figure as of the date I gave it to you. The break-down I have in front of me is as of May 30. There has been some reduction since that time.

Senator HICKENLOOPER. 1,881; and the date was what?

Mr. COOK. June 13 is the date I previously gave.

Senator HICKENLOOPER. June 13 of this year. Now, again, just tell me what those 1,881 people do. How many work in the schools, how many work in town maintenance, and how many work in the direct production facilities of the Commission, if any?

Mr. COOK. May I check this break-down a minute, sir? If it is all right with you, Senator, I would like to go back to the figures as of May 30, which is our last complete break-down.

As of that date we had 1,903 employees in all departments. In the building maintenance were 519; equipment repair, 94; motor pool, 42; engineering and subcontracts, 37; roads and streets, 151; utilities, 133; under public safety, police, 94; fire, 98. That is the fire department and police department.

Senator HICKENLOOPER. Under public safety, does that include guards for the production facilities?

Mr. COOK. No; it does not.

Senator HICKENLOOPER. How many in the fire department?

Mr. COOK. In the fire department, 98. Housing, 92.

Senator HICKENLOOPER. What do they do in housing? Repair work or rental?

Mr. COOK. No, sir. The housing is the management of the housing, rentals, assignments, collections, cleaning, and reassignment.

Under community services, area recreation—I skipped one. After housing comes commercial realty, responsible for the operation of concessions, 63.

Senator HICKENLOOPER. How many concessions do you have under that classification?

Mr. COOK. The approximate figure is 152.

Senator HICKENLOOPER. That is close enough. Now, the community services, I did not get the number there.

Mr. COOK. I will break the community services down into area recreation, 44; library, 9; photo unit, 3.

Senator HICKENLOOPER. What is the photo unit?

Mr. COOK. That was a unit operated by Roane-Anderson for the Commission to take official photographs for various purposes required by the Commission. That unit since has been transferred as of July 1, I think, or will be transferred as of July 1, to the Commission on the direct pay roll.

Senator HICKENLOOPER. Is that all the break-down of community services?

Mr. COOK. No, sir. Public relations, 1; public health, 37; welfare, 17.

The next break-down is materials division: Purchasing, 17; materials and warehousing—

Senator HICKENLOOPER. How many do you have in the materials division altogether?

Mr. COOK. 246.

Senator HICKENLOOPER. All right.

Mr. COOK. Next is administration. Project office, administration, 76; controller's office, 38; accounting department, 94; safety and other, 15.

Senator MILLIKIN. What is the total?

Mr. COOK. 1,903, sir.

Senator MILLIKIN. I mean the last division under administration.

Senator HICKENLOOPER. 233 I get.

Mr. COOK. That is right, sir. If you want a functional break-down—that was a department break-down.

Senator HICKENLOOPER. Does that now make the total of 1,903 employees as of May 30?

Mr. COOK. Yes, sir.

Senator HICKENLOOPER. Now, you now have 1,881 employees as of June 13, 1949; is that correct?

Mr. COOK. That is the figure I read before.

Senator HICKENLOOPER. Therefore, I assume for the sake of brevity we can assume that there have been some proportionate adjustments in these various employment categories to make that.

Mr. COOK. That is right, sir.

Senator HICKENLOOPER. For these services that you render, Roane-Anderson receives full reimbursement, does it not, for all expenditures, including wages and equipment expenditures, and depreciation, and things of that kind?

Mr. COOK. They are reimbursed for their costs of operation; that is right.

Senator HICKENLOOPER. And Roane-Anderson, therefore, does not risk a single cent in this operation.

Mr. COOK. That is not true, sir.

Senator HICKENLOOPER. Where does the risk for Roane-Anderson come? What expenditures does Roane-Anderson make that are not reimbursable?

Mr. COOK. I think the risk they take in conducting their operations is the possibility of exceptions taken by the General Accounting Office.

Senator HICKENLOOPER. But so long as Roane-Anderson goes ahead and stays within the prescribed limits of its expenditures in this operation, which should be pretty well defined, there is no financial risk to Roane-Anderson?

Mr. COOK. Well, the total amount of GAO exceptions to date has been \$367,000, of which \$283,000 has been cleared, leaving a balance of \$83,000 not cleared; and some of these exceptions are over 3 years old.

Senator HICKENLOOPER. But still there is a claim for reimbursement and an attempt to clear it with the GAO?

Mr. COOK. We will attempt to clear it, but there is no assurance that full clearance will be granted.

Senator HICKENLOOPER. Now, your contract calls, in addition to full reimbursement for all legitimate expenditures, that is, all expenditures—

Mr. COOK. That are approved under the terms of the contract.

Senator HICKENLOOPER. Provides for a fee of \$192,000 on top of that per year; does it not?

Mr. COOK. Yes, it does. I would like to—

Senator HICKENLOOPER. Now let me ask you: What is the so-called modification 20 of the contract with Roane-Anderson?

Mr. Cook. Modification 20 provides for the continuation of the operation of the Roane-Anderson Co. It provides for a method of obligation of additional funds for the ensuing fiscal year, and provides for a revised contractor-commission relationship, which we have been working on for some time, where the contractor assumes full management responsibility for his activities.

Senator HICKENLOOPER. Does it provide for additional fees or compensation of any kind for the Roane-Anderson supervision of subcontracts, either of its own or of other subcontractors there?

Mr. Cook. It provides—this supplement provides for the Roane-Anderson Co. taking over and accomplishing by subcontract miscellaneous work formerly accomplished by direct prime contract with the Commission.

Senator HICKENLOOPER. Those subcontracts, are they reimbursable contracts?

Mr. Cook. They are reimbursable contracts.

Senator HICKENLOOPER. Does Roane-Anderson get an additional fee for supervising those subcontracts?

Mr. Cook. They will receive an additional fee for the engineering, inspection, and responsibility involved in handling that additional work.

Senator HICKENLOOPER. In addition to the reimbursement; and that is separate and distinct from the operation of the community? That is in addition to the reimbursement?

Mr. Cook. That is right.

Senator HICKENLOOPER. That is a clear fee or supervisory fee on top of the \$192,000 per year?

Mr. Cook. The \$192,000 provides for the operations that I gave to you just a moment ago.

Senator HICKENLOOPER. I understand that.

Mr. Cook. This is a separate and distinct job that was assigned to the contractor recently.

Senator HICKENLOOPER. I understand. How much money has Roane-Anderson received or how much money will be due Roane-Anderson under present existing subcontracts as a supervisory fee under modification 20 of the contract?

Mr. Cook. That fee will depend upon the amount of work that is transferred to them and for which they are fully responsible. The fee will be calculated in accordance with the fee manual for construction contracts.

Senator HICKENLOOPER. What is the rate of the fee?

Mr. Cook. The rate varies with the scope of the work—the more work involved, the less fee.

Senator HICKENLOOPER. How much money has Roane-Anderson received under modification 20 of the contract?

Mr. Cook. They have not received any to date, sir.

Senator HICKENLOOPER. How much is due Roane-Anderson under operations to date?

Mr. Cook. Under modification 20 under this additional work?

Senator HICKENLOOPER. Yes.

Mr. Cook. No money is due them.

Senator HICKENLOOPER. Does Roane-Anderson supervise now some subcontracts that are in the process of being completed?

Mr. COOK. You mean subcontracts of a construction nature?

Senator HICKENLOOPER. Is Roane-Anderson supervising subcontracts under modification 20 at this time?

Mr. COOK. I have a list of contracts that they are now supervising, sir.

Senator HICKENLOOPER. What is the total amount of those contracts?

Mr. COOK. They fall in two different categories: One under the operating contract and one under the provisions of the new supplement.

Senator HICKENLOOPER. I am interested in those that fall under the new supplement.

Mr. COOK. I would have to separate those out and add them up. Shall I do that later or now?

Senator HICKENLOOPER. I do not like to take the time of compiling figures in this hearing. I certainly had hoped that the business would be run down there so that these figures could be developed and we would not have to stop and figure them out all the time.

I do want to know the total amount of money Roane-Anderson anticipates to get in addition to the \$190,000 fee and in addition to reimbursable items. In other words, a supervisory fee under modification 20 of the contract.

It would seem to me that a reasonable and fairly accurate approximation could be given of that.

Mr. COOK. We will prepare those figures for you and have them the first thing in the morning. Do you have the copy of the revised contract in front of you, article 11, which provides for construction work?

Senator HICKENLOOPER. I do not have that.

Mr. COOK. May I read that, sir, and it will explain just what that work covers?

(The data referred to above are marked "Exhibit 23" and will be found in the appendix.)

Senator HICKENLOOPER. Well, it covers, as I understand, the supervision or the taking over of subcontracts by Roane-Anderson, and I understand for that supervision there is an additional fee or a profit or supervisory fee under modification 20, which would be in addition, an additional revenue to the corporation on top of the \$192,000 a year.

Mr. COOK. This is an additional job that we are turning over to Roane-Anderson that they never before accomplished, and is not a part of their normal operations. I would like to read that to you, sir.

Senator HICKENLOOPER. Well, go ahead. I do not see that it will do anything but delay the matter.

Mr. COOK (reading):

The contractor shall perform such construction work as the Commission may direct from time to time. Such work shall be performed by the contractor's own personnel or may be subcontracted in accordance with the terms of this contract, it being the intent, however, that such construction work will not be done in the main by the contractor's own personnel and that approval of the Commission to the subcontracting or subletting thereof by the contractor will not be unreasonably withheld. In the event that the estimated costs (as mutually agreed upon by the contractor and the Commission) of any construction project which is directed to be performed thereunder after January 1, 1949, exceeds \$25,000 in any instance, the contractor shall be paid an additional fee for the

performance of the excess work (above the \$25,000) involved in such project. Beginning June 30, 1949, and annually thereafter as long as this contract is in force all such construction projects which have been completed during the then current fiscal year shall be reviewed and the amount by which the original estimated cost of each such project exceeds \$25,000 (hereinafter called excess estimated costs of the project) shall be determined and added to the excess estimated cost of all other construction projects completed during that year. The amount of additional fee to be paid to the contractor for that year shall be established on the basis of the total excess estimated cost of all construction projects completed during that year in accordance with the following schedule.

The fee varies, starting with \$200,000, 1.14 percent, to \$5,000,000 with 0.5 percent of the total estimated cost.

In other words, for extra work they have never done before, which was formerly done by the Commission, up to \$25,000 they receive no additional fee.

Senator HICKENLOOPER. Now, who is the general manager or the chief executive officer of Roane-Anderson Co.?

Mr. COOK. The nonresident project manager is Mr. Clinton Hernandez. The resident manager is Mr. Leroy Macneal.

Senator HICKENLOOPER. Mr. Hernandez' salary is reimbursed?

Mr. COOK. Hernandez' salary is not reimbursed. His home office is the New York office of Turner Construction Co.

Senator HICKENLOOPER. He is an official of that company?

Mr. COOK. Yes, sir; and spends a considerable amount of his time in following the work at Oak Ridge.

Senator HICKENLOOPER. What is the resident manager's name?

Mr. COOK. Leroy Macneal.

Senator HICKENLOOPER. Is his salary reimbursed?

Mr. COOK. His salary is reimbursed to the extent of \$12,000 a year. What he receives over and above that I am not familiar with.

Senator HICKENLOOPER. Is there an assistant general manager?

Mr. COOK. He has two assistants.

Senator HICKENLOOPER. What is the salary of each of those assistants that is reimbursed?

Mr. COOK. The assistant project manager is Lyle D. Worrell. We reimburse Roane-Anderson in the amount of \$10,140 a year.

He has another assistant project manager, Mr. C. C. Powell. We reimburse the contractor in the amount of \$8,100 per year.

Senator HICKENLOOPER. Those are the three top reimbursable salaries of Roane-Anderson; is that correct?

Mr. COOK. Those are the salaries of the three top key personnel in Roane-Anderson.

Senator HICKENLOOPER. Do you have any reimbursable salaries to Roane-Anderson in that general area of \$8,000 and above?

Mr. COOK. Yes, we do, sir.

Senator HICKENLOOPER. How many of those?

Mr. COOK. I will have to check them. I may have them.

Senator HICKENLOOPER. Are they supervising architects or project subcontractors?

Mr. COOK. No, sir. I can give you the general classification. They are generally division and department heads.

Senator HICKENLOOPER. Can you give me the number of those?

Mr. COOK. Would you prefer a break-down by salary ranges?

Senator HICKENLOOPER. Well, give it to me as clearly as you can. I am not particularly interested in the names of the individuals for

this purpose. I want to know the salaries that are paid and the duties. That is, salaries in a supervisory or executive capacity.

Mr. COOK. Well, \$700 per month or \$8,400 per year and above—we have a total of four people.

Senator HICKENLOOPER. How many do you have above \$8,400 and what are those salaries? These are the reimbursable items. I am not concerned with what the New York office pays its officials back there, but I am interested in the reimbursable items by the Government.

Mr. COOK. That is right. Above \$8,400 per year, sir, there are only four people.

Senator HICKENLOOPER. Four above?

Mr. COOK. That is right.

Senator HICKENLOOPER. And what are those salaries above \$8,400 a year?

Mr. COOK. I have given you the names of three of them.

Senator HICKENLOOPER. Yes.

Mr. COOK. And the other one is Mr. W. C. Taylor. He is \$8,820 per year. He is the manager of the housing division.

From \$600, or \$7,200 per year, to \$700 per month, there is a total of 11.

Senator HICKENLOOPER. Eleven at \$7,200?

Mr. COOK. From 600 to 700 dollars a month, or from \$7,200 per year to \$8,400 per year, there is a total of 11.

Senator HICKENLOOPER. Now, what totals do you have in the bracket that would be just below that?

Mr. COOK. From \$6,000 to \$7,200 per year there are 12.

Senator HICKENLOOPER. I think we do not need to break them down lower than that.

Now, I made a little investigation over the week end of my own home town of Cedar Rapids, Iowa, which is quite a well-run town and which is a town of 76,000 people. There are some interesting comparisons as to the number of people in town administration, airport employees, public improvements, such as sidewalks, sewage disposal, streets, and maintenance department; the board of health includes garbage disposal and incinerator operation; city waterworks, parks. There is the arborist's department, recreation field, the fire department, the police department, the memorial coliseum and stadium employment and public libraries. That town of 76,000 people operates that city with 517 employees, and that includes 90 policemen.

I call that in contrast to the 1,500 employees in a town of 8,400 at Los Alamos who devote themselves to town operation as distinct from production operation; and I call that in contrast to the operation of town facilities at Oak Ridge.

The total operating budget of that city of 76,000 people, exclusive of interest on any bonds that they may have, the current operating budget is \$2,092,801.45.

Pride in my home town would force me to say that I think it is a very well run city. It is efficiently run, it is clean, its services are good.

Now, I want a little further, because they do not do electrical work for the houses and they do not do plumbing for the private residences, but in that city there are 59 licensed plumbers who take care of all the plumbing for that city. They are privately hired, of course, by the householders. There are 14 electrical contractors with an estimated

number of not more than five electricians per contractor, which would make about 70. So, it might be fair to add to this list 129 plumbers and electrical contractors.

But by the same token we would have to take off 90 of the police department, because in these town operations the guard force—with the exception of Oak Ridge, and I think you have a police department in Oak Ridge, but in Los Alamos the guard situation is taken care of by a separate budget. So, if we took the police out of this town, it would reduce the number by 90 employees. I merely put that in for the record.

Now, I would like to go on, if I may.

Mr. Cook. Senator, we only have 495 people in the town activities. The police force for the town of Oak Ridge has nothing to do whatsoever with the control and guarding of the controlled area surrounding the plants.

Senator HICKENLOOPER. I understand. I said "with the exception of Oak Ridge," which has a police department for the town activities. I understand that. The Roane-Anderson Co. operates the police department for town activities, does it not?

Mr. Cook. That is right, but in comparison of some of our activities with a recent survey made by the firm of J. L. Jacobs, of Chicago, the number of employees in our municipal activities is not unreasonably out of line. In fact, it is less than a considerable number of communities.

Senator HICKENLOOPER. Now, I would like to go on and talk about the bus company down there.

Senator MILLIKIN. May I ask a question?

The CHAIRMAN. Certainly.

Senator MILLIKIN. Who is on the staff of the Roane-Anderson Co. giving continuous attention to the Roane-Anderson contract at Oak Ridge whose salary is not reimbursable?

Mr. Cook. Who is on the staff—would you repeat that, sir?

Senator MILLIKIN. Who is on the staff of the Roane-Anderson Co. at Oak Ridge whose services are not reimbursable?

Mr. Cook. There is no full-time man at Oak Ridge whose services are not reimbursable. However, Mr. Clinton Hernandez is the off-area project manager of the Turner Construction Co., who spends a considerable amount of his time at Oak Ridge.

Senator MILLIKIN. All representatives of the Roane-Anderson Co. at Oak Ridge who give their continuous attention there, their salaries are reimbursed?

Mr. Cook. That is right, sir.

Senator MILLIKIN. There are roving representatives of the company who come out and supervise the situation?

Mr. Cook. Quite often, depending upon the needs for services from the parent corporation, whether they are legal, industrial relations, accounting, or just periodic inspection, we have people out from the New York office to assist in the operations at Oak Ridge. All costs pertaining to that work which they do at Oak Ridge comes out of their fee. It is nonreimbursable.

Senator MILLIKIN. So that the Oak Ridge company gets roughly \$200,000 a year plus these possible extras for that roving supervision?

Mr. Cook. Well, sir, the Turner Construction Co. has a total of 21

people furnished by the parent organization who are in key supervisory capacities in the work at Oak Ridge: 17 of those people came directly from the Turner Construction Co., 4 of them came from jobs with Turner, worked with another firm on a joint venture.

That is a part of the reason why we pay a fee, because we obtained these key people from this parent organization, who, if they were not assigned to Oak Ridge, would be working on some other work of the Turner Construction Co. where the company would expect to earn a profit.

Senator MILLIKIN. That is a sort of employment agency fee, as it were?

Mr. Cook. Sir?

Senator MILLIKIN. That is comparable to an employment agency fee. You pay this outfit a certain amount of money because they supply you with a type of person which you want and which you proceed to put on the Commission's pay roll.

Mr. Cook. No, sir; it is really a management fee.

Senator MILLIKIN. I mean, in terms of reimbursability.

Mr. Cook. It is really a management fee, and by reason of the various type of operations there, the closest comparison that we can make to the Roane-Anderson operation is to a construction contract, and a fee that you would pay for a construction job.

We have carefully reviewed the various activities that they perform, and we relate those activities to the complexity in comparison to a construction job.

Senator HICKENLOOPER. At that point, in 1948 under this main contract there were some \$15,770,000 worth of work performed or done under the contract, and the fee was \$192,000. In 1949 there were \$5,899,000 of this work, and the fee was \$192,000. In 1950, there is estimated to be \$7,761,000 worth of work, and the fee is \$192,000.

So that it seems that the fee is just simply a fixed, rigid fee, irrespective of the amount of work that is involved.

Mr. Cook. Those figures do not check with mine, Senator; but I might point out that, if you allow me to continue on this, their budget last year was approximately \$17,000,000.

Senator HICKENLOOPER. I am reading from the statistics developed by the joint committee, and on this mimeographed sheet here, which says:

The amount obligated under total contract, 1948, \$15,770,000; 1949, \$5,889,000; and the fiscal year 1950, \$7,761,131.

Mr. Cook. The amount of the obligation has nothing to do with the cost of operation or cash expenditures under the contract. That is one of the difficulties we have ourselves in budget procedures.

Senator HICKENLOOPER. The whole story adds up to this.

Mr. Cook. Let me give you these figures, sir. In 1947 they had cash expenditures under their contract of \$13,000,000 and cash revenue of \$6,300,000. In 1948, they had a cash expenditure of \$14,900,000, and a cash revenue of \$6,700,000. In 1949, using the first 11 months of operation extended, they will have a cash expenditure of \$15,000,000, and a cash revenue of \$6,400,000. Our estimated cash expenditure for 1950 is \$16,100,000, and our revenue is \$6,400,000.

Senator HICKENLOOPER. Do you make that up of the following items? I do not know that I can follow that on this sheet.

Amount obligated under total contract, 1948, is \$15,770,000; maintenance of production and research facilities, \$492,748; maintenance and operation of towns, \$9,395,938; maintenance of AEC administrative facilities, \$1,926,522; construction, \$3,762,792.

Is that the general total that you are referring to?

Mr. COOK. You have a budget break-down, sir, and I have a cost break-down. I do not think we will be able to reconcile the two. I would be glad to look up the budget break-down.

Senator HICKENLOOPER. That has been one of the difficulties, to reconcile the costs and budgets.

I would like to go on.

Senator MILLIKIN. I wonder if I could get a clinch on my line of inquiry.

Senator HICKENLOOPER. Certainly.

Senator MILLIKIN. Is it correct that there is no member of the Roane-Anderson Co. who gives his continuous attention to this operation on the ground at the expense of the Roane-Anderson Co.?

Mr. COOK. That is right, sir. However, when we calculate the fee for the Roane-Anderson Co., if they do not provide a full-time non-reimbursable representative, we deduct that man's salary from the fee that we pay. So they have, in effect, a nonreimbursable representative on the job.

Senator MILLIKIN. After you get through with that, you still pay them \$192,000 a year?

Mr. COOK. That is right. If they had a nonreimbursable man, we would pay them \$12,000 a year more.

Senator MILLIKIN. All of the men who have come from the Roane-Anderson organization and who give their continuous attention to the operations there are on a reimbursable basis; is that correct?

Mr. COOK. They are, sir.

Senator MILLIKIN. Thank you.

Mr. DURHAM. Is the yearly budget prepared in the home office or is it prepared in Oak Ridge?

Mr. COOK. Is our budget prepared in the home office or at Oak Ridge?

Mr. DURHAM. Yes.

Mr. COOK. It is prepared in Oak Ridge, sir. It is developed as the result of cost data and developed by the operating contractors and the AEC representatives, who are responsible for the administration of those contracts.

Senator MILLIKIN. Mr. Chairman, I would like to ask one more question. What services does the Roane-Anderson Co. provide from its New York headquarters or from any headquarters any place that is not reimbursable?

Mr. COOK. They provide service, legal services, they provide assistance in accounting, they provide assistance when necessary in industrial relations, they provide assistance in preparation and review, primarily review, of plans and specifications, review of contract forms, establishment of operating policy—all those things and many others are provided by the New York office from time to time as services are necessary, without reimbursement.

Senator MILLIKIN. Somewhat similar to the operations of a holding company.

Mr. COOK. That is right.

Senator MILLIKIN. So far as its subsidiaries are concerned.

Mr. COOK. That is right, sir, but I would like to complete this as to the fee. Using an estimated cost of construction of \$15,000,000, and making the corrections for the type of work there performed, apply it to the construction fee schedule, it results in an average yearly job of approximately \$10,000,000.

Under other Government construction fee schedules the contractor would be entitled to a fee of  $2\frac{1}{2}$  percent or \$261,000.

In addition, realty management revenue of \$6,450,000 per year would entitle a realty management company to a fee of 1 percent of that total, or \$64,500.

So, if we followed normal Government practice and normal realty management practice, they would be entitled to a fee of \$261,000 plus \$64,500, or \$325,000; and they are receiving a fee of \$192,000.

Senator MILLIKIN. Why pay the fee at all? Why not run the business without the fee?

Mr. COOK. We feel that after giving it considerable study and thought that it is more economical to the Government to operate with a contractor whose whole history and background is on the incentive competitive basis.

We feel that when we pay a fee which is in reality a profit to the contractor, that we can demand the same type of aggressive, economical operation in our work as he provides in his own.

Senator MILLIKIN. I suggest that as to a fixed fee, the implication in many aspects are to the contrary.

Senator HICKENLOOPER. On that point, may I say this?

Senator MILLIKIN. The great criticism of fixed fee is that it leads to carelessness in costs. I would like to—

Mr. COOK. Sir, may I add something here before we go from that operation? I think that our experience has been that we can, with a good cost-plus-fixed-fee type contract on a continuing basis with proper support and supervision by the Commission and proper cooperation with the contractor, do our work much more efficiently by that method than we can any other method.

It has many advantages that are not apparent, and are not real in direct Government operation.

Now, in the community operation total employment in community operation activity has been cut 40 percent since December 31, 1946. These major reductions are reflected both by the Commission and a majority of the principal contractors.

Senator MILLIKIN. Of course, they obviously should, because you finished your great surge by 1946. Is that not correct?

Mr. COOK. We finished it before that, sir, but in December, 1946—well, that is December 31, 1946, and that is January 1, 1947 when the Commission took over. At one time during the peak of Roane-Anderson's employment in 1944, the fall of 1944, they had 10,000 employees on the pay roll.

Senator MILLIKIN. That is what I am saying, the diminution of work there, except for—unless you are going to assume imbecility in procedures, would call for reduction in pay roll.

Mr. COOK. No; I am trying to show you here that since January 1, 1947, we have made rapid strides and rapid improvement in our operation down there.

For instance, since July 1, 1948, Roane-Anderson's pay roll has dropped from 3,192 to 1,589, or 50 percent.

American Industrial Transit Co. has decreased from 430 to 296 or 31 percent; municipal employees paid through Roane-Anderson have fallen from 508 to 305 or 39 percent, and the AEC's community operation pay roll has decreased from 196 to 71, or 64 percent.

Senator MILLIKIN. How much did the total expenditure program at Oak Ridge drop from 1944, say, to 1948?

Mr. COOK. 1944 to 1948?

Senator MILLIKIN: Yes, or take any—

Mr. COOK. It is not a true comparison, sir. I would rather give you a figure—

Senator MILLIKIN. Give me that comparison and let me judge whether it is sound.

Mr. COOK. Our expenditures for the fiscal year 1950 for the operation of the plants and the town and the Commission pay roll, just for operation, leaving out capital construction costs, will be in excess of \$30,000,000 a year less than it was in the fiscal year 1947, and we are essentially doing more work and producing more material.

Senator MILLIKIN. What were the total expenditures at Oak Ridge in 1944.

Mr. COOK. I do not have the total expenditures including construction with me, sir, but—

Senator MILLIKIN. Several times larger than at the present time?

Mr. COOK. That is right, sir; and they produced less material at that time.

Senator MILLIKIN. I want to get a little sharper focus on this subcontracting business. That authority to subcontract is limited to what field?

Mr. COOK. The authority to subcontract with Roane-Anderson?

Senator MILLIKIN. Yes. Senator Hickenlooper developed what you call modification 20; is that right?

Mr. COOK. Yes, sir; that is a provision in the contract which enables Roane-Anderson Co. to act as an agent for the Commission in subcontracting certain types of construction work.

Senator MILLIKIN. That is what I am getting at. What are these types of work where that is applicable?

Mr. COOK. There will be additions and extensions to existing utilities, renovation and remodeling of existing buildings, minor construction work; all of the major construction work will still be on a direct prime contract with the Commission.

Senator MILLIKIN. Why the necessity for subcontracting in such minor field?

Mr. COOK. By that method we believe that we can save the Government money, sir. It provides a steady work load for the engineering department of the Roane-Anderson Co. throughout the year, and it enables the Commission to reduce its personnel which otherwise might duplicate those functions. We still will continue to have plans and specifications prepared for major construction work by architect-engineers, and they will be advertised and awarded—awards will be made on a lump-sum basis.

We have done that all through the years, and we will continue to do that, but those major contracts will still be prime contracts with the Commission.

Mr. HINSHAW. Mr. Chairman.

The CHAIRMAN. Mr. Hinshaw.

Mr. HINSHAW. I would like to ask the gentleman how many employees of the Commission are employed in the supervision and auditing of the Roane-Anderson Co., supervising the work of the Roane-Anderson Co.?

Mr. COOK. Well, in the Office of Community Affairs, we have a total of—

The CHAIRMAN. Three hundred and twenty-one, was it not?

Mr. COOK. No, sir, no, sir. We had a total of 71 people, and they are broken down roughly as follows: There are 39 assigned to municipal activities, 5 assigned to utilities; 14 to real estate, and 13 to construction.

Mr. HINSHAW. Does that include the auditors?

Mr. COOK. That does not include the auditors. All of the auditing at Oak Ridge is handled by a separate office called the Office of Fiscal Affairs, and under the director of finance, who does the auditing of all of the cost-plus-fixed-fee contracts administered by Oak Ridge.

Mr. HINSHAW. How many direct employees would the administrative side of the AEC employ at Oak Ridge?

Mr. COOK. We have a total now of approximately—the last figure I had was 998 employees on the AEC pay roll at Oak Ridge, as compared with 2,500 employees on January 1, 1947.

Mr. HINSHAW. Those are divided, I presume, between such employees as are engaged in what might be termed monitoring the contractors inside the barrier and those that are engaged in outside work; is that correct?

Mr. COOK. That is right, sir. I have a break-down here, I think, that will give you a good picture of it.

On April 30 of 1949—I have a break-down as of that date, and at that time it totaled 1,071. We have since come below the thousand mark. We had 12 people in the manager's office; Office of Public Information, 3; assistant general counsel, 34; Isotopes Division, which performs a Nation-wide service, 44.

Senator HICKENLOOPER. Assistant general counsel, 34. Does that mean lawyers?

Mr. COOK. Not all lawyers, sir. That is the total employment in the assistant general counsel's office.

Senator HICKENLOOPER. How many lawyers do you have down there?

Mr. VOLPE. Ten.

Senator HICKENLOOPER. Why do you need 10 lawyers at Oak Ridge?

Mr. COOK. Well, in the transition from the former type of operation to the present type of operation, and in trying to revise the old policies and the old contracts to conform with our present desires of operation and in working on long-term leases, incorporation of the town, sale of property, all of these other things that are necessary before we can revert to a normal community, we need legal services.

Those boys are—the 10 that we have down there—worked to the limit; in fact, they worked all last week end getting some contracts out prior to the end of the fiscal year.

Senator MILLIKIN. Is the pay reimbursable?

Mr. COOK. The lawyers that I am talking about, sir, are on the Commission staff.

Senator MILLIKIN. And still you have to call in these fellows from the Turner outfit in New York to give you additional legal advice?

Mr. COOK. No, sir, they give legal advice to the Roane-Anderson Co.

Senator MILLIKIN. It takes nine tailors to make a man, but how many lawyers does it take to keep you fellows going? [Laughter.]

Mr. COOK. Well, at times we have need for more than we have, sir, when you take our total work load as a total. We have over 2,000 contracts down there.

In the Security Division, we have 285 people.

Now, approximately 156 of those are the guards who guard the new controlled area, and 66 of those are shipment security. Those are primarily operating functions.

In our Office of Fiscal Affairs we have 377 people. The Office of Fiscal Affairs includes the director of finance, the Supply Division, the Reports and Statistics, and the Budget Office.

In the Office of Engineering and Production we have 141 people; in the Dayton area we have 24 people; in the Office of Research and Medicine we have 27 people, and in the Office of Community Affairs, 67.

Mr. DURHAM. What do you mean by "27," 27 doctors?

Mr. COOK. Oh, no, sir. It is the Office of Research and Medicine—Medicine and Biology. We have two doctors in the division. The Chief is Dr. Holland, who is an M. D.

Mr. DURHAM. They are in the research end. I thought you meant to service the outside personnel.

Mr. COOK. No, sir. The Oak Ridge Hospital now is run by a non-profit corporation.

Mr. DURHAM. I see.

Mr. COOK. Chartered in the State of Tennessee.

Mr. HINSHAW. Mr. Chairman, I was particularly interested in the break-down or the division, if that is possible, between those who conduct affairs behind the barricade and those who conduct affairs related to the management of the town project, and all affairs outside of the barricade. I do not know whether that can be given offhand. The gentleman has quoted the total figures and included in those figures those in both places.

Mr. COOK. At the present time, as far as our operation, our production, and our research are concerned, we have no Commission employees full time in the controlled area except for major construction projects.

At the Oak Ridge National Laboratory, where we have a major construction program going on or about to be initiated, we have what we call a residence engineer. We have a direct prime contract with the architect-engineer, and the construction contractor, and he is a full-time representative of the Commission and in responsible charge of the construction and engineering work at that site.

We have another site at K-25, where we hope to initiate another construction program the first of the fiscal year, and we will hire a full-time resident engineer with a nucleus staff enough to handle the Commission's responsibility in regard to that work.

The other people are all on the outside of those at Dayton, and some of our off-area activities are in the town site proper itself.

The Office of Community Affairs is housed in the municipal building, and the rest of the Commission's personnel, outside of the guard

force, are housed in the administration building on the hill, but we have constant contact with the operating people, with the Oak Ridge National Laboratory, by periodic visits to each plant and reviewing with them their work and their programs.

Mr. HINSHAW. I appreciate the operations in connection with the National Laboratory. I was thinking particularly of the operation of the town site and the number of auditors and others who were required to supervise and oversee the work of the Roane-Anderson Co. and provide such cooperative services as may be needed between the Commission and the Roane-Anderson Co.

Mr. Cook. Well, I do not have those figures broken down, sir, but I can get them.

The director of finance is responsible for the audit of not only the Roane-Anderson Co. but the Carbide & Chemical Co., the Austin Co., all the cost-plus-fixed-fee contracts we have at Oak Ridge, including our off-site activities at Dayton and Marion.

Now, I could give a guess as to the total of how many man-hours are spent at Roane-Anderson, but I would rather do a little figuring on it before I gave it to you.

Mr. HINSHAW. Well, obviously, you must audit all of the bills of the Roane-Anderson Co. that are chargeable to the Commission.

Mr. Cook. That is right.

Mr. HINSHAW. And supervise the work of the Roane-Anderson Co. to make certain that the expenditures are within the contract and that they are right and equitable and just for the Government to pay.

I assume that you have quite a force that is supervising that work, in auditing and also in inspection and supervision.

Mr. WILSON. Mr. Hinshaw, we have this Office of Fiscal Affairs with the director of finance who handles those functions, fiscal functions, audit functions, for all of the operations which Oak Ridge carries on. It's more efficient to have a single unit performing the same operations for all. We could break up by an estimate by man-hours on Roane-Anderson supervision, but I think you will see why it is more economical to have a single fiscal division handling those functions for all contracts at Oak Ridge.

Mr. HINSHAW. I would imagine so. I was just assuming that some 200 or 300 people were engaged in supervising the work at Roane-Anderson Co. in one way or another, and in cooperating.

Mr. Cook. No; that is not right, sir. The total and the number of the people in the Office of the Director of Community Affairs, plus a certain portion of the time of the finance division, the director of finance—sufficient time for his people to review all of their fiscal operations. Now, I can give you an approximate figure on that. We would have to apply their time to all of our major cost-plus-fixed-fee contractors and try to arrive at a prorated basis.

Mr. HINSHAW. I would not want to put you to the expense or the trouble of auditing your own figures to state exactly what it was, but a good guess would be interesting, I think, to the committee.

Mr. Cook. I am sorry, sir, I did not catch your last question.

The CHAIRMAN. He said to guess at it.

Mr. HINSHAW. A good guess would be interesting to the committee as to how many were involved outside the barricade, what proportion outside the barricade, and what proportion within the nine-hundred-

odd people that you mentioned a moment ago as being Commission employees in that area.

Mr. COOK. All right. Of the total—

Senator HICKENLOOPER. Mr. Chairman, I have quite a number of items I would like to get before the committee this morning. I wonder if Mr. Hinshaw would put those figures in later. They apparently are somewhat confused on this at the moment, and we ought to give them a chance to straighten themselves out.

Mr. HINSHAW. That is agreeable to me and, Mr. Chairman, I have a little matter in connection with the pipe line that I would like to bring up before we are through with this.

The CHAIRMAN. Well, you certainly will have an opportunity, Mr. Hinshaw.

Senator HICKENLOOPER. If I may proceed, I would like to talk about this streetcar operation. It is the same as the Roane-Anderson. Would you mind, Mr. Hinshaw, if I spoke about that? I would like to go into the matter of the American Transit Bus contract down there at Oak Ridge.

My information is that its full operations are completely reimbursable by the Atomic Energy Commission; they buy all the tires, gasoline, and busses, and pay all the salaries, and then, when they get all through they pay the American Transit Bus Co. \$90,000 a year just as a fee on top of full reimbursement. Is that correct?

Mr. COOK. That is not right, sir.

Senator HICKENLOOPER. Well, where is it wrong?

Mr. COOK. The A. I. T. Bus Co. receives a fee of \$90,000 per year. However, for that fee, they are required to furnish five non-reimbursable representatives under the terms of their contract.

Senator HICKENLOOPER. Full time?

Mr. COOK. Full time; and they have, in fact, furnished six; so what you have is a contract where six members of the firm serve full time on a nonreimbursable basis.

Senator HICKENLOOPER. I see.

During the last year, fiscal 1949, they lost \$455,812; did they not?

Mr. COOK. I can give you an analysis of their operating costs.

Senator HICKENLOOPER. I am not concerned with an analysis of their operating expenses. Just how much did they lose? Can we not get down to some over-all figures here on this operation? The information that I believe has been testified to before some other committees here is that they lost a gross total of \$455,812 in fiscal 1949, and that the Commission anticipates that they will lose \$354,656 in 1950, fiscal 1950.

Now, I understand that that \$90,000 is largely for what they call know-how. That seems to be a common term that developed, and I just wonder if it is know-how to lose a half million dollars a year in the operation of a bus system, or what the purpose of that \$90,000 fee is, with a full reimbursable contract.

Mr. WILLIAMS. Well, the bus system at Oak Ridge serves not only the town of Oak Ridge, but it is used to transport workers to the plants.

Senator HICKENLOOPER. Yes.

Mr. WILLIAMS. We have one plant there that is—

Senator HICKENLOOPER. Just a moment, please. What is the fare? That is 10 cents for the people in the town; it is not?

Mr. WILLIAMS. That is right.

Senator HICKENLOOPER. And it is 15 cents for the workers in the plants who use it; is that correct?

Mr. WILLIAMS. That is correct.

Senator HICKENLOOPER. Do you know how many passenger fares per year that bus system runs in Oak Ridge?

Mr. COOK. 550 passengers per year.

Senator HICKENLOOPER. 550 per year? There should be a few more.

Mr. COOK. I mean 550,000 passengers a year.

Senator HICKENLOOPER. 550,000 paid fares per year?

Mr. COOK. No; I am wrong Senator; it is 350,000 miles per month, transporting approximately 550,000 passengers per month.

Senator HICKENLOOPER. Somewhere around 6,000,000 passenger fares per year, close to 7,000,000.

Mr. WILLIAMS. About six million six.

Mr. COOK. That is right.

Senator HICKENLOOPER. About six million six?

Mr. COOK. That is right.

Senator HICKENLOOPER. What possible reason could there be for paying this company \$90,000 a year for operating this bus company? I mean, why not save that amount of money?

Mr. COOK. They are not paid \$90,000 a year for operating the bus company.

Senator HICKENLOOPER. I mean what are they paid that amount for? What is the purpose of it? It has been testified to, I believe, by Mr. Wilson that that is paid for know-how.

Mr. COOK. The \$90,000, if you make the correction for the salaries paid the nonreimbursable representatives, results in a figure of a net fee of approximately \$39,000 a year. That fee we pay for the operating know-how of the bus company, and I have a statement here which I would like to read, to give you the background of the bus company, the type of operation, the difficulties of operation which, I am sure, will answer the questions that you are prepared to raise.

May I read that, Mr. Chairman.

Senator HICKENLOOPER. How long a statement is it? I have a number of things I would like to get before the committee here for discussion, and perhaps, we can discuss them later. If we read long statements about the history of these things every time an issue is raised, we will be here all summer.

Mr. COOK. This is a short statement, and will give you a brief outline of the bus operation.

The bus-transportation system, operated by the American Industrial Transit, Inc., on a fixed-fee basis, furnishes normal city bus service within the city of Oak Ridge and also between the city and the three major research and production areas. Functionally, the operation consists of five interrelated systems:

A perimeter express system originating in the residential area and running directly to the electromagnetic-process plant and to the diffusion-process plant.

Two, a loop express system originating in the residential area and running directly to the National Laboratories.

Three, a system originating at the central terminal in the city running on local schedules to the two production plants and the Oak Ridge National Laboratory.

Four, a residential system connecting the main thoroughfares throughout the residential area with the various shopping centers and the central terminal.

Five, a school system supplying service for approximately 7,000 pupils at 10 schools. The bus system as a whole traverses approximately 350,000 miles per month, transporting approximately 550,000 passengers.

The present fare structure, instituted on July 1, 1948, is basically a 10-cent cash fare for all local runs and 15 cents cash fare for express runs.

Since August 1944 the rates for all types of service, except school runs, had been a 10-cent cash fare or a token purchasable for 6 cents. Even under the present fare structure revenue offsets less than half of the operating cost. This fact, together with unique conditions, makes it necessary for the Government to absorb the operating loss or to accept the alternative of facing wage demands which would result from the imposition of fares which would eliminate the existing subsidy.

The Oak Ridge residential area is a narrow and attenuated district located on a hillside, covering about 8 square miles. The streets are winding and irregular in lay-out, conforming to the terrain of the land. Roads and lanes occupy ridges, with residences on one or both sides.

Most avenues running north and south ascend relatively step grades, and the land between is of such rugged character that it cannot feasibly be used for building. Therefore, there are no east and west roads connecting with the avenues.

This condition requires more transportation service than would be necessary in a city with orthodox street patterns.

The unique nature of the Oak Ridge project, which caused the research and production to be placed in widely separately areas so as to reduce the hazards inherent in the project, required the establishment of bus transportation running far from the residential center.

The three principal operating areas are 4, 11, and 13 miles, respectively, from the center of the city.

Between the residential area and the plant areas there is no population concentration, and the entire distance is totally unproductive of passenger traffic.

Senator HICKENLOOPER. That is the area where you run the express busses on the trip from downtown out to the plants; is it not?

Mr. Cook. There are some express busses, sir, that run from the town to the plants, but most of the service from the town to the plants is through the bus terminal, and a person can get on at a bus stop near his home, transfer at the bus terminal, and ride out to the plant for 10 cents.

Senator HICKENLOOPER. I thought that was a 15-cent run?

Mr. Cook. No, sir; only on the express busses that do not stop at the terminal. If a person wants to ride on that, he can.

In a normal bus operation the revenue per mile of line is in direct ratio to the density of population per mile of line.

In 28 cities, selected at random, of comparable population, the average population per mile of line is 1,943 persons.

In the Oak Ridge area the population per mile of line is 135 persons, and in the city of Oak Ridge, the most densely populated part of the Oak Ridge area, the population is only 435 persons, or 22 percent of the average of the 28 cities.

Most bus operations have two peak- or rush-hour-load periods during the day, usually 7 to 8 a. m. and 4 to 5 p. m. During these peaks, in the usual operation approximately twice as much equipment and manpower is required as during other base periods throughout the day. In Oak Ridge, because of the long distances between the industrial and plant areas, approximately four times as much equipment is required during the two daily peaks as during the remainder of the day.

The need for busses is naturally greatly reduced between the peak hours, but experience has clearly demonstrated the necessity of retaining a certain number of drivers, who are union members, on call between the peak hours; otherwise, as has been shown, the drivers necessary for the operation cannot be recruited and retained.

However, the most recently negotiated union contract permits retention for a 12-hour period with actual wage payments being made for only 8 hours, compared with much less favorable terms under the previous agreement.

The institution of a school-bus system has helped reduce the lag between the peak loads and has assisted in the rescheduling of runs to further utilize the services of the drivers on duty. Schedules are being analyzed and revised continually with a view to further reduction in operating costs to result in the lowest possible operating deficit.

During the summer of 1944 it became apparent that bus operations had grown to a magnitude requiring the management by a separate contractor with special abilities in transportation management.

It was impossible to go out and hire people from various transit companies throughout the Nation, so negotiations were had and culminated in a contract whereby the American Industrial Transit, a partnership, assumed management in February 1945.

All of their key people at that time came from the Southeastern Greyhound Lines and other lines that operated in the South.

This organization established the Interstate Commerce Commission uniform system of accounting, in which the cost per mile is the basis of operating cost accounting.

The peak of operation was reached in August 1945, when 420 busses, covering 828,000 miles and transporting 2,434,000 passengers during the month, were in use.

Since that time, through consistent effort, economies were effected, until to date the bus system involves approximately 135 busses, covering approximately 350,000 miles and transporting approximately 550,000 passengers per month.

The deficiencies in revenue, and not the cost of operation per mile, are obviously responsible for the net operating loss of the system because, in spite of the obstacles confronting an economical operation, the cost per mile of operation of the Oak Ridge system was 37.5 cents, and the national average was 44 cents per mile during the first quarter of calendar year 1948; revenue per mile in Oak Ridge is approximately 1.66—2.99 in the city and 0.99 on plant runs.

In comparing Oak Ridge system costs, it should be understood that the national average of 44 cents per mile includes approximately 2 cents

for taxes and license fees. But even on that basis our operating costs are still good.

Sometime ago, I think it was in the fall of 1947, the Commission engaged the consultant firm of Simpson & Curtin, transportation engineers of Philadelphia, to analyze the operation and to recommend steps to improve operational efficiency of the system and to reduce its cost.

Simpson & Curtin were able to conclude only that the unique character of the service required, plus the abnormal features of terrain, precluded a profitable operation.

Their conclusion was that the system was being operated with almost maximum efficiency and economy possible under the circumstances.

Senator HICKENLOOPER. What is the salary of the general manager of the bus company that is reimbursable by the Government?

Mr. COOK. The salary of the general manager of the bus company is not reimbursable by the Government.

Senator HICKENLOOPER. Does he spend his full time there?

Mr. COOK. He spends his full time there.

Senator HICKENLOOPER. What are the top salaries reimbursable by the Government, the top salaries of the bus company?

Mr. COOK. The only one I have listed, sir, is, first, six key people of the A. I. T. Co. are nonreimbursable; the next man, the next reimbursable man, is the superintendent of safety and training. He is \$5,400.

Senator HICKENLOOPER. That is the highest salary that you reimburse; is that it, of the bus company?

Mr. COOK. That is the way this was prepared; yes, sir.

Senator HICKENLOOPER. All right.

Now, I would like to talk about some more commonplace things than these complicated operations.

I recall last year that there was an item in the budget to which considerable objection was raised of \$346,000 put into the garbage-can bases in about 3,000-some houses in Oak Ridge.

Can you tell us anything about what has happened to that? I think that figured out about \$90 a slab for cement slabs for garbage-can bases. Do you have any information on what has happened there?

Mr. COOK. I think I have, sir. That estimate that you have there, I think, was an estimate made on approximately 10,000 housing units existing at that time.

Senator HICKENLOOPER. No; I beg your pardon. The estimate was made on about 36 or 37 hundred houses, according to the record. The amount was \$346,000. It came up at a hearing of the joint committee, and at that time it was admitted that it figured out close to about \$100 for each cement slab for the setting of garbage cans. That did not include a nice picket fence around the slab, but it has happened there. Have they installed the slabs?

Mr. COOK. On the Cemesto-type housing, which is referred to often as the permanent-type housing; the program did go through for the majority of the Cemesto-type housing of providing a slab for the garbage cans to rest on, and a picket fence to screen the garbage cans from the road.

Senator HICKENLOOPER. How large is that slab, do you know?

Mr. COOK. The slabs were precast, and I would guess the slabs were about 2 feet square, 2½ feet square; but that program—

Senator HICKENLOOPER. But that item was costing a hundred dollars per slab. I think maybe it was contemplated that two cans would go on a slab, and that would mean two slabs.

Mr. Cook. There was one can for each slab, that is right.

Senator HICKENLOOPER. But 2 feet square would hardly take the two cans. The information we got was that this approximately \$100 per slab meant a slab that would hold a precast slab that would hold two garbage cans.

Mr. Cook. We are not able to locate any figures on that, sir. What I would like to do is to obtain the exact costs. I do recall that the plan was not carried out as originally programmed.

Senator HICKENLOOPER. Well, in the budget it contained an item of \$346,000. I remember distinctly that Mr. Franklin stated that that was for about 3,700 or 3,800 of these garbage can slabs that would hold two garbage cans.

We estimated that they would be about 6 feet long and 3 feet wide. I see they are a little narrower than that, and probably 6 inches thick, and I went to some trouble to find out what cement of that kind would cost.

I find that you can get—that would be about a third of a cubic yard at that rate—a half of a cubic yard of ready-mix cement delivered here in Washington at retail, just a half a cubic yard, for \$9. It would mean that a third of a cubic yard, going into a slab of this kind, that would hold two garbage cans, should not cost more than \$6 at retail delivered here in Washington, and the fantastic figure of close to \$100 for these slabs was, I know at that time and still is, so far as I am concerned, unbelievable.

Mr. Cook. Well, those slabs did not cost that much.

As I recall the figures, and I would like to check them, I think our total cost for the installation of the enclosures and the slabs was around \$118,000.

Senator HICKENLOOPER. That is what I am inquiring about.

Mr. Cook. I do not recall the exact figure. I would like to check it.

Senator HICKENLOOPER. That still would be on the basis of 35 or 36 hundred houses, which was the amount testified to last year, would still be in the neighborhood of \$50, and certainly these, casting that number—that is, precast slabs, and hauling them up and just setting them on the premises would seem to be an outlandish figure.

The CHAIRMAN. It would come to about \$34 apiece, Senator; \$118,000 divided by 3,600 come to about \$34 apiece.

Mr. Cook. That is right; it is a little over \$30 apiece, but that \$34 included not only the slabs, but it included the picket fence that shielded the garbage cans from the road. I think that is a very reasonable price, at \$30 each.

Senator HICKENLOOPER. I would certainly like to be able to have a contract in numbers on that price from the calculations or figures that I get on ready-made picket fences that you can buy per foot, and for what you can get retail—you can get cement mixed and delivered here in Washington in half-yard quantities.

Mr. Cook. In addition to the price of cement delivered, you have to have skilled workmen there to place it, to finish it.

Senator HICKENLOOPER. No; these are precast.

Mr. Cook. I know.

Senator HICKENLOOPER. These are cast at a central place.

Mr. Cook. That is right. But all you have is the cost of your material. You do not have the cost of your forms, you do not have the cost of finishing, the cost of transportation, the cost of laying.

Senator HICKENLOOPER. I am talking about a——

Mr. Cook. You just cannot go on material costs alone. Your material costs are generally only 50 percent of your total construction costs.

Senator HICKENLOOPER. I am talking about a price at retail of a third of a cubic yard delivered in Washington of mixed cement. Now, that means they will load a third—they will deliver a half a cubic yard, the smallest amount they will deliver, but they will deliver it, they say, any place in Washington, a half of a cubic yard of mixed cement for \$9.

Now, a slab of 6 feet long and 3 feet wide and 6 inches thick which, I would just guess, would be about the size, although that is much bigger than the 2 by 2 or 2½ by 2 slabs that you mentioned, certainly if that can be done at retail in individual lots here in Washington, then anyone who has a contract or undertakes to cast those in thousands at a central location and merely take them out and put them properly on the ground——

Mr. Cook. That price provides for the grading of the ground, the placing of a crushed-rock drainage base under it; it provides for 4 by 4 posts, 2 by 4 rails, and 1 by 4 pickets. It provides for painting. You do not get that for any less.

Senator HICKENLOOPER. It does not have chrome knobs on top of the picket fences, does it? It would seem to me that is a fantastic situation on a garbage-can basis.

Mr. Cook. I do not think it is fantastic. It is a piece——

Senator HICKENLOOPER. I know you do not as long as it is Government money that is going in there, but I do not believe that any sound business commercial enterprise would do a thing like that.

Mr. Cook. I treat Government money just as carefully as I treat my own. I am a taxpayer myself, and our sole job down there is to assure economical operation and economical costs, and I do not believe that you can construct the garbage-can enclosures and bases that were constructed down there so that we do not have continuing maintenance costs on them—they were constructed to obviate that. I do not believe you can construct them any place in the country for less than \$34 each.

Senator HICKENLOOPER. Well, then, maybe you cannot the way you constructed them.

The CHAIRMAN. Who built them? Who had the contract?

Mr. Cook. They were built by our operating contractor, Roane-Anderson Co.

Senator HICKENLOOPER. Another little item occurred last year that was quite interesting. It did not go through, fortunately, but I call your attention to it: In the budget of last year there was an item included and represented to the Congress as needed of \$397,000 for, I believe, the tearing down and removal of the thermal diffusion plant.

We sent some inspectors down there, and we found the plant had already been removed, and there was nothing but a cement slab down there. When we finally did call that to the attention of the joint committee, that was hastily withdrawn from the budget, and I merely

mention it as an indication of some of the confusing operations that go on.

Mr. COOK. I do not recall an item of that nature. I recall an item of \$384,000 for a garage. If an item of that nature was in the budget it was there by error.

Senator HICKENLOOPER. Well, I think it was, because it was withdrawn when investigation showed that the facilities for which it was put in there were already removed.

Now, there is an item charged to operating expense, the cost of installation of sidewalks and steps for the houses in Oak Ridge. What would you say is the average lot width there of these houses in Oak Ridge? I do not mean the places where the big frontages are, but the average frontage there in these houses where these people live in Oak Ridge. Would it be 40 feet, 60 feet, 30 feet, 70 feet?

Mr. COOK. I think the average is in excess of 100 feet.

Senator HICKENLOOPER. For each house?

Mr. COOK. Yes. That is by reason of the terrain. It is built on ridges and valleys, and it is impossible to locate the housing in the same manner that you would a flat terrain.

Senator HICKENLOOPER. Yes. Well, the item that I was referring to—my recollection of Oak Ridge was that they were more congested than that—was the cost, the budgetary cost of \$263 per house for the sidewalks and steps that were installed down there. That may or may not be an excessive amount if they are 100 feet on the average.

Mr. COOK. All of the construction for permanent sidewalks and steps for the community was the result of lump-sum competitive bidding, and I thought we received some very good prices on those bids.

Senator HICKENLOOPER. Mr. Chairman, I know, because Mr. Hinshaw wants to take up something else, that I had better hurry along. I would like to read at this time an excerpt from a letter that I just received. This is a copy of a letter that was sent to Representative Thomas. I received it on June 3.

The CHAIRMAN. Which Representative Thomas?

Senator HICKENLOOPER. Albert Thomas, Representative Albert Thomas of Texas.

The CHAIRMAN. Oh, yes; chairman of the Subcommittee on Appropriations.

Senator HICKENLOOPER. And they were forwarded to me.

I would like to read them and ask for your comments on them.

This man is discussing a town operation in some detail. I would like to have the whole letter placed in the record, but I will not take time to read it. The important points that I want to raise at the moment are these—this is paragraph No. 3, and this man says:

All of the residents object strenuously to the rental "license agreement" (lease) which AEC is trying to force down their throats for the purpose of securing to Roane-Anderson Co. still wider latitude in profits from maintenance. It should be noted that prior to June 1, 1949—

that is just a few days ago—

every tenant was expressly forbidden by Roane-Anderson Co. to perform even the most minor or most necessary acts of maintenance on his dwelling unit, under penalty of having Roane-Anderson Co. undo such acts at the expense of the renter and reperform the maintenance also at the expense of the renter. Roane-Anderson Co.'s charges are no picayune matter, either. Roane-Anderson Co. removed from my dwelling a standard fuse box and installed therein (at who

knows what cost) a "fustat" accommodating a special type of fuse, so that when my line carrying 20 amperes blew out the 15-ampere fuse therein, I could not replace it with a standard fuse in 30 seconds. Instead, I had to call Roane-Anderson Co., who after 1 to 4 hours sent out an electrician to replace it in 30 seconds—cost was \$1.73 minimum. I have admitted two electricians to replace such a 15-ampere fuse—cost, \$3.46 minimum—and have had an inspector appear later to verify that the fuse had been replaced, at a cost of a further \$1.73 minimum. These costs were not assessed against me, but against AEC. Any Oak Ridge resident can substantiate many similar stories.

Now, that may be a small item. He is using it as an illustration, and, as I have said before, Mr. Chairman, I have a drawer file full of many pieces of information that have come in; I have a tremendous file of complaints of this kind. I am not going to burden the record at this time with them, but I will submit them to the committee later.

Do you have any knowledge of a situation of that kind?

I am using it as an illustration.

Mr. Cook. When the project first began, there were no facilities available for the people to apply to, as they would in a normal community, for miscellaneous services, and the routine maintenance normally encountered in any house.

Senator HICKENLOOPER. What about this statement, where this fellow says:

It should be noted that prior to June 1, 1949, every tenant was expressly forbidden by Roane-Anderson Co. to perform even the most minor and most necessary acts of maintenance on his dwelling unit, under penalty of having Roane-Anderson Co. undo such acts at the expense of the renter and reperform the maintenance, also at the expense of the renter.

Mr. WILLIAMS. Mr. Chairman, I happened to have lived at Oak Ridge for a couple of years and, I think, one whole year in one of the houses they may be talking about, and Roane-Anderson never interfered with me unplugging my sink or putting in a fuse or doing anything else I wanted to do.

Now, I know I was not given special consideration when I left, due to the fact that a fixture on the porch had rusted, and the light shade dropped, and I had to pay 75 cents, so I know that I was not given any special consideration.

There were certain rules and certain regulations which were necessary in a town of this size, because if you did not have them, the walls would be completely filled with nails, the people would put pennies in the back of fuses, and there would be a lot of things requiring inspection and requiring some order of business to prevent fires.

We had a town there that was so located that if we had any fires they would have been quite bad. We have a very good record on that account. We have not lost much by fires, and we have not lost that because there was special attention given to some of these details.

Now, I do not believe—at least, I never experienced it while I was there—that Roane-Anderson prevented a person from unplugging his sink if he wanted to.

Senator HICKENLOOPER. This man claims that they installed a different type of fuse box which would not accommodate—he says it was a special type of fuse.

Mr. Cook. Those special-type fuse boxes were installed to prevent overloading of circuits. We had quite a bit of difficulty at one time with people using higher amperage fuses than the circuits were designed to withstand, causing fire hazards.

I would like to point out that at the present time we recently inaugurated a new landlord maintenance policy, which is the same type policy used by private real-estate operators in the management of their housing, and things of that nature that you have described there do not and will not occur.

I would also like to point out that I do not know how many of that type of letters you have received, but Roane-Anderson in the last year has averaged almost 4,000 calls a month for service. That is 120,000 calls a year, and we have received very few complaints when you consider the magnitude of the job that they are performing.

Senator HICKENLOOPER. Mr. Chairman, we still have 10 minutes, and I would not like to crowd Mr. Hinshaw on a matter that he wanted to bring up, because we have a vote at 1 o'clock, and we will have to leave.

I would like to submit this letter to Representative Thomas at this time.

(The letter referred to is as follows:)

OAK RIDGE, TENN., May 31, 1949.

Representative ALBERT THOMAS,

*United States Congress, Washington, D. C.*

DEAR CONGRESSMAN: In the name of a large group of Oak Ridge residents for whom I am speaking, I wish to congratulate you on the fine job you have been doing in laying bare to the public the scandalous waste of public funds in Oak Ridge by AEC and Roane-Anderson Co., and other AEC agents. For some time we have been trying to obtain a competent and dispassionate investigation of the situation here, and isolated instances of deliberate mismanagement are being reported to and documented by our town council and our housing committee; typical instances are also being relayed to relatives in the home States, with recommendations that they be publicized among friends and held in abeyance until their Representatives come up for reelection. It is comforting indeed to find that your committee has made such a start on some of the basic issues involved.

The truth of the matter involving the mass rebellion of Oak Ridge residents against the rent increase is this:

(1) In a few instances, such specifically as TDU units, the rent increases of from 90 to 101 percent are extortionate, and the lowly laborers who occupy these units can't afford to pay such rent.

(2) Most of the fuss raised by most of the residents about rent increases was a ready fulcrum to lever the appalling waste rampant in Oak Ridge into public attention. When satisfactory action is taken to remedy these ills, most of the residents will honestly admit that their rent increases are reasonable. They will not, however, supinely see rent increases being diverted into Roane-Anderson Co.'s till along with taxpayers' funds as subsidies, which subsidies amount to more, for every dwelling unit on the area, than the total rent (including increases) collected from each such dwelling unit.

(3) All of the residents object strenuously to the rental "license agreement" (lease) which AEC is trying to force down their throats for the purpose of securing to Roane-Anderson Co. still wider latitude in profits from "maintenance." It should be noted that prior to June 1, 1949, every tenant was expressly forbidden by Roane-Anderson Co. to perform even the most minor and most necessary acts of maintenance on his dwelling unit under penalty of having Roane-Anderson Co. undo such acts at the expense of the renter, and reperform the maintenance also at the expense of the renter. Roane-Anderson Co.'s charges are no picayune matter, either. Roane-Anderson Co. removed from my dwelling a standard fuse box and installed therein (at who knows what cost) a fustat accommodating a special type of fuse, so that when my line carrying 20 amperes blew out the 15-ampere fuse therein, I could not replace it with a standard fuse in 30 seconds. Instead, I had to call Roane-Anderson Co., who, after 1 to 4 hours, sent out an electrician to replace it in 30 seconds—cost was \$1.73 minimum. I have admitted two electricians to replace such a 15-ampere fuse—cost, \$3.46 minimum—and have had an inspector appear later to verify that the fuse had been replaced, at a cost of a further \$1.73 minimum. These costs were not

assessed against me, but against AEC. Any Oak Ridge resident can substantiate many similar stories.

As a result of almost no maintenance performed on dwellings here, they are in sad shape; the residents refuse to do now at their own expense such maintenance as AEC or Roane-Anderson Co. may, on the basis of the new "license agreement," require them to perform to place the dwellings in whatever condition Roane-Anderson Co. may decide upon.

The residents of Oak Ridge wish Congress to have AEC offer them a reasonable and equitable rental agreement instead of the revolting document that AEC now decrees is fair, with the warning, "Sign—or else."

We all hope that you will be able to rid Oak Ridge of the incubus that is Roane-Anderson Co. With efficient management, the town of Oak Ridge could be and should be self-supporting, and possibly able to pay part of the cost of the research and production operations that are now also being too heavily subsidized.

Our town council and our housing committee are not professional politicians or experienced organizers, and have their hands full attempting to cope with this intolerable situation. They have asked for and are getting the support and help they need to bring these matters to the attention of the proper authorities and of the interested public outside of Oak Ridge.

Yours very truly,

W. J. O'LEARY.

(Copy to Senator Bourke B. Hickenlooper.)

Mr. HINSHAW. Mr. Chairman, I shall not request the Commission to answer this memorandum today, but I would like to present it as notice that an answer is requested.

Since the discussion of the pipe line question—I believe it was last week or the week before—and about that time, I believe, a decision was handed down by the Supreme Court in what is known as the Pan-handle case. This matter of gas pipe line has also been before my committee in the House, and there has been considerable discussion, not in respect to this particular case, but in respect to gas pipe lines in general, and in listening to the testimony of the Commission, particularly Mr. Pike on this subject, I was concerned as to the firmness of the source of supply of gas for Oak Ridge; and, with the chairman's permission, I would like to read this, and then request an answer to be made later:

Contract No. AT-40-1 GEN-244, which is a contract between the Atomic Energy Commission and the East Tennessee Natural Gas Co., has as its purpose the supply of natural gas to the Oak Ridge area.

There is a statement in the preamble to the contract which states:

Witnesseth, that—

and so forth. [Reading:]

Whereas the gas company will obtain its requirements of natural gas from the Tennessee Gas Transmission Co.—

and so forth.

Now, article I, entitled "Scope" reads in part as follows:

1. The gas company shall apply for promptly and use due diligence \* \* \* for the purchase of a supply of natural gas necessary to enable it to deliver to the Government at the points of delivery, defined herein, the volume of natural gas contemplated by this agreement,

and so forth.

Article III—Character of Service reads in part as follows:

\* \* \* This agreement shall obligate the gas company to sell and be ready at all times, commencing with the day of initial delivery, to deliver to the Government the contracted demand and the Government shall have the right to purchase and receive from the gas company up to the contracted demand.

Now, there is nothing that I can find in the above sections of this contract which requires the Commission or the gas company to show a contractual relationship between them and the Tennessee Gas Transmission Co.

It would seem that before the AEC obligates itself to purchase gas from a distributor, it should have a guaranty in the form of a contract that such gas as is needed is and will be available according to the terms of the above-mentioned contract.

Actually, the gas company is a third handler of this fuel. The first party is the seller to the carrier. The second party is the carrier. The third party is the Tennessee Natural Gas Co. with which the AEC has contracted.

Now, there is no guaranty on its face that the gas company can cause either parties 1 and 2, that is, the original supplier and the original carrier, to supply its needs for the Oak Ridge area to the exclusion of others who may be customers of those companies.

There are the usual penalty clauses providing for rights and duties should either party to this contract fail to abide by its terms. There is nothing unusual about that. There are also provisions for relief from liability by force majeure, such as acts of God, strikes, and so forth.

There is nothing, however, which will guarantee to the Government that the gas company will have to prove its ability to perform the contract.

There is a sentence in article I which reads:

When requested by the Commission, and to the extent that the Commission may require, the gas company shall submit to the Commission adequate information concerning the status of its undertakings under this paragraph.

The undertakings referred to are that it will apply for promptly and use due diligence for the purchase of the gas the Commission requires under this contract. There is no absolute requirement that a contract between the gas company and its suppliers must be shown.

In the hearings on the subject of the pipe line, Commissioner Pike said, and I quote from the record:

We were assured by the gas-transmission people that the gas we will require will come out of additional gas, which will soon be coming through the Tennessee Gas Transmission line.

Now, that is contained on page 8 of the transcript.

Then again on the same page, Mr. Pike says:

The Tennessee Gas Transmission is expanding its pipe-line capacity, and this would be part of the additional supply which they expect to have coming along in the next 2 or 3 years.

These statements do not imply that if the transmission company fails in its effort to supply the gas company for the ultimate use of the Commission, the Commission will have anything other than a cause of action against the gas company. If the gas company fails in living up to its contract, it may not then be financially responsible enough to save the Government from loss.

There are no terms in this contract governing the supply of gas to the Commission beyond the obligations of the gas company, the Tennessee Gas Transmission Co. There are no provisions whereby the gas company must show its ability to deliver according to the contract.

There is nothing in the recent decision of the United States Supreme

Court in the case of *Federal Power Commission v. Panhandle Eastern Pipe Line Company, et al.*, 558, decided June 20, 1949, which seems to apply in this matter.

If there is a contractual or fiduciary relationship between the East Tennessee Natural Gas Co. and the Tennessee Gas Transmission Co., this is not shown in the contract under discussion.

There is no showing that performance and payment bonds as required by the AEC General Manager's Bulletin GM-108 have been waived in the interest of the United States. Such bonds are required under GM-108 where the amount of the contract is in excess of \$2,000, and this contract is very much in excess.

It is interesting to note that the Supreme Court of the United States has decided—and this, Mr. Chairman, is an exceedingly important thing—that the Texas Railway Commission has regulatory powers over the output of natural-gas wells as well as oil wells.

If the Texas Commission, the Texas Railway Commission, decides for reasons best known to itself, that it desires to constrict the output and delivery from Texas of natural gas, that they have a right to do so, and there is no assurance that I can find anywhere that the K-25 plant, the electric plants, and the AEC, of course, have the absolute assurance that they can obtain these gas supplies under any such contract that they may have, either with No. 2, which is the Tennessee Gas Transmission Co., or with its basic suppliers and gatherers in the Texas fields, and I just wondered if the Commission can answer that in due course for the benefit of the committee.

(The data referred to above are marked "Exhibit 24" and will be found in the appendix.)

The CHAIRMAN. All right.

I would like to ask one question before we adjourn.

Has any thought been given—is any thought being given or has any thought been given to giving this Roane-Anderson subsidiary of Turner Construction Co. any competition in the way of bidding?

Mr. COOK. It is the type of an operation where it is impossible to prepare plans and specifications by reason of the many different types of work they do, and the varying work load that they have.

The CHAIRMAN. I still think we can get a better deal than that.

We will meet tomorrow morning at 10:30.

(Whereupon, at 1 p. m., the joint committee adjourned, to reconvene at 10:30 a. m., Wednesday, June 29, 1949.)

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# INVESTIGATION INTO THE UNITED STATES ATOMIC ENERGY PROJECT

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## HEARING

BEFORE THE

## JOINT COMMITTEE ON ATOMIC ENERGY CONGRESS OF THE UNITED STATES

EIGHTY-FIRST CONGRESS

FIRST SESSION

ON

## INVESTIGATION INTO THE UNITED STATES ATOMIC ENERGY PROJECT

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### PART 17

JUNE 29, 1949

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# INVESTIGATION INTO THE UNITED STATES ATOMIC ENERGY PROJECT

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WEDNESDAY, JUNE 29, 1949

CONGRESS OF THE UNITED STATES,  
JOINT COMMITTEE ON ATOMIC ENERGY,  
*Washington, D. C.*

The joint committee met, pursuant to adjournment, at 10:35 a. m., in the Caucus Room, Senate Office Building, Washington, D. C., Senator Brien McMahon (chairman) presiding.

Present: Senator McMahon (chairman); Representative Durham (vice chairman); Senators Vandenberg, Millikin, Knowland, and Hickenlooper; Representative Holifield.

Also present: David E. Lilienthal, Chairman; Sumner T. Pike, Commissioner; Lewis L. Strauss, Commissioner; Gordon E. Dean, Commissioner; Henry D. Smyth, Commissioner; Carroll L. Wilson, General Manager; Carleton Shugg, Deputy General Manager; Frances Henderson, Assistant to the Chairman; Walter J. Williams, Director, and Carroll Towne, Division of Production; Joseph Volpe, Jr., General Counsel; Bennett Boskey and Everett L. Hollis, Office of General Counsel; Morse Salisbury, Director, and Rodney L. Southwick, Division of Public and Technical Information Service; Fletcher Waller, Director, Division of Organization and Personnel; Richard W. Cook, Acting Manager, S. H. Sapiirie, Chief of Engineering and Production, and Fred W. Ford, Director of Community Affairs, Oak Ridge Operations Office; all of the United States Atomic Energy Commission.

Clinton Hernandez, Vice President, Lyle D. Worrell, Assistant Project Manager, L. C. Macneal, Project Manager, and St. John W. Davis, Audit and Budget Division Manager, of the Roane-Anderson Co. (Oak Ridge).

Clark Center, General Superintendent; William B. Humes, Superintendent, K-25; Clarence E. Larson, Superintendent, Y-12; Oral Rinehart, Controller; and Logan Emlett, Superintendent, Operations Division, Oak Ridge National Laboratory, of the Carbide & Carbon Chemicals Corp. (Oak Ridge).

The CHAIRMAN. The meeting will come to order.

## STATEMENT OF CARLETON SHUGG, DEPUTY GENERAL MANAGER, ACCOMPANIED BY JOSEPH VOLPE, JR., GENERAL COUNSEL, BOTH OF THE UNITED STATES ATOMIC ENERGY COMMISSION

Mr. SHUGG. Mr. Chairman, may I make a brief statement responsive to the figures requested yesterday in regard to veterans?

The CHAIRMAN. Yes. It will not take you very long, will it, Mr. Shugg?

Mr. SHUGG. It is two and a half pages, double spaced, sir.

In employment and lay-off of personnel, the AEC has complied fully with the requirements of the Veterans Preference Act of 1944. The AEC policy is clearly stated in its record of performance, and is as follows:

Percentage employment of veterans in the AEC exceeds that in the Federal service as a whole.

For example, on the last date for which comparable figures are available, March 31, 1949, veterans represented 49.2 percent of all AEC employees, while a corresponding figure for the entire Federal Government was 46 percent. Seventy-two and two-tenths percent of all AEC male employees were veterans, compared with 57 percent for the Federal service as a whole.

The ratio of the veteran force in AEC has increased from 42.7 percent in March of 1947 to 46.6 percent in June 1949.

I should like to submit a table for the record which compares AEC and the Federal Government as a whole with respect to the employment of veterans.

Yesterday attention was called to our lay-off policy at Oak Ridge. Consideration of the questions raised yesterday requires a review of the relationship of AEC's policy to the Veterans' Preference Act of 1944, and to the Civil Service Commission's regulations.

AEC's lay-off policy states that:

When it is necessary to reduce employment the selection of employees for retention within an appropriate geographical area will be on the basis of relative qualifications for the work remaining to be done, and in accordance with requirements of the Veterans' Preference Act of 1944, including veteran status, demonstrated performance, and length of Federal service.

The Civil Service Commission is charged with responsibility for issuing regulations to carry out the Veterans' Preference Act with respect to lay-offs, both from positions in the classified civil service, and positions outside the classified service.

Prior to January 9, the effective date of the AEC decision to exempt its positions from the classified civil service, lay-offs in the AEC were made in accordance with civil-service regulations applicable to positions within the classified service.

After January 9, lay-offs were made in accordance with civil-service regulations applicable to positions outside the classified service. This change affected veterans in two ways: First, veterans without civil-service status improved their competitive position with respect to all nonveteran employees with civil-service status.

This is due to the fact that after January 9, 1949, the AEC no longer distinguished between employees with and those without civil-service status.

As a result, veterans without status, who previously were subject to lay-off ahead of nonveterans with status, acquired a preference over all nonveterans in the same competitive level, that is, positions of the same grade and type of work which were considered to be interchangeable.

Second, veterans could no longer bump nonveteran employees in other competitive levels. The process of bumping across competitive levels is established by the civil-service regulations in the case of posi-

tions in the classified service, and is not established in the case of positions outside the classified service.

In short, the AEC, conforming to the appropriate civil-service regulations, has given all veterans absolute preference for reduction-in-force purposes in jobs that are interchangeable.

Referring directly to the Oak Ridge situation, the guard force, consisting of 385 veterans and 7 nonveterans, that is a total of 392, was reduced to 229, all of whom are veterans.

This lay-off of 163 guards necessitated laying off 156 veterans, because there were only 7 nonveterans and those were laid off.

In addition, 131 employees in other occupations were laid off at Oak Ridge during this period, which is from January to June 1949. Twenty-seven of those were veterans.

Each employee laid off receives a notice which includes advice as to his right to appeal to the Civil Service Commission, and I have copies of those, which I would like to insert into the record.

Of the total of 294 employees laid off since January 9, 1949, only 1 has filed an appeal with the Civil Service Commission. This appeal is pending.

The record of employment at Oak Ridge shows that as of June 27, 1949, 51.3 percent of the total employees were veterans. Of the male employees as of that date, 74.3 percent were veterans.

We believe these figures are evidence of good faith in the administration of veterans' preference in Oak Ridge operations.

Senator HICKENLOOPER. You take the position then, Mr. Shugg, that the Veterans of Foreign Wars, and the AMVETS, and the Legion Post down around Oak Ridge are mistaken in their attitude in this matter? I may say that I did not primarily raise this issue originally. I merely read into the record the resolutions of these posts down there.

Mr. SHUGG. I think, Senator, that if they believe that our policy reacts against the veterans, and in any way weakens the Veterans' Preference Act of 1944, then I think they are mistaken in that, sir. There may be individual cases subject to appeal, which we are not yet aware of.

Senator HICKENLOOPER. These resolutions were pretty broad.

Mr. SHUGG. Yes, sir.

Senator HICKENLOOPER. According to the telegrams I had put into the record. That particular phase of the matter, I have not gone into independently of these reports, but having received telegrams, and the notice of resolution, I put them into the record yesterday.

It may be a matter that we will want to go into a little further at a later date. I think it is a very important matter, because there have been many individual complaints coming in throughout the AEC operations, which I have not put in as individual complaints; but many of them have come in complaining about treatment of veterans in the AEC program, and I think it is a very vital and very important thing, and I think it should be carefully looked into.

Mr. SHUGG. If I may, Senator, I would like to introduce these into the record. The statements to the individual employees are intended to be fully informative, but like a lot of such statements, they also require personal explanation.

Senator HICKENLOOPER. All right, put the tables into the record if you have them there, whatever the facts are.

(The information referred to is as follows:)

*AEC Federal civilian male and female veteran employment, June 27, 1949*

Month	Total employment				Male employment				Female employment			
	AEC			Federal Gov- ernment, per- cent veteran	AEC			Federal Gov- ernment, per- cent veteran	AEC			Federal Gov- ernment, per- cent veteran
	Total	Veteran	Percent veteran		Total	Veteran	Percent veteran		Total	Veteran	Percent veteran	
1947—March.....	4, 139	1, 768	42. 7	41. 5	2, 631	1, 671	63. 5	52. 9	1, 508	97	6. 4	8. 4
June.....	4, 210	1, 862	44. 2	42. 6	2, 719	1, 777	65. 4	(1)	1, 491	85	5. 7	(1)
September.....	4, 166	1, 880	45. 1	43. 6	2, 596	1, 815	69. 9	54. 2	1, 570	65	4. 1	9. 0
December.....	4, 754	2, 320	48. 8	44. 0	3, 106	2, 229	71. 8	54. 7	1, 648	91	5. 5	9. 1
1948—March.....	4, 940	2, 403	48. 6	44. 0	3, 188	2, 281	71. 5	(1)	1, 752	122	7. 0	(1)
June.....	5, 015	2, 444	48. 7	44. 3	3, 224	2, 315	71. 6	54. 8	1, 781	129	7. 2	8. 7
September.....	5, 024	2, 433	48. 4	44. 6	3, 224	2, 304	71. 5	55. 1	1, 800	129	7. 2	9. 0
December.....	4, 824	2, 405	49. 9	45. 5	3, 152	2, 284	72. 5	56. 5	1, 672	121	7. 3	9. 1
1949—March.....	4, 690	2, 308	49. 2	44. 0	3, 053	2, 204	72. 2	57. 0	1, 637	104	6. 4	9. 0
June 28.....	4, 652	2, 168	46. 6	(1)	3, 050	2, 076	68. 1	(1)	1, 602	92	5. 7	(1)

<sup>1</sup> Not available.

(Reduction-in-force notice to employees without civil-service status)

## UNITED STATES ATOMIC ENERGY COMMISSION

OAK RIDGE, TENN.

Subject: Reduction in force.

The curtailment of work activities has rendered personnel in certain categories surplus to the future requirements of this office. Therefore the Atomic Energy Commission is forced to reduce personnel at Oak Ridge, Tenn.

After careful review of personnel requirements it has been determined that it will be necessary to eliminate positions in your competitive level. In view of your having been reached on the retention register and as there is no appropriate position to which you may be reassigned, it is necessary to terminate your services because of reduction in force. Your active-duty status will cease as of the close of business on ----- Thereafter you will be carried on the rolls of this office in a nonduty status with pay (on a pay-period basis) for the duration of your annual leave, if any; and until the close of business ----- in a furlough status. Being placed in a furlough status means that during the period you are on furlough you may be returned to duty, should an appropriate vacancy occur, without formal appointment procedure. If you desire to be separated from the service in lieu of being placed in a furlough status you may resign at any time after receipt of this notice and such resignation will be considered as an involuntary separation.

The Placement Section, Government Personnel Branch, wing 5, north, first floor Main Administration Building, will make the civil-service regulations relating to reduction in force available to you and give you an opportunity to examine the retention preference register on which your name appears. If after inspecting the retention register and discussing your separation you feel that there has been a violation of your rights under the retention preference regulations, you have the right to appeal in writing to the Fifth United States Civil Service Region, New Post Office Building, Atlanta 3, Ga. This appeal must be made within 10 days after receipt of this letter and should include your specific reasons for appealing. Forwarding such an appeal through this office will expedite action on the case as data required by the Civil Service Commission in order to reach a decision as to whether or not there has been a violation will be forwarded with the appeal.

You can determine the amount of accrued leave to your credit by contacting Mr. Ralph L. Story, Main Administration Building, telephone extension 4681.

No lump-sum payment for annual leave to your credit can be made unless you resign as it is mandatory that all persons placed in a furlough status be carried on the rolls with pay for the duration of their annual leave.

You are at liberty to file applications for employment with other Government agencies or with other Atomic Energy Commission installations. You may forward Standard Form 57 directly to the agency with which you desire employment or if you wish they will be forwarded by this office if you will furnish copies of Form 57 for each location at which you desire consideration.

It should be borne in mind that consideration of your application by agencies other than the Atomic Energy Commission will be precluded in most instances because you do not have competitive civil service status. Therefore, if you are interested in further Government employment with other agencies it is suggested that you file for civil service examinations in your line of work which are announced from time to time by the Civil Service Commission. Announcements of civil service examinations are posted on first- and second-class post office bulletin boards.

Your contribution to the Federal service is appreciated and the necessity for this action is sincerely regretted.

Very truly yours,

J. G. LeSIEUR, Jr.,  
Chief, Government Personnel Branch.

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(Reduction-in-force notice to employees with civil-service status)

UNITED STATES ATOMIC ENERGY COMMISSION

OAK RIDGE, TENN.

Subject: Reduction in force.

The curtailment of work activities has rendered personnel in certain categories surplus to the future requirements of this office. Therefore, the Atomic Energy Commission is forced to reduce personnel at Oak Ridge, Tenn.

After careful review of personnel requirements it has been determined that it will be necessary to eliminate positions in your competitive level. In view of your having been reached on the retention register and as there is no appropriate position to which you may be reassigned, it is necessary to terminate your services because of reduction in force. Your active-duty status will cease as of the close of business on \_\_\_\_\_. Thereafter you will be carried on the rolls of this office in a nonduty status with pay (on a pay-period basis) for the duration of your annual leave, if any; and until the close of business \_\_\_\_\_ in a furlough status. Being placed in a furlough status means that during the period you are on furlough you will be given an opportunity to return to duty to fill vacancies in the competitive level from which you were furloughed before any original appointments are made to such positions. Offers of recall to duty will be made in the order of retention preference of furloughed employees. In addition, your recall to duty to fill positions in other competitive levels also will be considered. If you desire to be separated from the service in lieu of being placed in a furlough status you may resign at any time after receipt of this notice and such resignation will be considered as an involuntary separation.

The Placement Section, Government Personnel Branch, wing 5, north, first floor, Main Administration Building, will make the civil-service regulations relating to reduction in force available to you and give you an opportunity to examine the retention preference register on which your name appears. If, after inspecting the retention register and discussing your separation, you feel that there has been a violation of your rights under the retention preference regulations, you have the right to appeal in writing to the Fifth United States Civil Service Region, New Post Office Building, Atlanta 3, Ga. This appeal must be made within 10 days after receipt of this letter and should include your specific reasons for appealing. Forwarding such an appeal through this office will expedite action on the case as data required by the Civil Service Commission in order to reach a decision as to whether or not there has been a violation will be forwarded with the appeal.

You can determine the amount of accrued leave to your credit by contacting Mr. Ralph L. Story, Main Administration Building, telephone extension 4681. No lump-sum payment for annual leave to your credit can be made unless you

resign as it is mandatory that all persons placed in a furlough status be carried on the rolls with pay for the duration of their annual leave.

You are in retention subgroup ----- and have competitive status acquired by ----- effective ----- Inasmuch as you are presently serving under a permanent excepted appointment which followed without break in service a probational or permanent civil service appointment, you may, if you desire, file applications with the United States Civil Service Commission for employment in another Government agency. Such applications may be filed at any time between the date this notice is received and 90 days following your last day of active duty. Applications may be filed for two positions with one Civil Service regional office, or with any boards of United States Civil Service examiners in one region, and with the United States Civil Service Commission, Washington, D. C. Applications should be made on Standard Form 57 indicating clearly the positions for which application is being made. Each form filed must be accompanied by a copy of this notice of termination. If you apply to the Civil Service Commission under the provisions of this paragraph, you should complete an additional form 57 and carry it with you whenever you report for interview for further Federal employment, releasing it only upon appointment.

You are also at liberty to file applications for employment with other Government agencies or with other Atomic Energy Commission installations. You may forward Standard Form 57 directly to the agency with which you desire employment or if you wish they will be forwarded by this office if you will furnish copies of Form 57 for each location at which you desire consideration.

Your contribution to the Federal service is appreciated and the necessity for this action is sincerely regretted.

Very truly yours,

J. G. LESIEUR, Jr.,  
Chief, Government Personnel Branch.

Mr. VOLPE. I think, Senator Hickenlooper, that some of our difficulties with respect to veterans' preference arises not out of employment with the Government, but rather out of employment with contractors; that is, veterans employed—employees of the contractors engaged in the atomic energy program, and I would in that connection—

Senator HICKENLOOPER. Well, we cannot—so far as the contractor situation is concerned, I do not intend to go into that philosophy in this investigation, but I call your attention to the fact that that contractor's employees cannot be employed without the permission of the Commission; that they do the work as directed generally under the policies set up by the Commission.

Take the money to pay the employees, that comes from the Government, it is public funds, and I think there is a great deal to be said about the theory that the employees are to all intents and purposes Government employees except for the fiction that the contractor merely acts as the transfer agent in passing the check to the employee; and I had not intended to get into that philosophy of Government employee employment as against the contractor employment, but I think there is much to be said on the side of the argument that these people are—that is, that the contractor employees are in fact, to all practical intents and purposes, except for the convenience of handling the checks and dealing with labor relations, perhaps, that they are for all intents and purposes actually Government employees. That can be saved for another line of argument on the philosophy of that type of employment.

Mr. VOLPE. Well, Senator, I was merely offering that as an explanation for some of these telegrams.

Senator HICKENLOOPER. Yes.

Mr. VOLPE. Why some of these telegrams—I think we will probably find that they are contractor employees.

I would just like to make this one additional comment. On August 8, 1946, the Attorney General, in response to a request by the Secretary of War, for an opinion as to whether the Veterans' Preference Act applied to employees of contractors in the atomic energy program, particularly at Oak Ridge, ruled that the Veterans' Preference Act did not apply.

Senator HICKENLOOPER. I realize that there is a legal technicality involved there, and, as I say, I do not care to get into a dispute or an argument on that particular philosophy at the moment. There may be a better time and a more appropriate time, but there is some powerful argument on that side of the situation, and there is also the legal argument on the other side as to the exact legal status and the moral or actual status of these employees; but I do not think that we ought to take time in this hearing to fight that matter out.

Now, if I may, I would like to ask Mr. Cook, if he is here, some questions.

**STATEMENT OF RICHARD W. COOK, ACTING MANAGER, OAK RIDGE OPERATIONS OFFICE, ACCOMPANIED BY WALTER J. WILLIAMS, DIRECTOR, DIVISION OF PRODUCTION, BOTH OF THE UNITED STATES ATOMIC ENERGY COMMISSION**

Senator HICKENLOOPER. Mr. Cook, on the employment of the employees of Roane-Anderson Co., it was testified on February 16, 1949, that Roane-Anderson Co.—this is in the hearings before the subcommittee on the independent offices appropriation bill of 1950—it was testified that Roane-Anderson had 2,501 employees. Then, yesterday, I believe you said that as of May, sometime in May they had nine hundred-odd employees, and then as of the 13th of June they had 1,881 I believe you stated.

Now, is that statement correct? Did they have 2,501 employees as of that date, on February 16; do you recall?

Mr. Cook. That was the number of employees they had at the time the budget data justification was prepared.

Senator HICKENLOOPER. This testimony was given on February 16, 1949.

Now, what figures do you have for the reduction in force after February 16, 1949, up to May? When were those reductions put into effect?

Mr. Cook. The reductions over the last several years have been—

Senator HICKENLOOPER. I am not talking about several years.

Mr. Cook. Continuous. I do not have the exact reductions with me.

Senator HICKENLOOPER. Do you have the number they had on March 1, 1949, March 15, or April 1, or April 15, or any other date?

Mr. Cook. Just a minute. On February 14, 1949, there were 1,780 people on Roane-Anderson pay roll and 637 people on the municipal pay roll.

Senator HICKENLOOPER. What are those figures again?

Mr. Cook. 1,780 and 637.

Senator HICKENLOOPER. That would make 2,417, as I get it.

Mr. Cook. That is right.

Senator HICKENLOOPER. On February 14, 1949?

Mr. Cook. Yes, sir.

Senator HICKENLOOPER. On February 16, 1949, Mr. Ford made the statement that there were 2,501 employees. What is the discrepancy there?

Mr. COOK. On January 3, there were 1,983 on the Roane-Anderson pay roll, and 660 on the municipal pay roll.

Senator HICKENLOOPER. Now, Mr. Ford was manager for Roane-Anderson at Oak Ridge?

Mr. COOK. He is not manager for Roane-Anderson. He is a Commission representative, Director of the Office of Community Affairs, who is responsible for the administration of the Roane-Anderson contract.

The CHAIRMAN. Is he here?

Mr. COOK. Yes, sir; he is here.

Senator HICKENLOOPER. Mr. Franklin says, "I am the manager of Oak Ridge, and we have the manager of the city here, Mr. Ford."

Mr. Ford is a Commission employee, is that it?

Mr. COOK. Mr. Ford is a Commission employee.

Senator HICKENLOOPER. And he is the manager of the city for the Commission?

Mr. COOK. In addition to his other duties, yes.

Senator HICKENLOOPER. But among them is that he manages or that he is the Commission representative for the city, the management of the city?

Mr. COOK. That is right, sir.

Senator HICKENLOOPER. In addition to his other duties. What are his other duties?

Mr. COOK. As director of the Office of Community Affairs, he is responsible for all the real-estate operations of the Commission in the community.

Senator HICKENLOOPER. Yes.

Mr. COOK. And the community construction.

Senator HICKENLOOPER. What is Mr. Ford's salary?

Mr. COOK. \$10,330 per year.

Senator HICKENLOOPER. So, in behalf of the Commission he is sort of a city manager at \$10,330, representing the Commission, and Roane-Anderson which manages the city in other operations has an executive officer at \$12,000—some a year looking after these directions, and there are three other people in Roane-Anderson in this operation who get between—or in excess of \$8,400 a year; is that correct?

Mr. COOK. Yes, but the municipal activities or the city management activities to which you refer are approximately 20 percent of the total work load costwise of the work done by the Office of Community Affairs and the Roane-Anderson Co.

Senator HICKENLOOPER. Yes.

Now, I would like to go through a list of the contracts by Roane-Anderson at Oak Ridge, which I am reading from the Commission report. This is a report developed called the Construction Program Data, and it is a report requested at the Appropriations Committee hearings by the House and is supposed to be inserted in the public record in the appropriate place there. I do not have a page number on this report, but they are photostatic copies of the report.

I notice that one of the contracts in which Roane-Anderson is a prime contractor at Oak Ridge is item No. 10, Budgetary Program No. 730 at Oak Ridge, and it is for a sprinkler system in 22 buildings.

Roane-Anderson is the prime contractor, and the Grinnell Co. is the subcontractor. Is that a contract upon which an additional fee is paid Roane-Anderson under modification 20 of their contract?

Mr. Cook. That contract was entered into prior to article XI in their contract that I read to you yesterday. I can answer the questions that you raised yesterday on that, if you desire at this time.

Senator HICKENLOOPER. You read the article into the record, the article of the contract. Is that what we referred to as the modification 20, article XI, that you read in there?

Mr. Cook. Article XI is a part of modification 20.

Senator HICKENLOOPER. Yesterday, a schedule of the fees to be paid Roane-Anderson was not specifically put into the record under either article XI or modification 20. Do you have a schedule of those fees, I mean, an exact schedule of what they should get?

Mr. Cook. Yes, we do have. They are a part of article XI in the contract.

Senator HICKENLOOPER. Well, I read article XI again as it was read in, and I could not find out any formula or yardstick to figure the fee on any contract with Roane-Anderson. I cannot say it was not in there, but it was not put into the record.

Mr. Cook. It was not put into the record. I gave the range.

Senator HICKENLOOPER. Will you put in the specific provisions, a specific copy of the contract, containing the provisions for the payment of Roane-Anderson's fees on any of these contracts?

Mr. Cook. We will be very glad to.

Senator HICKENLOOPER. If that can be put in so that it can get into today's record, if it can be put in this afternoon.

Mr. Cook. I can read it right here if you wish, sir.

Senator HICKENLOOPER. All right, if you have it.

Mr. Cook. For a job of \$100,000. The way this article is written it would have to be a job equaling \$125,000 before we compute a fee on \$100,000, so for each total I give you here the first \$25,000 are not subject to the fee.

Senator HICKENLOOPER. Suppose it is a job of \$50,000?

Mr. Cook. We would pay a fee on \$25,000.

Senator HICKENLOOPER. I see. All right.

Mr. Cook. On a total estimated cost of \$100,000, a fee of \$1,200; \$200,000, a fee of \$2,340; \$300,000, fee \$3,430; \$400,000, fee \$4,500; \$500,000, fee \$5,550; \$1,000,000, fee \$9,700; \$1,500,000, fee \$13,200; \$2,000,000, fee \$16,400; \$3,000,000, fee \$22,200; \$4,000,000, fee \$27,900; \$5,000,000, fee \$33,500.

So that the fee varies for work in the amount of \$100,000 from 1.2 percent to \$5,000,000 up of five-tenths of 1 percent of the total estimated costs.

Senator HICKENLOOPER. All right.

Now, on this item, this item that I referred to awhile ago, the sprinkling system for 22 buildings where Roane-Anderson is the prime contractor and Grinnell Co. are the construction contractors and subcontractors, is that included in this extra fee scale?

Mr. Cook. No, sir.

Senator HICKENLOOPER. Roane-Anderson gets no fee whatsoever out of that?

Mr. Cook. That is right. That was prior to the agreement.

Under the original contract it was worded that Roane-Anderson Co. would only be expected to do minor maintenance or alteration work to the existing utilities and facilities.

Article XI was written to clarify what are minor alterations or revisions.

A figure of \$25,000 was agreed to, and subsequent to the date of this supplement, all new construction work in excess of \$25,000 that is not a part of their operating contract, the fee for that work is arrived at in accordance with the schedule I just read.

Senator HICKENLOOPER. Yes.

Now, item No. 12, No. 730, Oak Ridge, is a heavy equipment garage. Roane-Anderson Co. is the prime operating contractor, and John A. Johnson & Sons, Inc., is the construction contractor and subcontractor. Does Roane-Anderson get a fee from that job, or will they?

Mr. Cook. According to my records that work was started prior to the entering into of this supplement, and they will not receive a fee.

Senator HICKENLOOPER. So, you say they will not receive a fee on that job?

Mr. Cook. That is right, sir.

Senator HICKENLOOPER. All right, proceeding, item No. 13, which is a stainless steel sink item—stainless steel sinks in Cemento houses, Roane-Anderson Co. is the prime contractor; Hicks & Ingle are the subcontractors.

Mr. Cook. They will not receive a fee for that work, sir.

Senator HICKENLOOPER. All right.

Mr. Cook. Yes, sir.

Senator HICKENLOOPER. Item No. 14, painting exterior and interior of 1,000 houses, Roane-Anderson Co. is the prime operating contractor, and Anderson—

The CHAIRMAN. How could anybody else get in there? They are the insiders.

Senator HICKENLOOPER. Anderson Bros. Painting & Decorating Co. is the subcontractor. Did they get a fee on that?

Mr. Cook. No, sir, that is considered a part of the normal operating responsibility in the operation and maintenance of the housing, and they will not receive an additional fee.

Senator HICKENLOOPER. All right. Item No. 20, ventilation and installation—commercial buildings; Roane-Anderson Co. is the prime operating contractor, and Rentenbach is the engineering company. Does Roane-Anderson get a fee on that at all, or will they?

Mr. Cook. They will not.

Senator HICKENLOOPER. Item No. 21, install fire alarm system; Roane-Anderson Co. is the prime operating contractor; Tennessee Armature & Electric Co. is the construction contractor and subcontractor. Will Roane-Anderson Co. get a fee on that contract, or have they?

Mr. Cook. To the best of my knowledge they will not. I do not have that listed.

The CHAIRMAN. Does anybody have a contract at Oak Ridge except Roane-Anderson?

Mr. Cook. Yes, they do, sir. Roane-Anderson is the prime contractor for the operation of the town. It is more economical.

The CHAIRMAN. I know you inherited Roane-Anderson, and they inherited Zia out at Los Alamos, but it seems to me that when these contracts come up, we have a construction company organizing a subsidiary management company, and it seems they, after that, obtain contracts for the construction company through their management company subsidiary.

Mr. COOK. Sir, the Roane-Anderson Co. does not actually do the work. They operate as agents of the Commission in the preparation of plans and specifications, invitations to bid, receiving bids, and making awards.

The CHAIRMAN. Do you not think it would be better if the construction company had no management company affiliations?

Mr. COOK. The type of work that is to be done by the management company is generally miscellaneous, minor work.

The CHAIRMAN. Now, Turner Construction Co. is a parent corporation of the Roane-Anderson Co. That is right, is it not?

Mr. COOK. That is right.

The CHAIRMAN. And Roane-Anderson manages the town for which they get \$192,000 a year?

Mr. COOK. That is right.

The CHAIRMAN. Now, the Senator reads a list of contracts here for work, and Roane-Anderson does that work, too?

Mr. COOK. Roane-Anderson contracts the work out, sir. They do not actually do the work themselves; that is how we bring competition, and bring in small contractors on these small jobs. They act as an agent for the Commission.

The CHAIRMAN. Will they do any construction work themselves?

Mr. COOK. They do a certain amount of miscellaneous minor alterations themselves, but our whole policy has been to contract out as much as we can, because we find that is the most economical way to operate.

Now, all of the major construction contracts are direct contracts with the Commission.

The CHAIRMAN. Well, I have misunderstood. When he said Roane-Anderson was an operating contractor, that means they have a contract for the painting of 1,000 homes.

Mr. COOK. Oh, no, sir. They subcontract that work out, just as if it were subcontracted out on another job by the Government. They act as an agent for the Government, so all of these things—

The CHAIRMAN. But they do not paint the houses themselves?

Mr. COOK. Oh, no, sir. On occasion, on the change of quarters or something of that kind—

The CHAIRMAN. That is minor in connection with the management contract.

Mr. COOK. That is right, and then we try to contract out all of our interior painting.

The CHAIRMAN. Have they got any major contract of any kind there, other than their management contract?

Mr. COOK. No, sir; they do not, and we insist that they do not have.

The CHAIRMAN. That clarifies it.

Mr. WILLIAMS. Mr. Chairman, I would like, if I may, to just add a word here. When we took over the operation, that is, when the Commission took it over, the Corps of Engineers had set up something similar to—I mean, quite similar to—a district engineer office, and

there were quite a number—I think it amounted to 300 engineers and draftsmen and people writing specifications and so on.

Now, when we examined the whole picture, we found that there were some duplications of effort, considerable duplication of effort. So, in order to make these reductions which we have been presenting to the committee, it was necessary to rearrange our business, and we rearranged our business by giving to Roane-Anderson the requirement for making certain specifications, drawings, supervising the contracts for certain minor construction, and we kept only the major construction contracts where we could hire an architect-engineer to make the plans, and in that manner we have cut down our forces, as shown by the records considerably, that is the way we did it.

We did not do that just after you started this investigation; we have been working on this for a long time.

The CHAIRMAN. That is all right. I want to withdraw my formal remark about "How could anybody else get in if they were the insiders," because I understood from the testimony—maybe it was my fault—that Roane-Anderson was the only concern that seemed to be doing any contracting down there.

Now, as I understand it, they do no contracting at all and do no work except minor repair work in connection with their management contract, is that right?

Mr. WILLIAMS. Yes, sir.

The CHAIRMAN. And anything such as painting 1,000 houses, they simply act as your agents to let bids.

Mr. WILLIAMS. To let bids.

The CHAIRMAN. And they do not bid themselves at all?

Mr. WILLIAMS. No, sir. We do not permit them to. That would be the worst thing; we just could not live with it.

The CHAIRMAN. That is what I thought when I heard it. I am glad it is not true.

Mr. WILLIAMS. No, sir. Turner Construction Co., to my knowledge, have never had any job at Oak Ridge.

Senator HICKENLOOPER. Well, they get \$192,000 a year.

Mr. WILLIAMS. They get \$192,000 a year because they have taken 21 people from their parent organization, 17 of them took over when they were in business for the Turner Construction Co., and spend possibly considerable money and time in training, and we are paying for that knowledge and know how.

Senator HICKENLOOPER. I agree that you are paying for it.

Mr. WILLIAMS. Yes, sir.

Senator HICKENLOOPER. I agree that you are paying for it, and paying plenty.

Now, I would like to go on with Mr. Cook. We just covered item 13, I believe, with Roane-Anderson Co.—item 14—or had we covered that—painting interior and exterior of 1,000 houses; Roane-Anderson Co., is given as a prime operating contractor in this list. This is the Commission records, and I am reading what they say about it. Anderson Bros. Painting & Decorating Co. is the construction contractor and subcontractor.

Now, does Roane-Anderson Co. get any fee out of that?

Mr. Cook. They do not get any fee out of that work. That is just considered a normal operating and maintenance contract.

Senator HICKENLOOPER. They do not get a fee out of that, so that we can get along here.

Item No. 20, No. 730, ventilation and installation, commercial buildings; the prime contractor is Roane-Anderson Co., and the construction contractor and subcontractor is Rentenbach. Does Roane-Anderson get or will they get any fee out of that contract?

Mr. COOK. The answer to that is "No."

Senator HICKENLOOPER. Item 21, install fire-alarm system; Roane-Anderson Co. is listed as the prime operating contractor; the Tennessee Armature & Electric Co. is listed as the subcontractor, the construction contractor. Does Roane-Anderson get any fee out of that?

Mr. COOK. They will receive no fee out of title 11 for their work.

Senator HICKENLOOPER. Will they receive any extra fee of any kind?

Mr. COOK. They will receive no extra fee for that work.

Senator HICKENLOOPER. Item No. 24, alteration and additions to main pump house; Roane-Anderson Co. is listed as the prime operating contractor; Lonas Electric Co. is the construction contractor and subcontractor; will Roane-Anderson Co. get any fee out of that contract whatsoever or have they?

Mr. COOK. They will not nor have they.

Senator HICKENLOOPER. Item No. 45, installation of electric meters in 5,797 houses; Roane-Anderson Co. is the prime contractor; the Cherokee Electric Co. is the construction contractor and subcontractor; no work, according to this report in June—well, according to this report, which was just filed, no work has been started on that just yet, but will Roane-Anderson Co. get any fee out of that contract?

Mr. COOK. They will not, sir.

Senator HICKENLOOPER. Item No. 46, construction group No. III—roadway and sidewalks; Roane-Anderson Co. is listed as the prime operating contractor; Harrison Construction Co. is listed as the construction contractor and subcontractor. Will Roane-Anderson—have they or will they get—have they gotten any fee out of that contract?

Mr. COOK. If that is the group on roadway and sidewalk improvements for city roads and streets, they will on that one, yes, sir.

Senator HICKENLOOPER. So, they will get their percentage on that contract. That is listed, estimated cost of \$669,000. The indicated cost is \$604,000, and there is zero percentage completion. In other words, they have not started on that as yet.

Mr. COOK. That is right.

The CHAIRMAN. They have got about \$6,000 on that job then?

Mr. COOK. No, sir.

The CHAIRMAN. That is about the schedule you read.

Mr. COOK. The fee is on the aggregate, sir. It is not for each individual job, so that at the end of the fiscal year you total up all the jobs, and the fee is on the aggregate, so, as the total is increased, the fee becomes less.

Mr. WILLIAMS. It goes down.

The CHAIRMAN. I see.

Mr. WILLIAMS. That is the reason for the table.

The CHAIRMAN. When did you enter into that modification 20?

Mr. COOK. March 30, 1949; March 30 of this year, sir.

The CHAIRMAN. How much work have they done on which they have a claim?

Mr. COOK. To date, they have done under the period ending June 30, 1949, an estimated total of \$141,376. That is two separate and distinct jobs, so you subtract \$25,000 apiece or a total of \$50,000, so they will receive a fee on \$91,376 worth of work, and that fee amounts to \$1,096.

Senator HICKENLOOPER. The work is subcontracted?

Mr. COOK. Yes, sir.

May I correct that statement, sir? A part of that work covers the Oak Ridge Institute of Nuclear Studies Museum. That work was a job that was initiated late. It was felt desirable to have the museum open at the time the gates opened, and the work on that, in that instance, was actually done by the Roane-Anderson Co. The estimated cost of that job was \$50,000.

Senator HICKENLOOPER. Now, do you know whether these jobs that I have listed have been on competitive bidding by the construction contractor and subcontractors?

Mr. COOK. All construction work that is handled by Roane-Anderson is handled just like Government work. It is on competitive bidding, on a lump-sum or a unit-price basis, awarding to the lowest responsible bidder complying with the terms and conditions of the specification and invitation to bid.

Senator HICKENLOOPER. Now, there are 41 contracts in this report, January 1, 1948, to December 31, 1948, 41 contracts that have apparently been awarded, according to this report.

Of those contracts, 9 I have read are listed as Roane-Anderson being the prime operating contractor, and 32 of them in comparable amounts, some of them large—31, I should say—some of them large and some of them small, are contracts in which the AEC has operated directly with the construction contractor and not through a prime operating contractor.

In one case, which is item No. 1, a 2,500,000 gallon reinforced concrete reservoir has the Carbide & Carbon Chemicals Corp. listed as the operating contractor, but in the overwhelming bulk of those contracts they are given direct.

Now, is there any reason why the AEC cannot contract directly in practically all of these with the possible exception of a highly technical installation, or something of that sort?

Mr. COOK. Mr. Williams outlined the reasons for the procedure that we have adopted. The procedures were adopted in the over-all interest of cost savings to the Government.

Senator HICKENLOOPER. Why do you not use the proceedings in all of the cases, then, instead of using the big bulk of them as direct?

Mr. COOK. In the smaller miscellaneous alterations and revisions to existing facilities and utilities, quite a bit of that work is of such a nature that it is very difficult to attract an architect-engineer for the small jobs. They were previously handled by a small nucleus of people in the AEC organization.

By consolidating that work with the normal engineering work of the Roane-Anderson Co., we were able to reduce forces, and they now do the engineering on these small miscellaneous jobs.

On the bigger jobs we can attract architect-engineers to do the work and have done so.

Senator HICKENLOOPER. Well, let us go down the line on that. Here is \$123,000, a contract in that amount, which is direct. That is a comparatively small job.

Mr. Cook. What type of work is that, sir?

Senator HICKENLOOPER. That is a water line connecting the reservoir to the district system, and that is item No. 2 on this report.

Mr. Cook. That is an extension to an existing utility system, and that was done under a different contract, sir.

Senator HICKENLOOPER. Here is a contract for \$201,000, additional facilities for the biology division.

Mr. Cook. That was not done under Roane-Anderson, sir.

Senator HICKENLOOPER. I say it is done directly. It is a small contract, \$201,000.

Mr. Cook. That work, Senator, was done under a cost-plus-fixed-fee contract, and they are doing work for the Oak Ridge National Laboratory. It was a revision and alteration job, the type of which it is impossible to prepare plans and specifications for to receive lump-sum bids.

Senator HICKENLOOPER. Yes.

Well, then, here is one for \$127,000; that was a direct contract for the construction of a steam-distribution system. That is a small contract.

Mr. Cook. That is an alteration to an existing utility system, sir.

Senator HICKENLOOPER. Here is one for \$238,000, construction of Kerr Hollow Road. That is a direct contract.

Mr. Cook. That is a direct contract with the Commission; is it not?

Senator HICKENLOOPER. Yes. Well, you said a moment ago the small contracts were not profitable for the Commission to do them, to handle them, so they were put through Roane-Anderson Co.

Mr. Cook. That was not put through Roane-Anderson Co., the last one.

Senator HICKENLOOPER. I say it is not. You said these small contracts were more profitably put through Roane-Anderson. Here is one that was handled directly. I am reading a list of contracts that were handled directly by the Commission.

Mr. Cook. When we talk about small contracts, we are not generally talking about construction work in excess of \$10,000.

Senator HICKENLOOPER. There is not any contract that Roane-Anderson has here that is under \$100,000 that I can find. They are all over \$100,000.

Mr. Cook. I can answer your questions better, sir, if I had a copy of that which you are reading from.

Senator HICKENLOOPER. I beg your pardon. Here is one which is \$89,000. And here is a construction of a guard structure, \$137,000. That is a direct contract, and not through Roane-Anderson Co. I mean it is a small contract.

Mr. Cook. That is an entirely new facility, the design of which was prepared by Skidmore, Owings & Merrill, and it is a direct contract with the Commission—a direct prime contract with the Commission.

Senator HICKENLOOPER. Yes.

Mr. Cook. I said, if I recall correctly, that the type of work that is being turned over to Roane-Anderson is alterations, additions to

existing utilities or facilities. Now, the type of contracts that you have read off there do not fall in that category.

Senator HICKENLOOPER. Well, I think any examinations of most of these have indicated that they do.

Mr. WILLIAMS. Senator, there are a lot of those that we can hire an architect-engineer. We have Skidmore, Owings & Merrill doing a number of jobs down there, and on the jobs where we can have the plans and specifications prepared, and the work handled that way, we have done it without duplicating forces.

Now, where there is a lot of detail, where your rearranging is taking place or where you are repairing, and so on, where it takes considerable attention during the life of the contract, and the bid, the preparation of the bid under the plans, we have turned that over to Roane-Anderson Co. because they have to have a certain number of people there anyway, and we have been able to make the reductions which we have stated here by doing it that way.

Senator HICKENLOOPER. This list will be published. I mean it is a part of the public record, or will be as soon as it is put into the public record, and I shall not go down item by item. But I fail to understand why a consistent pattern of operation there cannot be installed under a single head for the efficiency of that operation down there, outside of the highly technical installations that have to do with nuclear physics or technical engineering, and other facilities.

Mr. COOK. The pattern that we are going to detail, when developed, I believe, will be a consistent pattern.

Senator HICKENLOOPER. Well, Mr. Cook, that goes right to the heart of a thing that I have been putting up with for 2½ years. This Commission is always going to do something to establish efficiency and to get forward with this program, and it is always going to do it, and it is the answer we have received for 2½ years, and we are still going down the same exact pattern that we did 2 years ago and that is a part and parcel of this situation.

Mr. WILLIAMS. Senator, the reduction in force and the figures we presented here for Oak Ridge do not indicate that we have done nothing; they indicate that we have done something. They indicate that we have, and we are going to continue.

Mr. COOK. Mr. Chairman, if I may, I would like to read a statement on what our objections and goals are at Oak Ridge, and what we have done toward the accomplishment of those goals. I think we have made remarkable progress there.

Since the Commission assumed responsibility—

Senator HICKENLOOPER. How long is it? Just a moment, please. The chairman has not said one way or the other.

The CHAIRMAN. I nodded my head. How long will it take?

Senator HICKENLOOPER. I want to know how long it is.

Mr. COOK. I think I can get through with it in 6 or 7 minutes.

Senator HICKENLOOPER. You have about 10 pages there, have you not?

Mr. COOK. Yes, but it is double spaced.

The CHAIRMAN. I think, Senator, in view of the fact that you have said they are slow in performance, it is only fair that Mr. Cook be permitted to read his estimate of the situation.

Mr. COOK. Thank you.

Senator HICKENLOOPER. All right. It is all right with me. I want them to explain these things, but I would like to finish up these details, and then they can explain any way they want to.

The CHAIRMAN. Well, it is only a 10-page statement which will only take 6 or 7 minutes.

Mr. COOK. Since the Commission assumed responsibility for the operation at Oak Ridge, its goals have been to:

1. Increase production, expand and improve the research and engineering development programs.
2. Reduce costs.
3. Install industrial and commercial cost-accounting systems, which will assure proper management and operating control as well as budget correlation and control.
4. Transfer to the operations contractors greater management responsibility for their operations.
5. Develop a long-range program looking toward a permanent community, self-government, and home ownership for residents, and ultimate withdrawal of the Commission from direct community operation through incorporation of the city of Oak Ridge as well as the sale of land and the use of long-term leases to attract private capital for our additional needs in housing, commercial enterprises, religious and social activities.

Significant steps toward accomplishment of community objectives during the last 2 years follow:

1. All production and research activities were split away, organizationally and functionally, from community operation early in 1947. In mid-1948 an Office of Community Affairs was established under which the real estate, community engineering, and other miscellaneous functions were, for the first time, separated from municipal activities.

2. An industrial-type cost-accounting system was installed under which true costs for all community operations and other functions became available. This information has facilitated far-reaching economies.

3. A master plan which provides for zoning and allocation of areas to various functions and activities to guide the physical growth and development of Oak Ridge was completed.

4. A program was initiated late in 1947 to perform long-deferred maintenance work on all physical facilities to extend the life of these facilities and to construct new permanent housing to replace substandard and other dwellings, other dwelling units, too costly to maintain.

As of today, 1,582 dwelling units are under construction, the first of which will become available in late July. Also 400 dormitory spaces are under construction to replace hutments for single persons. Already about 500 substandard units have been sold and removed. One new elementary school becomes available September 1, 1949, and a second one September 1, 1950. The construction of a new high school will begin late this month.

5. An improved Commission-contractor relationship was installed and contracts were modified giving the contractor greater managerial responsibility in the performance of his contract and transferring to the contractor numerous functions previously operated by the Commission, such as equipment and maintenance shops, engineering and

inspection work. This step has reduced duplication of functions with consequent reduction in costs.

6. A firm of consultants, the J. L. Jacobs Co., was retained to study the feasibility of incorporation, to estimate the tax revenues, and to draft a model charter under which self-government, home ownership, and private enterprise would be practicable. This report and charter are completed and are now under study.

7. Looking toward self-government, municipal costs are continuing to be reduced to permit operation ultimately by an elected municipal government. Thus, during the first 11 months of fiscal year 1949 forces of the fire department were reduced 32 percent, the police department 24 percent, the public health department 24 percent, and the recreation section 26 percent.

8. The Oak Ridge hospital operation was transferred to a nonprofit corporation organized under Tennessee laws and administered by a board of trustees composed of leading Oak Ridge citizens. Employment in that operation is down from 345 to 253 since June 1948, or 27 percent.

With respect to real estate, arrangements were completed for the sale of land to religious organizations for the construction of churches and schools for religious purposes. Negotiations of 15 sites are now under way.

The firm of Treadwell & Goldstein, recognized real-estate appraisers, was retained to survey comparative rents, utility charges, and maintenance services.

As a result of recommendations made by Treadwell & Goldstein and the Roane-Anderson Co., rent and utility charges recently were made more equitable within Oak Ridge and adjusted upward toward comparability with the surrounding areas under rent control.

In addition, a normal landlord-tenant relationship was established. This action will reduce operating costs and help attract the investment of private capital in residential building.

A commercial survey was completed which shows that Oak Ridge's retail needs are not now adequately met, and that investment of private capital in expanded shopping facilities is economically justified.

With the economic data produced by the commercial survey, representative banks, insurance companies, and investment brokers were canvassed to determine whether the development of expanded shopping facilities would be attractive to private capital. Their reaction was definitely favorable.

Site preparation consisting of grading and providing utilities for a new commercial center is not being undertaken.

A complete appraisal of all property at the Oak Ridge installation is nearing completion.

Total employment in the community operation activities has been cut 40 percent since December 31, 1946.

These major reductions are reflected both by the Commission and a majority of the principal contracts, especially during the last year.

For instance, since July 1, 1948, Roane-Anderson's pay roll has dropped from 3,193 to 1,598, or 50 percent. American Industrial Transit Co.—

Senator HICKENLOOPER. Just a minute now. Yesterday we heard that it was 1,881. Now, where do you get this figure?

Mr. Cook. I said since July 1, 1948, Roane-Anderson's pay roll has dropped from 3,193 to 1,598.

Senator HICKENLOOPER. I said, yesterday we were told that the Roane-Anderson Co. pay roll was 1,800 and something.

Mr. Cook. That is right. That includes the municipal employees, sir. I was just talking of the Roane-Anderson pay roll strictly. I cover the other later.

American Industrial Transit Co. decreased from 430 to 296, or 31 percent; municipal employees, paid through Roane-Anderson, have fallen from 508 to 305, or 39 percent; and AEC's community operation pay roll has decreased from 196 to 71, or 64 percent.

Operating costs are being decreased likewise. Approximately a million and a half dollars were cut from this year's operating budget as of January 1, and a further decrease of \$1,000,000 was recently made.

The budget for fiscal year 1950, as requested, is \$4,325,000 less than the current budget.

In production, improvements of production operations at Oak Ridge can be readily measured by comparing the present cost and rate of production of uranium 235 with similar data for earlier operations.

Since January 1947, the unit cost of producing U-235 has been reduced approximately 50 percent. This represents a saving of \$22,000,000 per year, and results from increasing the rate of production appreciably while at the same time reducing the cost of operation.

The reduction in operating costs is more impressive when it is realized that it occurred during a period of generally rising costs. Labor rates alone increased 23 percent during this period.

Senator HICKENLOOPER. I think on the question of unit production costs, just a bald statement of that kind might be misleading until we know fully the factors that go into the original cost calculations and the factors that go into the present cost calculation.

Mr. Cook. We will be very glad to give you that information, to have you go into them with us.

Senator HICKENLOOPER. I think those matters are matters, at least, that we should canvass in executive session, Mr. Chairman, without opening up those details; but I would just like to say that I dislike having a self-serving declaration of great reductions made in public, without the ability of testing the data on which these declarations are made and, therefore, I would suggest that in executive session we may very profitably go into the basis upon which these alleged cost comparisons and reductions are made.

Mr. WILLIAMS. Mr. Chairman, I might say that there is one comparison that does not need to be gone into in executive session, and that is the fact that in January 1947 in the production of U-235, we had approximately 11,000 people employed, and at the present time we have approximately 4,700 people employed, and in the meantime we have added additional programs under this program, that have taken 500, so that in effect we have reduced with the help of our contractors to 4,200 people.

Now, that is a figure that cannot be denied. That is the total employment for production.

Senator HICKENLOOPER. That certainly is a figure, and I do not question the amount of those figures, but I question the philosophy behind the employment of 11,000 people, and I question the philosophy

that exists now in a normal commercial enterprise. There are many factors that went into the retention of those 11,000 people.

Mr. WILLIAMS. Sir, I think—pardon me.

Senator HICKENLOOPER. That would have to be canvassed pretty thoroughly as to why they were retained, but—

Mr. WILLIAMS. It was due to a philosophy of trying—pardon me.

The CHAIRMAN. They are entitled though, Senator, to credit, it seems to me, for having got rid of them if they were not needed. I think that is the point that you are making.

Mr. WILLIAMS. The philosophy has been to reduce costs, and to save the taxpayers' dollars.

Now, in the main that has been the philosophy, and it is continuing to be the philosophy.

Senator HICKENLOOPER. Yes, but the only point I am making is just to say that there were 11,000 people on the pay roll at such and such a date, and only 4,000 now, does not tell the whole story.

Mr. WILLIAMS. No, sir; but the whole story would be much more impressive.

Senator HICKENLOOPER. I disagree with that. I disagree with that.

Mr. WILLIAMS. Sir, I do not think if the facts were known—

Senator HICKENLOOPER. I mean if we are just speculating and not able to go into the background, I will speculate on the other side of the thing, and say it was most inefficient, I think, up to the present time.

Mr. COOK. Those reductions in force were made possible by development, research, process improvement, management studies, that made it possible to reduce the number of people required for that operation. They were not on the pay roll because they did not have anything to do; they actually had a job to do at that time, but the process has changed considerably since that time, and improved.

Senator HICKENLOOPER. And, by the same token, we can say that we have made phenomenal reductions in the National Military Establishment because back in 1945, we had 12,000,000 men under arms, and look at the reduction we made, and we are operating the National Military Establishment at a tremendously decreased cost and, of course, that is not a fair statement.

Mr. WILLIAMS. No, sir.

Senator HICKENLOOPER. Absolutely, and there are some similar factors going into your 11,000 employment where you compare that, and say you have done a great job of reduction; there are some similar factors of background necessity and uncertainty that make that an unfair comparison just to make a blanket statement that we have reduced from such an amount down to such an amount.

Mr. WILLIAMS. No, sir. If we wanted to make a comparison such as the Senator has drawn, we could say that in August 1945, when we were at the peak of the wartime employment in the production of 235, we had 36,000 people employed for the production of 235.

Senator HICKENLOOPER. Certainly you can.

Mr. WILLIAMS. We have not taken those figures. We have taken realistic figures, sir.

Senator HICKENLOOPER. I only want to illustrate that there are factors that apply to this thing before you can test whether any such efficiency as that compares. I think you have reduced employees; I

think you have established some efficiency that did not exist sometime ago, but I think there are reasons for that.

Mr. COOK. When we go into the figures, sir, the reduction will be more impressive because in addition to doing the work that they were doing at the time the first figure was quoted, they have taken on other operations, requiring additional personnel that were not included in the original figures that we quoted.

Senator HICKENLOOPER. All right, continue with your statement.

Mr. COOK. Both the increase in rate of production and the decrease in the cost of reduction result from material improvements in operating procedures and facilities which, in turn, are the result of laboratory, engineering, and management studies.

During this same period, other work of major importance to national security has been assigned to Oak Ridge, and developed from laboratory scale to efficient scheduled production operations.

Recently, 2 years of intensive effort on the design of new gaseous diffusion facilities, have culminated in plans to construct an addition to the K-25-27 plant of greatly improved design and efficiency which will materially increase production of U-235, and decrease the unit cost.

The Carbide & Carbon Chemicals Corp., operators of the K-25 and Y-12 plants and the Oak Ridge National Laboratory, has played a leading role in making these accomplishments by its enthusiastic and aggressive approach to efficient economical operation, through co-operation in following the policies and requirements of the Commission, and their willingness to accept new problems of high priority in research, engineering, and development.

With respect to isotopes, the rate of production of radio-isotopes at the Oak Ridge National Laboratory has increased 600 percent in the last 2 years. During the last 3 months, shipments of radioisotopes averaged in excess of 500 per month. These important research tools are making valuable contributions to investigations in the fields of medical therapy, animal physiology, plant physiology, bacteriology, chemistry, physics, and industrial research.

In addition, 156 stable isotopes of 38 elements have been separated by the electromagnetic process. These are being used for research into the nuclear properties of the isotopes. As of May 31, 1949, 1,118 shipments of stable isotopes have been made.

In research, marked progress is being made in scientific research at the Oak Ridge National Laboratory, especially in the fields of chemistry, physics, biology, health physics, metallurgy, and in related development and engineering activities.

Typical examples of work on which considerable progress has been made during the past 2 years include:

1. Development of design for a materials testing reactor capable of producing high levels of radioactivity for use in determining the effect of radiation on all types of materials.
2. Conduct of numerous pilot plant experiments on plutonium and uranium separation processes, reclaiming of uranium from various solutions and decontamination and disposal of radioactive wastes.
3. Measurement of the neutron cross sections for all elements.
4. Studies on the genetic effects of radiation as observed in experiments with thousands of mice exposed to radioactivity.

The establishment of the Oak Ridge National Laboratory as a permanent institution, and its success in achieving recognition as a leader in the field of atomic research, required the development of plans for permanent facilities to replace the temporary facilities built during the war.

The first plan considered was estimated to cost \$48,000,000. Further considerations of economy resulted in the development of a final plan making maximum practicable utilization of existing facilities at an estimated cost of \$18,000,000. Of this total amount, approximately \$11,000,000 are needed for the construction of new facilities and the balance is required for the renovation of existing facilities.

Detailed plans and specifications are being prepared and construction will be initiated on the various facilities as plans become available in the near future.

On security, last fall our program of providing physical security to the Oak Ridge area was critically reviewed. A plan was evolved and later was realigned to allow for the opening of the town and to establish a controlled area excluding Oak Ridge and retaining the plant areas, which provided for the following:

A. A reasonable means of control over the number and identity of personnel in the controlled area at any time;

B. Simplified the problem of internal control by discouraging entrance of the curious or innocent intruder; and

C. A means of isolating quickly the entire controlled area in the event of need, closing off convenient methods of escape or entrance.

The CHAIRMAN. How much more of that have you got?

Mr. COOK. Just a little.

The CHAIRMAN. Can it not go into the record? I think you have given us most of it.

Mr. COOK. Just part of this page and part of the next, sir.

The CHAIRMAN. All right.

Mr. COOK. Only those persons who work in the area or who have official business in the area now have access to the controlled area. Previously all the residents of Oak Ridge and their friends had access to this area.

By this step it was possible to reduce the patrol force from 306 to 166 and maintain adequate security.

The annual cost of personnel services in the patrol, exclusive of shipment security, is now \$538,000 a year, as compared to \$938,000 prior to the opening of the town.

This represents an annual saving of \$400,000, and will amortize the total estimated cost of new fencing, patrol roads, road relocations, entrance structures, in a period of approximately  $3\frac{1}{4}$  years.

On our over-all savings, our fiscal year 1950 operating costs will be in excess of \$30,000,000 per year less than for fiscal 1947 operating costs.

That covers my statement. Thank you.

Mr. WILLIAMS. Mr. Chairman, Clark Center, the project manager for the Carbide & Carbon Chemicals Corp., is here, and if you desire a statement from him on clarifying some of the figures that we have given on production and the fact that there were actual savings and not unnecessary people on the pay roll—he is very familiar with it, and he can give it.

The CHAIRMAN. I would like to get along with Senator Hickenlooper's matters. Later if the Commission wants to bring him on, we will be glad to hear him.

Senator HICKENLOOPER. Mr. Chairman, I just sent up to the office for this. I had not intended to discuss it in the Oak Ridge situation particularly, because I had already illustrated the situation, but with respect to the high school at Oak Ridge—

The CHAIRMAN. More high schools? [Laughter.]

Senator HICKENLOOPER. Yes. I thought one high school was enough to illustrate, but I will bring in another one at Oak Ridge.

I got a letter some time ago, June 30, written to me by a man who works at Oak Ridge and lives there, in which he objects to what he believes to be the inefficiency of the operation at Oak Ridge, but incidentally he sent along a clipping on the new high school at Oak Ridge, which is to be built for 1,500 students, according to the clipping of the Oak Ridger of June 16, 1949. That, if you recall, is the same number of students as the Sousa Junior High School in Washington, and it has an auditorium and, I guess, a cafeteria and other things, and the bid on that—I do not know whether it has been accepted or not—but the report is that the bid on that is \$2,490,806, as compared to \$1,700,000 for a 1,500-capacity high school in Washington, D. C.

This same man also sent along—I cannot say this is a fair comparison; I just do not know—but he sent along the cost, and that is at a cost of \$13.42 a square foot for the high school.

This same man sent along some clippings about the types of rural high schools being built by the State of Tennessee in that area, and there is a newspaper cut of the school. I cannot tell anything from that. It may not be a fair comparison at all; I just do not know. But the rural high schools for several hundred students, according to this story, are being built by the State of Tennessee or the school authority, whoever builds them, at a cost of \$7.16 a square foot.

The CHAIRMAN. We have "monkey trials" down there, too. [Laughter.]

Senator HICKENLOOPER. The cut indicates a very modern and nice-looking high school being built by the school district of Tennessee. I do not know, as I say, and that may be an unfair comparison, but there is that comparison between that cost and the Sousa Junior High School that is being built for the same number of students.

The CHAIRMAN. Somebody told me that the Sousa Junior High School cost more money than you said it did.

Senator HICKENLOOPER. The District architect's office again verifies that that is all it will cost. I have checked that.

The CHAIRMAN. Did you check that?

Senator HICKENLOOPER. Yes, sir.

The CHAIRMAN. Was not there an editorial in the Star? I did not see it, but somebody mentioned it.

Senator HICKENLOOPER. Well, there have been a great many editorials and a great many papers that do not touch on the facts. I did not see it.

The CHAIRMAN. I mean on that specific point—that the high school cost more.

Senator HICKENLOOPER. Then the District architect's office—

The CHAIRMAN. I am not challenging it.

Senator HICKENLOOPER (continuing). Utterly misinformed me because they said positively and flatly that that was all it would cost—would be \$1,700,000.

The CHAIRMAN. Completely equipped?

Senator HICKENLOOPER. Completely equipped, and we checked it two or three times.

Mr. WILLIAMS. Senator, I do not recall what the square footage was that you said it cost—

The CHAIRMAN. Thirteen dollars.

Mr. WILLIAMS. I think we compare very well, and when you realize that we have built a civic building or armory building as a gathering place for the people, and built in the high school, and cut out a considerable amount of money in our budget, I think—

Senator HICKENLOOPER. These high schools all have community facilities in their construction.

Mr. Cook. Not the type of community facilities we have provided at Oak Ridge. We had no community facilities whatever. Our actual construction cost of our high school is \$11.37 a square foot. I do not know what figures were used in arriving at the Washington school, so that I can give you a comparative figure.

Senator HICKENLOOPER. Whatever the square footage was, it was \$2,490,806.

Mr. WILLIAMS. Senator, I do not know if that includes the preparation of the site, and so on.

Mr. Cook. Does that include design and inspection?

Senator HICKENLOOPER. As I say, I was not prepared to bring this high school question up at all, but the talk about the high school came up in a statement this morning, and I had received this complaint and this statement, and I put it into the record for what it was worth.

Mr. Cook. I think we should compare our high school with Knoxville, and our costs compare very favorably with those at Knoxville.

Senator HICKENLOOPER. I ask you, Mr. Cook, at the outset, and I do not know that we got the figure in, whether you have the periodic total employment pay roll of Roane-Anderson on this date, February 16, 1949, when Mr. Ford said there were 2,501 employees, down to and including the date where you said yesterday that as of June 13, there were 1,800-and-some employees?

Mr. Cook. Yes, sir.

Senator HICKENLOOPER. I mean, could you give us a periodic monthly total of Roane-Anderson employment so that we can have a little table on this for 3, 4, 5 months back? Do you have that here? You do not need to break them down because I have checked the break-down as given here, and the break-down as given yesterday, and between February and the 13th of June, it seems that the reduction in force has been relatively in various departments, so you do not need to break them down each time. Just give me the total number of employees altogether on the Roane-Anderson pay roll of various dates.

Mr. Cook. This table is broken down showing the total employees on Roane-Anderson pay roll, and a separate figure for the municipal employees. Would it be all right if I gave you those two figures?

Senator HICKENLOOPER. Yes, you can give the two. I can add them.

Mr. Cook. All right. On January 4, 1949, Roane-Anderson, 1,983; municipal, 660. On January 17, 1949, Roane-Anderson, 1,882; municipal, 661. On January 31, 1949, Roane-Anderson, 1,842; municipal, 659. On February 14, 1949, Roane-Anderson, 1,780; municipal, 637. On February 28, 1949, Roane-Anderson, 1,756; municipal, 655. On March 14, 1949, Roane-Anderson, 1,719; municipal, 385. On April 4, 1949, Roane-Anderson, 1,798; municipal, 299. On April 18, 1949, Roane-Anderson, 1,760; municipal, 299. On May 2, 1949, Roane-Anderson, 1,723; municipal, 295. On May 16, 1949, Roane-Anderson, 1,699; municipal, 293. On May 30, 1949—no, that is not filled out yet. That is as far as this table goes, sir.

Senator HICKENLOOPER. That would be May 30, 1949?

Mr. Cook. That is right. The other column has not been added up yet, sir.

Senator HICKENLOOPER. The last figure you have is May 16, 1949. You started to give me the figure for May 30, and I think you said the figure was not added?

Mr. Cook. That is right. The 16th were the last figures you had.

Senator HICKENLOOPER. But you gave me the figures yesterday for June 13, with the figures of 1,881 as a total.

Mr. Cook. That is right, sir. That was the total figure, was it not, sir?

Senator HICKENLOOPER. That was the total figure, as I understood it.

Mr. Cook. Yes, sir.

Mr. WILLIAMS. That included municipal employees.

Senator HICKENLOOPER. Yes, but you do not have the figure there for the last of May—the 30th of May?

Mr. Cook. I have. For the 30th of May, the Roane-Anderson figure was 1,598, and the municipal was 305.

Senator HICKENLOOPER. Yesterday I mentioned the matter of the cost of the installation of steps and sidewalks at these various houses. The figure I have is that the cost of the steps and the sidewalks for the houses was \$263 an installation.

Now, I left the meeting yesterday believing or thinking that that meant the sidewalk running in front, the width of the house. I am told that that is the cost of merely the steps and sidewalk out to the street in these houses, and that the cost averages \$263 per installation, and that it is not the cost of the sidewalk, if any, along the entire front of the lot; is that correct?

Mr. Cook. I will have to consult on that. That is the sidewalks from the front and to the side and back door, from the house to the street.

Senator HICKENLOOPER. Most of the houses are in the middle of the block. It is only the corner houses that would have a walk from the street to the side door.

Mr. Cook. A walk leading from the front to the front entrance and from the front entrance to the side door.

Senator HICKENLOOPER. Do you know the average length and width of that walk?

Mr. Cook. I cannot give a reasonable estimate, but I can check it.

Senator HICKENLOOPER. Are not those houses a fairly standard distance back from the street?

Mr. Cook. There is no uniformity whatsoever; by reason of the terrain the houses were located where it was possible to locate them,

and in each instance the sidewalk conditions are different. Some require many steps, some do not require any steps at all. Some are sitting way back from the road and some are setting close to the road.

Senator HICKENLOOPER. I realize there may be a few isolated houses at a great distance back from the road, but what would you say would be the farthest distance back from the road that a great many of these houses might be?

Mr. COOK. Some of them, sir, are in excess of 150 feet. I would say the average distance is approximately 60 feet. It all depends on where the location is.

Some of them are quite close to the sidewalk.

Mr. WILLIAMS. But that 60 feet does not include the walk going around to the side door.

Senator HICKENLOOPER. That would probably be about an average of a 30-foot walk.

Mr. WILLIAMS. Senator, we made some statements here—Mr. Cook made them on guesswork yesterday—and we would like to correct those if you have no objection.

Senator HICKENLOOPER. I would like to have as accurate figures as possible.

Mr. WILLIAMS. It is on the garbage.

Senator HICKENLOOPER. Let us have those. They are very interesting.

Mr. WILLIAMS. I would like to get rid of them.

Senator HICKENLOOPER. All right.

Mr. COOK. On March 18, 1948, an AEC work authorization was issued to Roane-Anderson in the amount of \$106,500 for the construction and installation of approximately 3,550 units at an estimated cost of \$30 each.

Senator HICKENLOOPER. How big were those units?

Mr. WILLIAMS. The final units were 26 inches by 26 inches for each garbage can. That is, the slab.

Mr. COOK. May I proceed, sir?

Senator HICKENLOOPER. Yes. How big were the units, the 3,550 units? How big was each unit?

Mr. COOK. The inside measurements of the enclosure and the size of the precast slabs are 2 feet 6 by 5 feet zero.

Senator HICKENLOOPER. That is for two garbage cans or a garbage can and a trash can, something like that?

Mr. COOK. The way these were constructed was that the concrete precast slabs were purchased on competitive bidding. The enclosures themselves, built in panels, were purchased on competitive bidding.

Senator HICKENLOOPER. By the "enclosures" what do you mean?

Mr. COOK. The posts, the rails, and the pickets.

Senator HICKENLOOPER. Will you describe the installation of the fence around the garbage cans or just describe what they consisted of. What were the sizes of posts? What was the type of pickets?

Mr. COOK. Four-by-four posts 5 feet long. Two-by-four rails, one-by-four pickets, with two coats of paint.

Senator HICKENLOOPER. One-by-four pickets?

Mr. COOK. The concrete slabs were purchased precast on competitive bidding. The enclosures were purchased in panels on competitive bidding, including all materials.

Senator HICKENLOOPER. What do you mean, "the enclosure was purchased in panels"? Do you mean the four-by-four, each one had 4 four-by-fours, one at each corner?

Mr. COOK. No. In all instances there was not a complete enclosure. In other words, if by reason of the location of the house you only needed one end and one side panel, that is all that was placed there. The actual material cost totaled \$49,825. The actual labor cost totaled \$15,759. The total cost is \$65,584, or a unit cost of \$18.32 each.

I would like to point out that the houses in Oak Ridge are built without basements, with kitchens facing the street, because it was impossible in that type of terrain to construct alleys or back yards where you normally keep your garbage cans. This item was considered as a deferred capital-cost item that should have been included in the original construction.

Senator HICKENLOOPER. What happened to the rest of the \$346,000 that was contained in the budget for this item?

Mr. COOK. That is part of the money that was turned back to the Commission.

Senator HICKENLOOPER. I see. Now, was there a wooden base or how were these slabs installed?

Mr. COOK. The ground was leveled and, if necessary, some fine crushed stone was placed to help level the slabs up, if it was in rocky ground, and they were just laid on top of the surface of the ground.

Senator HICKENLOOPER. Now, do you have the figure there as to how much these slabs themselves cost?

Mr. COOK. Yes, sir. The slabs cost—

Senator HICKENLOOPER. I have the total figure for materials of \$49,825.

Mr. COOK. The slabs cost \$1.34 each. We received six bids on that, and that was the lowest of the six bids received.

Senator HICKENLOOPER. All right. Incidentally, in the Oak Ridge installation I would like to ask you what the railroad arrangements are there. How much trackage does the Commission operate in Oak Ridge? Just give us a whole statement of that. What does the Commission pay to the railroad companies for operating switch engines and other installations there at this time? I know something about what it used to be.

Mr. COOK. I can give you approximate figures, sir. I cannot give you the exact figures unless Mr. Ford has them. There are two railroad connections to the area. At the west end of the area the K-25 manufacturing area is connected to the Southern Railway at Blair.

Senator HICKENLOOPER. Who built that spur?

Mr. COOK. That spur was initially built during the original construction period by J. A. Jones Construction Co., who built the K-25 plant. The line is owned and the right-of-way is owned by the Government.

Senator HICKENLOOPER. Now, what does the other end of the installation—

Mr. COOK. Do you want me to add a few notes?

Senator HICKENLOOPER. Tell us about it. How much does it cost us to operate? What do we pay?

Mr. COOK. I have some physical data here. At the K-25 connection with the Southern Railway we have a main line of approximately 10.7 miles and yard siding of 12 miles, or a total of 23 miles.

Senator HICKENLOOPER. Is that within the area itself on Government land?

Mr. Cook. The yard siding is within the Oak Ridge area itself, but the main-line connection from Oak Ridge to the Blair main line is—

Senator HICKENLOOPER. Ten-point-something miles.

Mr. Cook. That is not quite 10 miles. Our main-line track is 10 miles, but that is about 6 miles.

Senator HICKENLOOPER. How much mileage is there from the Blair gate to the entrance to the Government reservation or Government land? How much trackage is there there?

Mr. Cook. Approximately 6 miles.

Senator HICKENLOOPER. Six miles?

Mr. Cook. Yes.

Senator HICKENLOOPER. That right-of-way is owned by the Government?

Mr. Cook. Yes, sir.

Senator HICKENLOOPER. That is between the reservation and the Blair connection?

Mr. Cook. That is right.

Senator HICKENLOOPER. All right. Then the rest of approximately 4 miles remaining of the 10 miles—is that within the Government reservation?

Mr. Cook. Yes, sir; plus the yard siding of approximately 12 miles.

Senator HICKENLOOPER. We will get to that in a second. Now, then, that is the complete spur that comes in. Then your yard siding hooks onto that; is that correct?

Mr. Cook. That is right.

Senator HICKENLOOPER. So that there are 4 miles entirely on Government land. Who owns that 4 miles of this spur?

Mr. Cook. The Government owns it.

Senator HICKENLOOPER. The Government owns the right-of-way?

Mr. Cook. The Government owns the right-of-way and the track.

Senator HICKENLOOPER. Owns the whole thing from the Government reservation line into Oak Ridge?

Mr. Cook. Yes, sir.

Senator HICKENLOOPER. How much siding is there that connects with that?

Mr. Cook. Approximately 12 miles.

Senator HICKENLOOPER. Twelve miles of siding. Does the Government own all that?

Mr. Cook. They own all the land and all the siding.

Senator HICKENLOOPER. What is the other connection into Oak Ridge?

Mr. Cook. The other connection into Oak Ridge is on the east end of the reservation with the Louisville & Nashville Railroad.

Senator HICKENLOOPER. Yes. Where does it connect?

Mr. Cook. That connects right at Elza gate.

Senator HICKENLOOPER. In other words, the Louisville & Nashville runs right past the Government reservation line.

Mr. Cook. It does. It is about half a mile away, but runs parallel.

Senator HICKENLOOPER. The spur for the half mile between where it connects and the Government land—who owns that?

Mr. Cook. The Government owns it.

Senator HICKENLOOPER. The Government owns the track from the reservation to the Elza gate?

Mr. Cook. To the main connection with the main line of the Louisville & Nashville Railroad.

Senator HICKENLOOPER. How much mileage of this particular connection is there from the beginning of the Government-owned land—that is, the Government reservation—into Oak Ridge?

Mr. Cook. From the main-line connection to the warehouse area in Oak Ridge it is approximately a mile and a half or a mile and three-quarters.

Senator HICKENLOOPER. Now, then, is there siding that hooks up to that?

Mr. Cook. There is approximately 35 miles of track, which includes siding, and the Louisville & Nashville operates it.

Senator HICKENLOOPER. Then there would be about 33½ miles of siding; is that correct? You say there is 35 miles including siding.

Mr. Cook. At the beginning of this fiscal year we had approximately 35 miles of main-line track and siding.

Senator HICKENLOOPER. All together?

Mr. Cook. All together.

Senator HICKENLOOPER. What I am trying to get at is the Louisville & Nashville line from where it hooks on at the Elza gate into the reservation. Where is that that the Louisville & Nashville siding hook-up ends? How much trackage is there from Elza gate up to the warehouse?

Mr. Cook. From the Elza gate to the warehouse there is approximately 2 miles of track, a mile and three-quarters. That track extends—

Senator HICKENLOOPER. Yes. Then, from the warehouse area what happens? What is hooked onto that?

Mr. Cook. That tract extends to the Y-12 area.

Senator HICKENLOOPER. How far is that beyond the warehouse?

Mr. Cook. That is approximately another 4 to 5 miles.

Senator HICKENLOOPER. Now, how much siding is there connected with this Louisville & Nashville hook-up, if you can divide it?

Mr. Cook. I would say there is approximately 10 miles of main-line track and 7 miles of siding. That figure of 35 miles that I gave you was the figure at the beginning of this calendar year and we have reduced the amount of track operated to a total of 17 miles.

Senator HICKENLOOPER. Let's get the whole thing. How many miles of siding in total with both hook-ups is there? That is, the Southern Railway's connection and the Louisville & Nashville connection. What is the total mileage of the siding all together in Oak Ridge?

Mr. Cook. My estimate is approximately 19 miles.

Mr. WILLIAMS. Senator, what was the last question, please?

Senator HICKENLOOPER. I asked just how many miles of siding there are in Oak Ridge all together.

Mr. Cook. I gave a figure of approximately 19.

Senator HICKENLOOPER. There are 19 miles of siding all together. That includes the siding hooking up with the Southern Railway and the siding hooking up with the Louisville & Nashville Railroad?

Mr. Cook. Yes, sir.

Senator HICKENLOOPER. So it is 19 miles of siding. Then how long did you say the entire Louisville & Nashville main track was from Elza gate?

Mr. COOK. I said approximately 10 miles of main-line track and 7 miles of siding for the Louisville & Nashville.

Senator HICKENLOOPER. Now, how much main-line track is there from the place of the Southern Railway hook-up?

Mr. COOK. On the Southern there is approximately 10 miles of main line and 12 miles of siding.

Senator HICKENLOOPER. Now, does the Government own all of this land and all this siding within the reservation and all the main line within the reservation?

Mr. COOK. And the connecting track and rights-of-way to the main line of the Southern and the Louisville & Nashville Railroad.

Senator HICKENLOOPER. All right. Now, the rolling stock that is operated in there—who owns that?

Mr. COOK. The rolling stock that is operated there is owned by the railroads. The locomotives, the Diesel engines are owned by the Government.

Senator HICKENLOOPER. How many of those do you have within the reservation?

Mr. COOK. Right now we have three.

Senator HICKENLOOPER. How many does the Government own there?

Mr. COOK. We have three.

Senator HICKENLOOPER. And you own three?

Mr. COOK. Yes, sir.

Senator HICKENLOOPER. Do those Diesels go out on the main line of either of these railroads other than to possibly pick up cars or trains?

Mr. COOK. No; the only time they go out on the main line is when there are transfers of material coming in.

Senator HICKENLOOPER. That is for the direct use of the project?

Mr. COOK. Yes.

Senator HICKENLOOPER. You do not go to some other town down the line and pick up cars and bring them into the station?

Mr. COOK. No, sir.

Senator HICKENLOOPER. Now, who maintains this trackage within the reservation and the rights-of-way hooking up with each of these two railways?

Mr. COOK. The track is operated for the Government and maintained by—in the case of the Southern Railway we have a no-fee contract with the Southern Railway for the operation of the west-end railroad facilities and the maintenance of the track.

Senator HICKENLOOPER. Let us take the 10 miles from where it hooks up with the Southern Railway and comes up to the reservation line. Who maintains that right-of-way?

Mr. COOK. That right-of-way is maintained by the Southern Railway under a contract with the Commission. It is a no-fee contract. We pay the cost of maintenance of the track through a contract with the Southern Railway.

Senator HICKENLOOPER. Do you pay the sections hands and the cost of the equipment and the cost of the repairs?

Mr. COOK. We do.

Senator HICKENLOOPER. You pay all costs of the maintenance of that line from the place where it hooks up with the Southern Railway to the reservation line; is that correct?

Mr. COOK. That is right.

Senator HICKENLOOPER. Who pays the cost of the maintenance of the half-mile of Louisville & Nashville from Elza gate to the Oak Ridge reservation?

Mr. COOK. As to the L. & N. track, formerly we had a contract with the L. & N. that was a no-fee cost-type contract for the operation and maintenance of all the track facilities and equipment in the east end of the community.

Senator HICKENLOOPER. Then, does the L. & N. maintain that half-mile of track, or the amount of track from Elza gate to the reservation line?

Mr. COOK. The track that connects our track facilities with the L. & N. at Elza gate is Government-owned track on Government-owned right-of-way.

Senator HICKENLOOPER. I am trying to find out who maintains it.

Mr. COOK. Under the contract, the type of contract we had with the L. & N., it is a no-fee cost type of contract where we reimburse them for the maintenance of that track.

Senator HICKENLOOPER. So the L. & N. maintains the track from the Elza gate to the reservation line, and the Government reimburses the L. & N. for that cost of maintenance?

Mr. COOK. The Government reimburses the L. & N. for the maintenance of the Government-owned track from the point of connection to Oak Ridge.

Senator HICKENLOOPER. That is exactly what I mean. Now, then, does the L. & N. maintain the track within the reservation, the L. & N. track within the reservation?

Mr. COOK. The L. & N. maintains the track within the reservation.

Senator HICKENLOOPER. And the Government reimburses the L. & N. for the cost of that track maintenance?

Mr. COOK. That is right.

Senator HICKENLOOPER. And for the replacement of materials such as rails and ties and other equipment; is that correct?

Mr. COOK. That is right.

Senator HICKENLOOPER. Who maintains the track from the reservation line into Oak Ridge on the Southern Railway connection?

Mr. COOK. There is the same arrangement with the Southern Railway.

Senator HICKENLOOPER. The Southern Railway furnishes the section hands and maintenance people?

Mr. COOK. And we reimburse them for the cost.

Senator HICKENLOOPER. And the Commission reimburses the Southern for the costs of the replacements such as rails and ties and for the maintenance of the rights-of-way and the system; is that correct?

Mr. COOK. That is right.

Senator HICKENLOOPER. Does that apply in each case to the siding that hooks up with each railroad?

Mr. COOK. The maintenance on the siding is performed as directed by the Commission, and when it is performed, it is reimbursed by the Commission.

Senator HICKENLOOPER. And it is performed by the respective railroads that operate into that siding?

Mr. COOK. That is right.

Senator HICKENLOOPER. Does the Government own any rolling stock there other than the three Diesel engines?

Mr. COOK. No, we do not.

Senator HICKENLOOPER. Who operates the Diesel engines? Are they employees of the Commission or of the railroads?

Mr. COOK. The operators of the Diesel engines are employees of the Southern Railway who are part of that unit organization that operates and maintains the railroad facilities at the west end of the reservation.

We have recently concluded a contract with the railroad—at least, I think it has been concluded—where they furnish steam locomotives and we operate on an hourly rate, which will save us cost of operation of our facilities in the east end.

Senator HICKENLOOPER. That is, steam locomotives within the area?

Mr. COOK. They will be operated within the area in the east end of the Oak Ridge area, and those locomotives will be furnished by the L. & N. and operated by the L. & N. for the time that they are in the reservation.

Senator HICKENLOOPER. Now, the engineers and the firemen, and so on, on these locomotives and the brakemen who operate in the movement of cars—whose employees are they?

Mr. COOK. They are employees of the railroad.

Senator HICKENLOOPER. Of the railroad. And they are reimbursed by the Commission; is that correct?

Mr. COOK. The Commission reimburses the railroad and they in turn pay the employees.

Senator HICKENLOOPER. Yes. And that is for switching cars and spotting them and things of that kind within the reservation; is that correct?

Mr. COOK. That is right.

Senator HICKENLOOPER. How much does the Commission pay the L. & N. for this service altogether?

Mr. COOK. May I check and see if we have those figures?

Senator HICKENLOOPER. Yes.

Mr. COOK. We do not have the cost figures with us, sir. We can get them.

Senator HICKENLOOPER. As to Government freight, when a carload of material comes in, does the Government pay freight, for instance, from the Elza gate to the warehouse?

Mr. COOK. No. The nearest waybill station is approximately 6 miles from Elza gate.

Senator HICKENLOOPER. For instance, you want to get a carload of stuff from some place. Where does the freight begin and where do you stop paying freight on that? You pay freight from Gary, Ind., for instance, if you want a carload of steel. Do you pay the freight from Gary, Ind., to Elza gate, or do you pay it to Oak Ridge?

Mr. COOK. You pay it to the nearest—I do not know the proper terminology—waybill station, and if you are 6 miles one way or the

other, you pay the same freight rate. So the freight paid really is to this station.

Mr. WILLIAMS. Blair?

Mr. COOK. It is not Blair. It is outside the reservation. But the L. & N. delivers it to our siding for the original freight rate, and then the reservation operation or the Government operation, if you want to call it that, starts from that siding and brings it into the area.

Senator HICKENLOOPER. And that operation, then, is completely Government from that time?

Mr. COOK. It is completely Government-reimbursed from that time.

Senator HICKENLOOPER. I mean the Government picks it up and pays all the bill from that into the reservation to where it is spotted at the warehouses or other places.

I would like to know what the cost to the Government is, what the Government pays to the L. & N. and to the Southern Railway for all maintenance, including wages, salaries, and engineers and motor-men from the point of connection at the Elza gate into the reservation on the L. & N., and from the point of connection on the Southern Railway into the reservation where this freight is spotted.

I would like to know just how much the Commission is paying in total to the L. & N. and in total to the Southern Railway. I am not talking about the freight from a place of purchase of merchandise to a billing station. I am talking about what they pay them in addition to freight rates on merchandise, what they pay them for the whole maintenance of that system that you have described and the personnel and things of that kind.

Mr. WILLIAMS. I think it would be well for us to point out, too, that we do not pay freight as such on the section on which we pay for the hauling of cars.

Senator HICKENLOOPER. I understand that these are billed customarily to the nearest waybilling station.

Mr. WILLIAMS. Outside the reservation.

Senator HICKENLOOPER. I understand that.

I wish you to furnish those figures for the record.

Mr. COOK. We will do so.

Senator HICKENLOOPER. Now, on this matter of town management and operations of that kind, we have gone through for illustration and used a number of instances in Hanford, Los Alamos, and Oak Ridge.

As I have said before, Mr. Chairman, I have literally hundreds of individual letters of complaint on operations of this kind. I propose to turn this whole volume of correspondence over to the committee for its more intimate examination by whatever method the committee determines it wants to proceed. I do not intend to further prolong these hearings by individual detailed complaints on certain individual items, but I think the committee should take them and I hope the staff can examine them and look into these matters on staff time.

Personally, I think that there are some very startling things that have developed about Los Alamos and about Oak Ridge. I frankly have never been able to tell what it costs to operate the town of Hanford. The bookkeeping system is so interlocked that it has been impossible for me to make heads or tails out of the cost of the operation of Hanford; and so I have been unable to go into the town-management

operations of that very much, but we may be able to develop that a little later.

I would like to mention at this time, in the nature of notice to the committee and anybody else, that I want to go into a little bit, as much as I can in open session, the matter of the reactor program. I will preface that by saying that it is generally conceded—and as far as I am concerned, I do not need to talk to you gentlemen from Oak Ridge any more, since this will not involve Oak Ridge—I might say that the reactor program and its development has always been one of prime urgency in the requirement for the progressive development of atomic energy.

With regard to the costs, I want to use some illustrations here in the few minutes that are left. I want to read from this same report on contracts that is to become later a public document, as soon as it is printed, and this is with respect to the Chicago operations office.

I want to read what the Commission itself says about this. I am reading from this report, as I say, that I referred to awhile ago. The Commission itself says as follows:

Various figures representing the total estimated cost—  
this refers to the Chicago operations office—

have been considered ranging from \$25,000,000 to \$100,000,000, but with no real engineering basis for cost estimates. With the passage of the Atomic Energy Act of 1946 and the recognition of the need for intensive research and development of many aspects of atomic energy, the judgments as to the size of the facilities at Argonne National Laboratory were considerably enlarged. This judgment was further expanded in January 1948 when the Commission announced its decision to make the Argonne Laboratory its reactor-development center—

Mr. Chairman, I call your attention to their own statement in 1948 that they were going to make Argonne the reactor center—

while continuing to look to ANL for major research in the physical and biological sciences. The earliest assessments of requirements after this decision resulted in a figure slightly over \$100,000,000 for the total cost of the laboratory. This was later cut down to \$57,000,000 by rather arbitrary reduction in contemplated facilities. But this was the basis of a contract supplement between the Commission and the University of Chicago. A few months later as engineering data became available it was apparent that the cost of the facilities contemplated at the time the \$57,000,000 figure was arrived at would probably be closer to \$84,000,000. In February 1949 a revised proposal submitted to the Commission was approved for a plan calling for reduced and rearranged facilities estimated to cost \$63,700,000 which included funds for an experimental reactor. Eliminating the reactor funds because of a possible transfer of location the estimate for the Du Page County facilities now becomes \$61,100,000. However, this amount includes \$5,450,000 for the estimated construction cost of a biology laboratory building allocated to program class 630, which in this record is listed in line 3, and accounts for the \$55,650,000 record as the indicated cost in line 1.

That statement is beyond my analysis. To continue:

Line 2: The Cancer Research Hospital, program 630, estimated to cost \$4,500,000 is financed separately from the facilities included in line 1, program No. 430. Bids are about to be received for this project.

Line 4: The principal items, the laboratory and administration buildings, are estimated to cost \$2,750,000. Fundamental drawings and specifications are now in process. The remainder covers alterations to existing buildings and miscellaneous improvements.

The Dick Construction Co. is general contractor for hangar alterations.

Ford, Bacon, and Davis has the general cost-plus-a-fixed-fee subcontract for the east area facilities with the University of Chicago. It has subcontracted

various service contracts which are included in the total cost of the project. These subcontractors are as follows:

- Ragnar Benson, Inc., construction, cost plus a fixed fee.
- N. J. Corby Co., plumbing, etc., cost plus a fixed fee.
- Hanley & Co., heating and ventilation, cost plus a fixed fee.
- J. Livingston & Co., electrical, cost plus a fixed fee.
- Metal Structures, Inc., hut structures, fixed price.
- Welso Construction Co., general construction, fixed price.
- Seneca Petroleum Co., road paving, fixed price.

The Austin Co. has the general cost-plus-a-fixed-fee subcontract for the west area facilities with the University of Chicago which has service contracts as follows:

- Livingston, Kelso-Burnett & Fries-Walters (joint venture), electrical, cost plus a fixed fee.
- Hanley & Co. mechanical, cost plus a fixed fee.

In the New York operations, which refers to the Brookhaven set-up, the Commission's statement says:

The H. K. Ferguson Co. started construction August 11, 1947.

The following companies are subcontractors to H. K. Ferguson:

- Electrical work, L. K. Comstock, cost plus fixed fee.
- 300-foot concrete chimney, Alphons Custodis, lump sum.
- Heating, ventilating, and air conditioning, Baker Smith, lump sum.

The estimated cost of the entire pile complex shown on the tabulation was a working estimate as of July 1947 based on very meager information. The pile itself was originally contemplated to be a duplicate of the one at Oak Ridge but this concept was changed and an entirely different pile was agreed upon. From that time on the project was new, with no past experience to use as a guide. Each step required proving before being incorporated in the design. To be the effective instrument of research that it was intended to be the new pile and its numerous contributing facilities were required to be as near perfect as scientific ingenuity and skill could make them. This required constant changes as new and better ideas and methods were evolved. During the construction estimates were increased because of rising costs of labor and materials.

It is my understanding that it is generally conceded, Mr. Chairman, that labor and materials have been going down any place from 10 to 15 percent. I continue reading:

Budget estimates were also revised during this period to reflect increases over originally estimated costs.

2. The increase in indicated final cost over the original estimate was due to the impossibility of properly estimating time and materials before drawings were much further advanced. This project involved new ideas for which there was no background of experience to use as a guide.

3. The only construction contract awarded to date was to H. K. Ferguson Co. for machine foundation. This work was rushed in late 1948 as a supplement to the Ferguson contract to enable the heavy foundation to be placed before winter set in, as it is necessary that this foundation attain complete settlement before other construction is started. Development of plans indicates original estimate may be exceeded by 10 percent.

4. Increase in final cost on this lump-sum contract was due entirely to field changes found necessary during progress of construction.

5. Increase in final cost on this lump-sum contract was due to the fact that it was deemed necessary to install additional facilities over those originally planned.

6. The amount first budgeted was \$200,000 but this was prior to the time the present buildings had been acquired. The estimate shown, based on preliminary plans for alterations to buildings may be exceeded by 10 percent but this will not be established until plans are further advanced.

7. Lowest of the six bids received was approximately \$200,000 higher than the amount which had been estimated.

8. Increase over bid amount due to field changes found necessary.

9. Increase of 18 percent due to increase in labor rates and material costs between July 1949 when estimate was made and January 1949.

10. Increase in final indicated cost due to increase in labor rates and material costs, and to an expansion of the medical and health provisions. The architect-

engineer was not in a position to estimate the engineering requirements needed to meet the medical and health specifications set for plant operation. These requirements are particularly responsible also for the fact that brand-new types of equipment have had to be designed in place of certain existing equipment originally intended to be used.

11. Since the estimate shown was made, additional study indicates that the cost was underestimated. A figure closer to realism would probably be \$1,865,000 but plans have not progressed sufficiently to actually use that figure as an estimate.

Now, in connection with that and particularly in connection with paragraph 2 above, I have a very interesting letter here which I will read. This man was chief of construction for the Ferguson Co. at Brookhaven in the pile construction operation. This is dated June 16, 1949, addressed to me, and reads:

DEAR SENATOR: In connection with current investigation of AEC you may be interested to know the following:

In 1947, contract was placed with the H. K. Ferguson Co., engineers and builders of Cleveland and New York for design and construction of the "first peacetime" atomic pile and auxiliary structures to be built for the Associated Universities at Brookhaven National Laboratory, Upton, Long Island, N. Y. Work was to be completed in a year at an estimated cost of about 16 million. Almost 2 years after ground breaking in August 1947, pile is not operating and final predicted cost will be 23 million.

The assumption that design and construction could economically proceed together was a fallacy, and subsequent delay in construction through lack of plans was responsible for much of the added cost.

Another example of the inept planning was the purchase of a steam heating plant for the project, from the Kentucky Ordnance Works, Paducah, Ky. This plant was dismantled, shipped (over 50 carloads) unloaded and stored at Upton, L. I., and resold and shipped to Hanford, Wash.

I held the position of chief of construction for the project with the Ferguson Co. from August 1947 to January 1949 and am in position to be familiar with this project.

Yours truly,

SUMNER C. WILLIS,

*Westfield, N. J., Member of American Society of Civil Engineers.*

With respect to the Chicago situation, there is a statement which has been received here by me with a letter of transmittal on June 4. It is from Mr. Louis H. Goeltz, of Milwaukee, and is in the nature of a report on what he believes to be substantial waste in the Chicago operations. He has had some connection with the Chicago operations and that is the only reason I read it and it is not in the nature of a collateral observation. It reads:

Whoops—There goes our money again. By Louis H. Goeltz.

When the Government does it, watch out, and that's just what we should do—watch out.

In my opinion the ordinary citizen should report any incompetent and wasteful handling of work that he comes in contact with providing he has substantiated evidence to back up his claims.

I am submitting the following report:

The Atomic Energy Commission (AEC) in conjunction with the Chicago University are designing and building the Argonne National Laboratory project located near Chicago, Ill.

Initial work for the project is known as Temporary Facilities, consisting of a temporary project complete in itself with a group of 24 quonset hut buildings in single and multiple units and including a power house, sewage disposal, water supply, gas and compressed air systems, roads, sidewalks, and so forth. All these facilities will be duplicated again in the permanent project.

I have been connected with construction projects over a long period of years but this project was by far the most incompetent, unorthodox and wasteful I have ever been connected with.

This temporary project must not be confused with the permanent project at present being designed and built near by.

Originally the design for both the temporary project and the permanent project were to be handled by a New York City firm of architects with temporary offices in the Chicago Loop and their personnel were hired on the basis of approximately a 5-year period. Well—something went haywire and both architects and their personnel were terminated at the completion of the design for the temporary project and another firm of New York City architects are at present designing the permanent project in their New York City office.

When personnel were hired it was necessary to take the oath on communistic matters and be fingerprinted; pictures were also taken which had to be worn while in the office. The pictures were set in a white background and after we were investigated by the FBI which sometimes took as long as 5 months and if cleared the pictures were removed from the white background and put on a red background.

It would seem, parenthetically, Mr. Chairman, that they should reverse the colors. If they would make them red first and white afterward, it would be all right.

To continue:

There was nothing at all special about the building designs or room lay-outs and no reference whatsoever was made to matters of atomic research, not a thing of value to anyone, yet armed and uniformed guards were on duty at the office and the site day and night.

The idea that the Quonset hut buildings were economical for this type of project soon proved a fallacy as it was necessary in most buildings to provide steel structures and supports within the buildings to support piping and equipment. Furthermore, due to the curved roofs and sides of the huts, the design and installation problems were ever numerous and bothersome.

A very expensive kitchen and cafeteria with double service counters were included in the project with the kitchen twice the size of the dining room and this arrangement will prove very inefficient as the small dining room will be inadequate to properly handle the amount of persons served. The usual practice for the kitchens and cafeterias is at least a dining room approximately twice the size of the kitchen (just the reverse of the above) and an original plan on this basis with one serving counter was canceled.

Someone was also very lavish with our money when they bought the best and most expensive kitchen fixtures and equipment obtainable and for installation in a Quonset hut and a temporary project; no better or more expensive equipment could be found in our finest hotels.

Besides a large force of architects and engineers, the office included a very large personnel consisting of employment of personnel, listing materials, purchasing, estimating, pay roll and general office help, et cetera. Turn-over of personnel both of low and high rank was also very large.

It is always the practice for contractors to list and purchase material for jobs through their own competent employees, not so on this project, for, with the exception of material for heating and ventilating, these items were taken care of by the office personnel with very wasteful results.

If the proper authorities will check the cost records for construction work at the site and the cost records in connection with the design and the extra office personnel, they will find that we are paying an exorbitant sum of money for the type of completed project we are getting.

The cost of this temporary project, probably \$6,000,000 or more, is indeed an itty bitty amount in comparison to the other \$50,000,000 AEC projects and the incompetent and wasteful handling of this temporary project will no doubt be brushed aside by Messrs. Lillienthal, Wilson, and the Chicago University as being too trivial to bother with. Will it not be pertinent to inquire that, if conditions as pointed out on this small project are so bad and wasteful, what's happening on the larger projects? Messrs. Lillienthal and Wilson should take a trip out to this project and see how the taxpayer's money is being spent.

As for the General Manager, young Mr. Carroll Wilson—

the only reason I am reading this particular paragraph, Mr. Chairman, is it is in the letter and I am putting the whole thing in so it will be in the record; I have not raised any issue on this matter.

To continue:

As for the General Manager, young Mr. Carroll Wilson, age 34; with all due respect and credit for his being a very bright young man, hasn't lived long enough to absorb the know-how necessary for handling these gigantic and highly specialized AEC projects; it takes a lot of living and a lot of know-how to properly handle projects of this nature and magnitude.

Why it was necessary in the first place to build this costly temporary project and not have this cost applied direct to the permanent project is beyond my conception, maybe I haven't lived long enough to know the answer to this one, will have to wait for Messrs. Lilienthal, Wilson, and the Chicago University to come up with the answer to this one.

So let's all watch out against waste and save the taxpayer's money.

I was employed on the temporary project as mechanical engineer in the design from May 1948 until March 1949.

And while on the subject of waste, let's all get behind the Hoover report for elimination of waste and for more efficiency in Government affairs. Only the sheer force of public opinion will bring about the elimination of waste.

Submitted by Louis H. Goeltz, June 4, 1949. 2027 East Marion Street, Milwaukee 11, Wis.

I would like to read from this statement on Schenectady, which is a proposed pile installation. It reads:

1. Construction started August 1, 1947. The following companies are sub-contractors to the Walsh Construction Co., at Knolls Atomic Power Laboratory: Heating, ventilating, air conditioning, Raisler Corp., cost plus fixed fee; electrical work, Fischbach & Moore, Inc., and Watson-Flagg Engineering Co., cost plus fixed fee; plumbing work, Burns Brothers, cost plus fixed fee; steam boilers, Babcock & Wilcox Co., lump-sum; paving and yard work, Weber Construction Co., unit price; painting all buildings, J. I. Hass Co., lump-sum; furnishing and erecting structural steel, American Bridge Co., unit price.

The original estimate of \$26,965,000 was originally intended—

and I am reading from the Commission's own report—

to cover the laboratory and the reactor facilities. The reactor project was in an embryonic stage and the location had not been determined. The final indicated cost for the laboratory closely approaches the original estimate for both laboratory and reactor. The reasons for this are indicated below. After the site for the reactor was selected the General Electric Co. was directed to proceed with the design and the Walsh Construction Co. was given a contract for drainage and site work only. An estimate of cost for the reactor facilities of \$20,912,000 was made but was based on very meager information. General Electric has just prepared a new estimate based on additional progress in design which indicates a substantial increase in this figure. The new estimate has not yet been approved.

That new estimate by General Electric might be reminiscent of the installation that went from 6,000,000 to 25,000,000 at Hanford, Mr. Chairman. To continue:

The increase in final indicated cost is due to the following reasons: (a) Increased labor and material prices; (b) changes in plans because of health reasons resulting in separate buildings for radiochemistry and for metallurgy and physics; (c) one portion of the plant comprising three facilities for separation and disposal was brand new in conception and no criteria existed on which to base reliable costs. It became necessary to provide two buildings costing 5½ million dollars not previously contemplated; (d) no information was available as to the huge amount of air handling equipment required to insure adequate health protection; (e) an extension of 96 by 120 feet was added to one building; (f) a sizable mezzanine was added to one building; (g) an addition to the basement of one building was made; (h) additional buildings and revisions increased cost of sewers, utilities, grading, protective lighting, security and alarm systems; (i) under estimation of various construction costs due to lack of sufficient plans and detailed information such as type and quality of materials and accuracy of control required for various laboratory and research operations; (j) operating criteria (developed after project initiated) resulted in the necessity of another more remote site for the reactor proper.

I do not intend to raise the question in this particular hearing on the Fort Peck and the Arco matters for the reason that there has already been a record made before this committee of hearings, and I do not believe I should duplicate that record here. But I do submit that up until a few days ago, and so far as I know, the final decision on the location of the reactor plant and program and what goes where has not yet been made.

General Electric, through Mr. Winne, testified here 2 or 3 days ago that so far as he knew, the final decision had not been made on the location or the exact type of reactor at Schenectady.

I read these things because those are some of the matters I am considering and also for the consideration of anybody who wants to answer them.

Mr. VOLPE. Mr. Chairman, may we have the report identified?

Senator HICKENLOOPER. This is the pamphlet entitled "Construction Program Data Requested in Hearing on May 16, 1949, by the Chairman of Special Subcommittee in Charge of Independent Office Appropriations, House of Representatives." This is the report that is to be put in that report of hearing.

I would like to ask Mr. Cook one question, if I may, if he is still here.

Mr. Cook, did the AEC spend approximately \$20,000 to have some group come in to make a survey of the rental conditions there some time ago?

Mr. COOK. The firm of Treadwell & Goldstein, real-estate appraisers, were engaged last year to make a survey of our housing and to make recommendations on the correction of inequities in Oak Ridge and recommendations as to increases in rentals at Oak Ridge to conform favorably with the rentals in the surrounding communities.

Senator HICKENLOOPER. That cost was approximately \$20,000?

Mr. COOK. Approximately, yes.

Senator HICKENLOOPER. What other surveys have you had there by outside groups? I believe you had a town management survey, did you not?

Mr. COOK. We have had a survey by the firm of J. L. Jacobs Co.

Senator HICKENLOOPER. Have you surveyed bus operation?

Mr. COOK. We have had a survey of the bus operation.

Senator HICKENLOOPER. How much did that cost?

Mr. COOK. I do not remember the figure on that, sir.

Senator HICKENLOOPER. Can you get that and put it in the record, the entire cost paid for the survey of the bus situation?

Now, did you have a town management survey?

Mr. COOK. Not a town management survey—a real-estate survey.

Senator HICKENLOOPER. Did you have any other survey? Is that the real-estate survey that cost about \$20,000?

Mr. COOK. Yes, sir.

Senator HICKENLOOPER. Did you have any other surveys looking toward the operation of that community down there?

Mr. COOK. We had a survey by the firm of J. L. Jacobs & Co. of Chicago for the sole purpose of determining whether or not it was feasible to incorporate the city of Oak Ridge, and steps that we could go through to arrive at incorporation.

Senator HICKENLOOPER. How much did you pay them?

Mr. COOK. \$26,000.

Senator HICKENLOOPER. Have you had any other surveys? I mean that do not go to the technical end, into such things as fissionable materials or anything of that kind. I am talking about general operations at Oak Ridge.

Mr. COOK. We had a survey by a New York firm, the name of which I cannot recall at the moment, which was a management survey covering the AEC-contractor relationship that was completed sometime last year; and, as a result of that survey, we have made considerable changes in our organization.

Senator HICKENLOOPER. How much did that survey cost?

Mr. COOK. I do not recall that figure, sir. I will have to get it for you.

Senator HICKENLOOPER. Have you had any other surveys?

Mr. COOK. Well; the master plan really was a survey of the community to provide for a long-range development of physical growth.

Senator HICKENLOOPER. Who made that survey?

Mr. COOK. That survey was made by the firm of Skidmore, Owings & Merrill as a part of their work. It was under the direction of a special committee consisting of Mr. Tracy Auger, then of TVA, and Mr. ———; I cannot think of his name right now. He is in the office of the chief of engineers in charge of regional planning.

Senator HICKENLOOPER. How much did that survey cost?

Mr. COOK. I will have to give you those figures.

Senator HICKENLOOPER. Have you had any other surveys?

Mr. COOK. We had a survey conducted by the firm of Skidmore, Owings & Merrill of our commercial facilities.

Senator HICKENLOOPER. How much did that survey cost?

Mr. COOK. I will have to provide that information.

Senator HICKENLOOPER. Did you have any other surveys?

Mr. COOK. We had a firm of accountants engaged by the Commission that performed a Commission-wide survey, as well as Oak Ridge, to review our cost-accounting set-up and install industrial-type, commercial-type cost accounting.

Senator HICKENLOOPER. Was any portion of that paid by the Oak Ridge AEC?

Mr. COOK. No, sir. That was a Commission-wide survey, paid for by the Commission in Washington.

Senator HICKENLOOPER. I would like, Mr. Chairman, if the cost of that complete survey could become part of the record.

The CHAIRMAN. Very well, Mr. Cook.

Mr. COOK. We also have a firm making a complete appraisal of all facilities.

Senator HICKENLOOPER. Is that firm engaged in the making of that appraisal now?

Mr. COOK. That firm is engaged——

Senator HICKENLOOPER. How much does that contract call for?

Mr. COOK. That is a Commission-wide survey, and the contract is handled by the Commission.

Senator HICKENLOOPER. If we can have the full information on that, Mr. Chairman, I think it would be helpful.

The CHAIRMAN. Yes.

Senator HICKENLOOPER. Do you have any other surveys?

Mr. COOK. The only one I think of right now was paid for by the businessmen of Oak Ridge. It was a commercial survey.

Senator HICKENLOOPER. That was without expense to the Commission?

Mr. COOK. That was without expense to the Commission.

Senator HICKENLOOPER. I think that is all.

Mr. WILSON. Mr. Chairman, we would like an opportunity to present a total list on this. Mr. Cook may have overlooked some of this. We would like to submit a total list of what the jobs cost and everything.

Senator HICKENLOOPER. If there is any correction or any detailed exactness that can be put in, it should be put in.

(The data referred to above are marked "Exhibit 25" and will be found in the appendix.)

Senator KNOWLAND. Mr. Chairman, so that we will not leave suspended in midair answers to some of the queries I have raised in prior meetings, I would like to have printed in the record at this point the letter of June 29, by Mr. Lilienthal, addressed to the chairman, relating to some emergency clearances which he sent in; and also the letters of June 24 and June 27, giving the list of AEC employees and contracting employees receiving more than \$14,000 salary.

The CHAIRMAN. Yes.

(The data referred to above are marked "Exhibit 19" and will be found in the appendix.)

Senator KNOWLAND. I also wish the Commission to furnish not the names of the individuals but the number of employees receiving upward of \$10,000 in each bracket. In other words, 50 at \$10,000, 20 at \$11,000—whatever it may be—between \$10,000 and \$14,000. Could that be furnished to the committee?

Mr. WILSON. Figures comparable to the ones we have given?

Senator KNOWLAND. Except here we have the names, but from \$10,000 to \$14,000, the number in each bracket.

Mr. WILSON. Yes, sir.

(The data referred to above are marked "Exhibit 26" and will be found in the appendix.)

Senator KNOWLAND. Then, Mr. Chairman, I would like to ask Mr. Wilson a question with regard to this fellowship program. I understand out of the 497 recipients of Atomic Energy Commission fellowships, 400 have signed the loyalty oath.

That presumably means that 97 as yet have not done so. Could you bring the facts up to date as to whether any additional ones have signed it? If not, whether they have definitely refused to sign it or whether we have just not heard from them. Also the number who have definitely refused to sign, where you have an affirmative act on their part, refusing to sign.

Also furnish to the committee the date when the notifications were sent out and facts as to whether any follow-up letter has been sent out since the original letter, and also information as to whether you have set a deadline by which time you must have heard from them before taking whatever action the Commission or the group will take.

Mr. WILSON. I will be glad to furnish a statement of the current position on that, Senator.

(The data referred to above are marked "Exhibit 27" and will be found in the appendix.)

The CHAIRMAN. Is that all, Senator?

Senator KNOWLAND. Yes.

The CHAIRMAN. Senator Hickenlooper, I knew I had some recollection of an editorial in the Star in relation to cost of high schools. I have had it located.

The cost of the school at Hanford was estimated originally to be \$1,786,000; whereas, the final cost was \$3,980,000, or an increase of 123 percent.

Now, there is a colored high school projected, to be known as the Spingarn High School. When the colored school was authorized back in 1941 it was estimated it could be built for \$1,158,000, but this has had to be steadily revised upward until today the cost is placed at \$3,600,000. That is an increase of 219.9 percent.

Senator HICKENLOOPER. That is from 1941. I do not believe wages and materials were anywhere near in 1941 what they were last year.

The CHAIRMAN. I do not think they are either.

Senator HICKENLOOPER. How many students are anticipated and what is the size of it?

The CHAIRMAN. It does not say. I will get some more data on that.

Are there any other matters?

Senator HICKENLOOPER. Yes. I would like, Mr. Chairman, to examine the traveling itinerary of Mr. Lilienthal, together with any persons who have accompanied him on these trips, where they were trips at Government expense. I would merely like a list of those. I am not interested in his vacation time, I do not mean that or anything of that kind, but where the trips were and those that were at Government expense, where the Government paid the transportation and perhaps a per diem.

The CHAIRMAN. I assume you will be quite willing and ready to furnish that, Mr. Lilienthal.

Mr. LILIENTHAL. Sure. I will put in about my vacations, too, if it is desired.

Senator HICKENLOOPER. I am not talking about vacations. I am talking about official business. Also those who accompanied him on these trips.

The CHAIRMAN. It is now 1 o'clock.

Mr. DURHAM. Mr. Chairman, on a matter of that kind I believe it should be determined by the committee as a whole..

Senator HICKENLOOPER. It is all right if you want to determine it by the committee as a whole. I am perfectly willing. I have only asked for records on official trips and not on any private matters.

The CHAIRMAN. I am sure, Mr. Durham, that Mr. Lilienthal will be more than willing to furnish the information requested by the Senator, and I do not have any doubt but what it will show that he has been traveling around working at this job.

We have a meeting this afternoon at 3:30, at which I will request the Commission to be present. We have a matter to discuss with you which can only be discussed in executive session. It has to do, however, I will say, because we have already told the press—it has to do with the current proposals of the Appropriations Committee to write some legislation into the appropriation act. So if you gentlemen can meet us at 3:30 in room 48-G, we will be very appreciative.

Mr. WILSON. Mr. Chairman, may I inquire whether Senator Hick-

enlooper has finished with the Oak Ridge questions, the questions pertinent in regard to the people from Oak Ridge remaining.

Senator HICKENLOOPER. At the moment; yes. I will go on with some other matters. There may be quite a number of matters that we will want to reopen a little later for some further explanation, but I am anxious to get on. Chiefly, I am anxious at this time to clean these things up and then get on to the question of these security files which the committee has and which I think ought to be examined at the earliest possible moment, because I think they are very vital and very important.

Mr. WILSON. May we inquire as to the subject for tomorrow, Mr. Chairman?

Senator HICKENLOOPER. I will get word to the chairman about that.

The CHAIRMAN. We will call you later in the day, Mr. Wilson.

Mr. VOLPE. Will meetings be scheduled for the rest of the week?

The CHAIRMAN. There is one scheduled for tomorrow morning, an executive meeting scheduled for this afternoon. The committee will recess at this time.

(Whereupon, at 1:05 p. m., the joint committee adjourned, to reconvene at 10:30 a. m., Thursday, June 30, 1949.)

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# INVESTIGATION INTO THE UNITED STATES ATOMIC ENERGY PROJECT

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## HEARING

BEFORE THE

## JOINT COMMITTEE ON ATOMIC ENERGY CONGRESS OF THE UNITED STATES

EIGHTY-FIRST CONGRESS

FIRST SESSION

ON

## INVESTIGATION INTO THE UNITED STATES ATOMIC ENERGY PROJECT

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PART 18

JUNE 30, 1949

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# INVESTIGATION INTO THE UNITED STATES ATOMIC ENERGY PROJECT

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THURSDAY, JUNE 30, 1949

CONGRESS OF THE UNITED STATES,  
JOINT COMMITTEE ON ATOMIC ENERGY,  
*Washington, D. C.*

The joint committee met, pursuant to adjournment, at 10:40 a. m., in room 357, Senate Office Building, Washington, D. C., Senator Brien McMahon (chairman) presiding.

Present: Senators McMahon (chairman), Vandenberg, and Hickenlooper; Representative Elston.

Also present: David E. Lilienthal, Chairman; Sumner T. Pike, Commissioner; Lewis L. Strauss, Commissioner; Gordon E. Dean, Commissioner; Henry D. Smyth, Commissioner; Carroll L. Wilson, General Manager; Carleton Shugg, Deputy General Manager; Joseph Volpe, Jr., General Counsel; Bennett Boskey and Everett L. Hollis, Office of the General Counsel; Morse Salisbury, Director, and Rodney L. Southwick, Division of Public and Technical Information Service; Lawrence R. Hafstad, Director, and George Weil, Division of Reactor Development; E. R. Trapnell, Deputy Director, Division of Information; Edward Brosman, Division of Security; all of the United States Atomic Energy Commission.

The CHAIRMAN. The committee will come to order.

You may proceed, Senator Hickenlooper.

Senator HICKENLOOPER. Mr. Chairman, I wonder if the information on the payment, reimbursement, or compensation to the Louisville & Nashville Railroad and the Southern Railway is now available. I asked for that information yesterday.

Mr. VOLPE. Mr. Chairman, the information is not available. Mr. Cook returned to Oak Ridge last night and was planning to send it up today.

Senator HICKENLOOPER. The Commission does not have that here in Washington?

Mr. VOLPE. Not in Washington, sir.

(The data referred to above are marked "Exhibit 28" and will be found in the appendix.)

Senator HICKENLOOPER. I also asked yesterday afternoon for a list of all survey boards, advisory boards, together with the amount of money paid for each, beginning January 1, 1947. I asked for that yesterday afternoon through the committee staff from the Commission. Are those figures ready?

Mr. VOLPE. No, sir; they are not. We received the message around 4:30 and immediately circulated to the field the information requested. We are hoping that the information will be in this afternoon.

(The data referred to above are marked "Exhibit 29" and will be found in the appendix.)

Senator HICKENLOOPER. That information is not compiled in one place in the Commission in Washington?

Mr. VOLPE. Not in one place, sir.

Senator HICKENLOOPER. And has to be picked up from the various locations in the field; is that correct?

Mr. VOLPE. That is right, sir.

Senator HICKENLOOPER. I will ask Mr. Lilienthal if he has the list of travel time on official business for which I asked yesterday. Is that prepared yet, or when will it be?

Mr. VOLPE. We tried collecting the information yesterday. It meant going back into diaries, and so on. It is being typed and should be ready this morning.

I might say with respect to these surveys, we have a few in Washington—that is, those which were initiated in Washington—that we assumed that Senator Hickenlooper was interested in the total picture. We could supply the few that originated in Washington. I could get that by telephone.

Senator HICKENLOOPER. I am interested in the total picture. Do you have the surveys initiated in Washington now with you here?

Mr. VOLPE. Not here, sir. It is being collected along with the rest so you could have a complete report.

(The data referred to above are marked "Exhibit 30" and will be found in the appendix.)

Senator HICKENLOOPER. Well, I had hoped to be able to discuss that just a little bit this morning.

I would like at this time, Mr. Chairman, to amplify just a little the report on the Brookhaven matter which I mentioned yesterday and indicate that the original budget proposals for the Brookhaven National Laboratory were \$26,886,500, that there has been obligated to date—that is, the date of June 27, 1949—\$29,962,219, and the present indicated final cost is now \$34,380,335.

In regard to that matter, there is a letter here from Mr. Carroll L. Wilson, general manager, addressed to Senator McMahon, dated June 27, 1949, being signed for Mr. Wilson by Mr. Shugg, together with appendix A, which I would like to have placed in the record at this point, Mr. Chairman.

The CHAIRMAN. Very well.

(The documents referred to are as follows:)

UNITED STATES ATOMIC ENERGY COMMISSION,  
Washington 25, D. C., June 27, 1949.

HON. BRIEN MCMAHON,

*Chairman, Joint Committee on Atomic Energy,  
Congress of the United States.*

DEAR SENATOR MCMAHON: On June 17, Mr. Heller of your staff requested information on the Brookhaven pile complex as to original budget estimate and final cost and also original estimated completion date and presently anticipated operating date.

On June 21, Mr. Heller requested information as to the original estimated cost of the Brookhaven Laboratory, including the pile complex and all buildings for the laboratory. He also requested information on what had been spent to date on the total project and the estimated amount required to complete the presently conceived plan for the laboratory.

On June 20, Mr. McCarthy told Mr. Heller verbally that in April 1948 the estimated cost, for budget purposes of the pile complex (which includes the pile and appurtenant facilities and structures) was placed at \$15,864,000; that the indicated final cost of the pile complex is \$23,322,000; that the estimated completion date contained in the construction contract was February 28, 1949; and that the final completion of the entire pile complex is set at August 29, 1949.

Tabulated below are the facilities which are either completed, under construction, or are planned through fiscal year 1950. Shown also are amounts which have been obligated to date and the indicated final cost on each facility.

*Brookhaven National Laboratory*

	Original budget estimate	Obligated to date	Indicated final cost
Pile complex (1).....	\$15,864,000	\$23,322,000	\$23,322,000
Building modifications, fiscal year 1948 (2).....	1,745,000	1,744,990	1,744,990
Building modifications, fiscal year 1949 (2).....	1,200,000	682,719	1,022,000
Building modifications, fiscal year 1950 (2).....	800,000	0	570,000
Meteorological towers.....	375,000	374,860	374,860
Cyclotron and building (3).....	1,750,000	1,874,580	2,009,000
Cosmotron (4).....	3,475,000	1,937,020	3,795,000
2 mev. Van de Graaff.....	150,000	0	115,000
70 mev. synchrotron.....	300,000	0	250,000
Plant and small-animal farm (5).....	250,000	0	800,000
Life Sciences Laboratory (5).....	600,000	26,050	377,500
Housing for Brookhaven.....	377,500		
Total.....	26,886,500	29,962,219	34,380,350

Appendix A attached contains notes explanatory of the figures given in this letter.

Sincerely yours,

C. SHUGG,  
For CARROLL L. WILSON,  
*General Manager.*

APPENDIX A

(1) It is the ultimate purpose of the Brookhaven National Laboratory to obtain a nuclear reactor offering the maximum in research facilities under the safest possible operating conditions. Both the preliminary design and cost were minimum estimates based on the Oak Ridge pile construction whose limited research facilities do not incorporate the safety features to the same degree as were later introduced into the Brookhaven pile whose power level is many times that of Oak Ridge. No reactor identical to the one being completed at Brookhaven had ever been built.

During the progress of construction the designs were changed to provide for greatly increased size of some of the facilities; additional facilities for research and technical development were added; additional pile material was found to be required; thermal insulation was provided to protect the concrete from excessive temperatures; security fencing and lighting were added; the requirements for instrumentation and controls were greatly increased; and changes were made to provide for expanded experimental facilities. The increased power of the plant, moreover, required more intricate safety systems and controls; a stainless steel stack was designed to prevent contamination of the main pile stack; a waste hold-up system was built and provision made for monitoring effluent liquids.

The first estimated budget figure of \$15,864,000 was based on a preliminary, unofficial estimate made by the H. K. Ferguson Co. in the fall of 1947. The estimate did not anticipate the rapid rise in construction labor and material costs, which according to an Engineering News-Record survey for the period April 1947 to April 1949 increased 23 percent. Neither could it adequately evaluate the productivity of labor or the lack of local skilled labor. It was made without benefit of a comprehensive knowledge of the details which were later developed in the design of the project.

The additional time required to perform the additional work and the changes enumerated above resulted in added cost for engineering, pay rolls, taxes, supplies, rental of office space, and rental of equipment.

At no time during the progress of this work has there been any lack of knowledge as to where the costs were heading. Monthly meetings were held, attended by the top people from the Commission, the laboratory, and the contractor. These meetings discussed costs at length and all concerned have tried to hold them down. The Commission and the laboratory have succeeded in the elimination of many thousands of dollars, the expenditure of which would have resulted in desirable but not essential changes.

(2) The buildings which have been or are being modified consist of about 70 of the 250 original Army buildings. As the functions of the Brookhaven Laboratory increase, more of these buildings are remodeled and put into use for laboratories, offices, and shops. This remodeling is a continuing process adopted to provide space as required and to avoid the expenditure of very much greater amounts of money to construct new buildings. All modification work is done by lump-sum contracts after plans have been prepared, and the cost of each modification depends on the condition of the building and the use to which it is to be put.

(3) The increase in indicated final cost of the Cyclotron of 15 percent over budgeted cost was due to the impossibility of more accurately estimating time and materials before drawings were much further advanced. This project involved new ideas for which there was no background of experience to use as a guide.

(4) The Cosmotron design is now under way and indications are that the original estimate was underestimated by the 10 percent shown as a difference between budget and final indicated cost.

(5) The Plant and Small Animal Farm and the Life Sciences Laboratory are to be combined with an indicated saving of \$50,000.

Senator HICKENLOOPER. Then there is a break-down on existing reactors, with some information about area sites, which has been prepared by the committee staff, which I would like to have put in the record at this point.

The CHAIRMAN. Very well, it is so ordered.

(The information referred to is as follows:)

*Existing reactors.*—The Commission now operates the following reactors:

Hanford: Production reactors.

Oak Ridge: One dual-purpose isotope production and research reactor.

Argonne: Two research reactors.

Los Alamos: Two research reactors.

Brookhaven: One research reactor.

*Reactor sites.*—The Commission now has the following reactor sites which are considered adequate to take care of its needs for the next several years:

DuPage site: Area, 3,733 acres; cost of land acquisition, \$1,987,000. It is estimated that the total cost of this site development will be approximately \$60,000,000. (This includes research laboratories, but not reactors.)

West Milton site: Area, 4,500 acres; cost of land acquisition, \$535,000. It is estimated that the total cost of developing this site and constructing the reactor will be approximately \$21,000,000.

Arco site: Area, 400,000 acres; cost of land acquisition, 200,000 acre Navy proving ground, \$2,600,000; 200,000 additional acres, \$1,400,000. It is estimated that the cost of developing this site and installing all necessary utilities but not including any pile construction will be approximately \$36,000,000.

#### *Reactors now planned for construction*

	Proposed location	Estimated cost
Fast reactor.....	DuPage or Arco.....	\$2,650,000
Navy thermal reactor.....	Arco.....	21,000,000
Knolls intermediate reactor.....	West Milton or Arco..	25,000,000
Materials-testing reactor.....	.....do.....	

The reactors are designed for the following purposes: Fast reactor—to explore the possibilities of breeding; Navy thermal reactor—as a prototype for submarine propulsion; materials testing reactor—to provide a testing facility for various materials to be used in reactor construction; Knolls intermediate—to explore the possibilities of breeding and to develop usable power.

*Reactor Division budget*

	Fiscal year 1948	Fiscal year 1949	Fiscal year 1950
Procurement and production .....	\$4,800,000	\$4,900,000	\$5,500,000
Reactor design .....	15,200,000	9,100,000	9,900,000
Applied research and development .....	9,600,000	19,000,000	30,600,000
Reactor construction .....	1,800,000	3,500,000	35,400,000
Construction of research facilities .....	22,700,000	24,500,000	38,600,000
Total .....	54,100,000	61,000,000	120,000,000

Senator HICKENLOOPER. Mr. Chairman, as I said, I had intended to discuss the survey groups and advisory groups this morning, but I will not be able to do that because we do not have those lists here. I would ask that when the full list is compiled that it might be placed in the record following this day's hearing.

Also, I would like the information on Mr. Lilienthal's official trips placed in the record.

I would like to ask Mr. Lilienthal if he recalls at the moment—if he would like to look at his records, that will be all right—but I would like to ask him how many times he has visited Oak Ridge.

Mr. LILIENTHAL. I do not recall. I will supply the information, Senator.

(The data referred to above are marked "Exhibit 30" and will be found in the appendix.)

Senator HICKENLOOPER. How many times have you visited Los Alamos?

Mr. LILIENTHAL. Three times, I believe.

Senator HICKENLOOPER. Can you verify that? You will supply that?

Mr. LILIENTHAL. I will check.

Senator HICKENLOOPER. How many times have you visited Sandia?

Mr. LILIENTHAL. I will supply the information on these.

Senator HICKENLOOPER. Will you supply the information on Oak Ridge, Los Alamos, Sandia, Schenectady, Brookhaven, the Argonne, Monsanto at Dayton, Mallinckrodt at St. Louis, Inyokern, and Hanford?

Mr. LILIENTHAL. It may be relevant to say that several of us in the Commission had plans for a field trip just prior to the beginning of this investigation, but that prevented our getting out into the field.

Senator HICKENLOOPER. Yes. Now, you did not attend any of the tests at Eniwetok?

Mr. LILIENTHAL. No; I did not.

Senator HICKENLOOPER. Mr. Chairman, as I said yesterday, I have a large file of varying degrees of complaints and alleged shortcomings in various places that I expect to turn over to the committee staff for analysis.

I am not going to impose on your time, nor the committee's time, in going into small details, which will take a vast amount of time.

I had expected to discuss these other matters this morning, but I shall turn over this information to the committee staff for their analysis and for such action as the committee cares to take in connection with the break-down and investigation of these other cumulative matters.

Now, I also feel that I cannot proceed further with my end of this matter. I am not ending it, but I cannot proceed further until the joint committee has taken its action in connection with the security files which I wanted to use as the one portion of this investigation, but which are now with the committee.

There are some other phases. For instance, any matters in connection with the international operation of atomic energy, and my personal feeling is that that should be at least first canvassed by the joint committee in executive session.

I also feel that there are certain more or less technical fields in this program that should first be canvassed at least by the joint committee in executive session. I do not feel that I want to take the responsibility of opening up certain of those things in a public hearing without the full advice of the joint committee at first.

So far as I am concerned, I believe that the joint committee's executive-session activity with respect to the security files, with respect to any matters involving the international relationships, and with respect to certain processes should now be gone into. That is from my standpoint.

So, therefore, I shall desist at the moment from any further pursuit of this until the committee has made some decision on some of those important matters.

The CHAIRMAN. I will instruct the staff to immediately begin this work of analyzing the matters that you are going to turn over, Senator.

I think that we had best contemplate some executive hearings in the afternoons next week, as much as we can do, so that we can get through; and perhaps on Tuesday morning the Commission will be ready to proceed with any presentation that they care to make.

I am hopeful that, without in any way restricting you to the point where you feel you could not make your presentation, that you will keep in mind the burdens under which we are laboring in our work in the Senate, and now that we are coming to the closing days, of our desire to conclude this matter as quickly as we can.

As I say, that is not any admonition to be interpreted as cutting you off or limiting you to the point where you could not make your case, but rather, a request that you do all you can to assist us by making it succinct and brief and yet making what you think is a full defense to the charges.

Senator VANDENBERG. Does the chairman speak with authority when he identifies the closing days of this session?

The CHAIRMAN. I think probably the closing will run until about Labor Day.

Mr. LILIENTHAL. Mr. Chairman, as to the Commission's presentation, you will recall that it was we who asked for an investigation and an opportunity to present an accounting of our stewardship. What we will have to say, and what the witnesses will be called for from various parts of the country will be in the nature of an affirmative accounting of our stewardship, and it will not be long.

It will not, however, be a defense. On the contrary.

There is one matter, Mr. Chairman, that troubles me and has troubled us for some days. That is the continued reference—before you close this or even tentatively close this phase of the case—continued reference, and I think I have counted five or six such references, to a large number of complaints. There has been some reading from these complaints in the form of letters.

Speaking for myself—I have not had a chance to consult my colleagues—but speaking for myself, I think this is a very unsatisfactory way to leave an investigation of charges. It seems to me unsatisfactory to read letters from people whose qualifications and, perhaps, whose motivations are not before the committee into a public record and have them spread in the newspapers without any way of evaluating them.

I think it is especially bad to continue to say there is this great stack of complaints, without having them laid before the committee. I would think myself it would be quite unsatisfactory for the kind of investigation that the committee has launched and the spirit in which the chairman and the members have carried it forward to leave this cloud of inference hanging in this fashion.

We would be much happier, although obviously our work is suffering, to have these complaints out here, let us see what they look like, discuss them in public hearings, and find out what it is that is implied in these references to these complaints.

I am fortified in making this suggestion for two reasons: One is that I know something about how easy it is to write a letter of complaint when one does not have to support it. I am not complaining about it, but I think it is important for the public to understand that when you have as big an undertaking as this, people do write complaints. I think perhaps members of this committee are not unaware of how easy that is.

The CHAIRMAN. I have a few people complaining about me.

Mr. LILIENTHAL. To give them the dignity that is implied in the way they have been described seems to me unfortunate. I do not know what the procedure would be, but for my part I would rather continue to work nights and Sundays trying to keep up our work and have this thing over with in the interest of the atomic energy program.

The CHAIRMAN. Do I understand that you make the request—you heard Senator Hickenlooper suggest that he was going to turn these complaints or letters over to the committee for analysis by the staff. Now, do I understand that it is your wish that until we have acted on those that you do not start your presentation?

Mr. LILIENTHAL. No, it is not, Senator. I simply say I think it is unsatisfactory, it occurs to me to be unsatisfactory to leave this hanging over in this indefinite fashion. I would think if there are claims here and they are meritorious or not meritorious, anonymous or they are signed, we should get that out of the way. I do not mean before Tuesday.

The CHAIRMAN. I do not know what is in them. They have been addressed to the Senator personally, and he is now going to turn them over to us and we will probably know in a general way by Tuesday whether they merit looking into or not. But now the Senator has made his request that the committee take action on these things.

I can understand your desire to have this entire thing in the open, and I assure you that just as quickly as we can, we will analyze that and let you know what it is, if it seems to have any weight at all.

Now, in the meantime, if you are requesting a postponement until Tuesday or Wednesday until we get through with that job over the week end, I would be quite willing. On the other hand, I would prefer myself that you go ahead on Tuesday, if you can.

Mr. LILIENTHAL. May I consult my colleagues on that?

Senator HICKENLOOPER. Mr. Chairman, just as a matter of curiosity only, we did not have a meeting on last Monday and I had previously stated that I had an engagement of long standing at which I felt I had to speak; but on last Sunday it was pretty well scattered over the United States that twenty-some scientists were held over the week end and cooled their heels because I had to be gone on last Monday.

Does the chairman know of any twenty-some scientists or any scientists that were discommoded or inconvenienced by no meeting on Monday morning? I have not seen them before the committee, at any rate, and I wonder if the chairman knows of any possible foundation for that rather widespread statement that was made over the country on the air.

The CHAIRMAN. No, I do not know who was here at the time, Senator.

Senator HICKENLOOPER. There were no scientists contemplated for hearing on Monday.

The CHAIRMAN. You were entitled to an adjournment on Monday, and I imagine that the Commission was glad for the adjournment to get some work done. I was myself.

Senator HICKENLOOPER. I wonder if the chairman knows of any substantial number of scientists that were, as the report indicated, standing around here cooling their heels because of the Monday adjournment. I know of none.

The CHAIRMAN. They did not punch any time clock for me. I did not see them.

Senator HICKENLOOPER. I am glad because I have not known of any such thing.

Mr. LILIENTHAL. Senator, the Commissioners have conferred on this matter, and their suggestion and request is that the Commission's presentation begin on Wednesday morning rather than Tuesday. It will be necessary to get in people from various parts of the country; Monday is a holiday and a bad day for travel, and we would be prepared to proceed on Wednesday.

We will follow the suggestion of the chairman, and I am sure the desires of everyone, to make this as succinct and brief and yet comprehensive as possible. It should not take many days.

The CHAIRMAN. Senator Hickenlooper, have you anything further?

Senator HICKENLOOPER. Not at this time. As I say, I feel it is now time, before I proceed any further, that the joint committee decide what it is going to do about a number of these things.

The CHAIRMAN. We will meet, then, at 10:30, as far as the Commission is concerned, on Wednesday morning. I think we will be back in the other room. This was a temporary thing today.

(Whereupon, at 11:06 a. m., the joint committee adjourned, to reconvene at 10:30 a. m., Wednesday, July 6, 1949.)

# INVESTIGATION INTO THE UNITED STATES ATOMIC ENERGY PROJECT

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## HEARING

BEFORE THE

## JOINT COMMITTEE ON ATOMIC ENERGY CONGRESS OF THE UNITED STATES

EIGHTY-FIRST CONGRESS

FIRST<sup>st</sup> SESSION

ON

## INVESTIGATION INTO THE UNITED STATES ATOMIC ENERGY PROJECT

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PART 19

JULY 6, 1949

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# INVESTIGATION INTO THE UNITED STATES ATOMIC ENERGY PROJECT

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WEDNESDAY, JULY 6, 1949

CONGRESS OF THE UNITED STATES,  
JOINT COMMITTEE ON ATOMIC ENERGY,  
*Washington, D. C.*

The joint committee met, pursuant to adjournment, at 10:40 a. m., in the Caucus Room, Senate Office Building, Washington, D. C., Senator Brien McMahon (chairman) presiding.

Present: Senators McMahon (chairman), Vandenberg, Millikin, Knowland, and Hickenlooper, and Representative Jackson.

Also present: Senator Russell B. Long.

David E. Lilienthal, Chairman; Sumner T. Pike, Commissioner; Lewis L. Strauss, Commissioner; Gordon E. Dean, Commissioner; Henry D. Smyth, Commissioner; Carroll L. Wilson, General Manager; Carleton Shugg, Deputy General Manager; Frances Henderson, Assistant to the Chairman; Joseph Volpe, Jr., General Counsel; Bennett Boskey and Everett L. Hollis, Office of the General Counsel; Morse Salisbury, Director, and Rodney L. Southwick, Division of Public and Technical Information Service, all of the United States Atomic Energy Commission.

Robert F. Bacher (former Commissioner, AEC), chairman of the division of physics, mathematics and astronomy, California Institute of Technology.

The CHAIRMAN. The meeting will come to order.

Now, this is the first meeting that the committee is having for the purpose of hearing from the Commission on their stewardship of the Atomic Energy Commission.

Who will be the first witness for the Commission?

## STATEMENT OF DAVID E. LILIENTHAL, CHAIRMAN, ACCOMPANIED BY JOSEPH VOLPE, JR., GENERAL COUNSEL, UNITED STATES ATOMIC ENERGY COMMISSION

Mr. LILIENTHAL. Mr. Chairman and members of the committee, the principal witness this morning will be a member of the original Commission, Dr. Robert Bacher, who, on May 10, resigned his position and has returned to teaching, to the teaching profession from which he came originally.

The purpose of my statement this morning, preceding this, will not be to testify on substantive matters but to seek to develop in 15 minutes or so a setting for the witnesses who will follow. These witnesses will be relatively few in number so far as the Commission's volition is

concerned. They will endeavor to be as brief and succinct as is consistent with the subjects on which they will testify, because of the committee's desire not to have these hearings longer than is necessary.

We believe, these witnesses, beginning with Dr. Bacher, will provide the country with a report and a perspective by which to judge the grave charges of "unbelievably bad management" that have been leveled against the Commission and against its Chairman.

What I shall discuss this morning is by way of perspective and the testimony of these witnesses can be summarized in this way, in respect to this question: About what is it relevant for the witnesses to be testifying at this juncture in the proceedings?

It has been so many weeks ago since these hearings began that it seems to me useful to recall how we happen to be here.

On a Sunday evening, the 22d of May, Senator Hickenlooper, the ranking minority member of the joint committee and its former chairman, issued a statement which concluded by requesting, by suggesting, that the President should call for the resignation of the Chairman of the Commission.

In that statement were very extreme and strong remarks. One of them was that "the Atomic Energy Commission is now staggering under daily disclosures of evidence of incredible mismanagement."

Another was that—

In my opinion—

quoting from the Senator's statement—

there is now perhaps even more serious evidence of maladministration. Our atomic program—

he said—

is suffering from equivocation, misplaced emphasis, and waste.

And he concluded—

It is my considered opinion in the light of the record of the past 2 years that the interests of the Nation can best be served by the President's requesting the resignation of Mr. Lillenthal.

Some days later, Senator Hickenlooper made a further statement or series of statements, one which on May 28, contains these sentences:

I have made these charges on my own responsibility. I am prepared to produce proof. I will go before the joint committee on Tuesday of next week and request that Mr. Lillenthal be called before the committee in public hearings beginning Wednesday morning, so that I may confront him with my evidence.

These were later elaborated in a statement in which this sentence was used:

I was in very intimate touch with the unfolding and development of these programs which, in my opinion, became cumulatively worse, until I feel that now is the time when drastic changes must be made or the consequences will be much worse yet.

Now, it is well to remind ourselves—because in the intervening weeks matters that, perhaps, are not in themselves of the greatest import have been discussed, that these charges were of the gravest possible character, and they were so regarded by the country.

I think it is quite difficult for the Commission to present its affirmative accounting or stewardship unless that fact is constantly borne in mind. Nothing that has happened since these charges were made have made them any less grave.

It was said by some in editorial comments, to indicate how gravely these charges were regarded, that my conduct was "bordering on treason." There were others that indicated that the Chairman of the Commission should be impeached.

There were more extreme comments than these in responsible quarters which indicated how clearly grave and serious these charges were.

I quote from only one, and that is an editorial in the highly respected Washington Star on May 27, 1949:

The charges—the gravest of them accusing the AEC of "incredible mismanagement"—have left the impression in many minds that Mr. Lillienthal has been making a mess of the atomic project, and that maybe the security of the Nation has been grievously affected. As yet, however, none of this has been convincingly substantiated; the true facts—whatever they may be—have been obscured by a kind of emotional mist creating doubts and suspicions which actually may be wholly unjustified.

Our atomic project, after all, is a thing of overshadowing importance to the safety of our own and like-minded nations in this period of dangerous international tension. If it has been subjected to "incredible mismanagement," that fact had better be established now and corrective action taken before it is too late. On the other hand, if it has been well managed, charges to the contrary ought to be specifically dismissed, not merely to vindicate Mr. Lillienthal, but to put an end to the unwarranted uneasiness among Americans and to make clear to other countries—including Russia—that we are not falling down on the job in any degree.

On the 25th of May, I transmitted to the chairman of this committee a letter which is in the record, a few passages from which I believe should be read as a preliminary to the series of witnesses whom we requested to appear before this committee.

The letter begins:

DEAR SENATOR McMAHON: A full, complete, and speedy report on the charges that the United States atomic energy program is virtually a failure is a matter urgently necessary; the investigation initiated by the McMahon committee and to be carried out by it is welcomed.

The charges by Senator Hickenlooper of "incredible mismanagement," "misplaced emphasis," and "maladministration" involve nothing less than the security of this Nation and the peace of the world. If it is true that the atomic energy program is in an almost bankrupt condition then this country—this Nation—far from being the custodian and the trustees of a substantial stock pile of atomic weapons and in a favorable production situation, is in a sadly weakened condition. If this were true, it is difficult to imagine any single fact more disturbing to the peace of mind of the people of the country or to the security of the world's democracies.

Then, it continues:

But the chief question, I believe, is this: Is this country weak today in atomic weapons and materials, and in their production and improvements as implied by the broad and grave charges leveled against the Commission?

And the final paragraph:

In order that the fears and misapprehensions on this score may be settled beyond peradventure and as promptly as it is possible, it is urged that the joint committee call before it immediately not only the Commission, its staff, its principal industrial and university contractors, but also citizens of the highest renown and technical standing, including the distinguished members of the General Advisory Committee and other advisory groups for their testimony and appraisal. In this way, the dangerous cloud of uneasiness resulting from these charges will be dispelled.

The testimony of the witnesses we are suggesting appear before you, Senators, will relate chiefly to an accounting of the stewardship of what we regard, rightly or wrongly, as the most vital areas, that is

to say, they will testify as to what have been the results of the last 2½ years.

The question has been raised as to whether these over-all results are relevant to the charges of "incredible mismanagement."

I should like to present the Commission's views on this matter at the outset. I gather from things that Senator Hickenlooper has said in the course of the hearings that he has doubts as to whether they are relevant.

On May 26, in the course of a statement the Senator made, quoting from him:

From the standpoint of actual production the atomic energy program has gone forward due to the zeal and the loyalty of the scientific and technical personnel in charge of the various projects. The point of my objection—it continues—

is not to the activities of these people, but to the administrative policies which the Commission, under Mr. Lilienthal's guidance and influence, has followed and continues to follow. These, I believe to be harmful and not in the best interests of a continuing development of the basic programs outlined by the Congress.

It seems to us that one can hardly say that one is not interested in or regards as irrelevant whether the results, the important results are good, where the charge is maladministration of a project.

There is a lot of ancient wisdom, Mr. Chairman, behind the idea that one judges by results.

In the teachings of Jesus in the Gospel, according to St. Matthew, chapter 7, verses 16 through 20—one of the great statements to this effect is as follows:

Ye shall know them by their fruits. Do men gather grapes of thorns or figs of thistles?

Even so every good tree bringeth forth good fruit; but a corrupt tree bringeth forth evil fruit.

A good tree cannot bring forth evil fruit, neither can a corrupt tree bring forth good fruit.

Every tree that bringeth not forth good fruit is hewn down and cast into the fire. Wherefore, by their fruits ye shall know them.

It is the theme of our presentation that very bad management can hardly produce over-all good results.

Now, how can these over-all results and the quality of management reflected in them be presented without injury to security? We touched on this in the opening session of these hearings. We suggested that one of the ways is by the appraisal of outstanding men, and I should like to indicate a partial list of the men whom we hope the committee will hear. They begin with our former colleague, Dr. Robert Bacher, who is now the chairman of the division of physics, mathematics and astronomy at California Institute of Technology; Mr. James W. Parker, the president and general manager of the Detroit Edison Co., and chairman of the Commission's Interim Committee on Cooperation of Industry; Mr. Isaac Harter, chairman of the board of the Babcock & Wilcox Tube Co., a distinguished industrialist; Dr. Mervin E. Kelly, vice president of the Bell Laboratories; Dr. Norris E. Bradbury, director of the Los Alamos Laboratory; Dr. L. A. DuBridge, the president of California Institute of Technology, who is the chairman of the General Advisory Committee Subcommittee on Basic Research; Dr. Enrico Fermi, Institute for Nuclear Studies of the University of Chicago, and one of the great pioneers in this field.

What is it that the Commission should have been preoccupied with and concentrating upon at the time it began its duties in April of 1947, the time of the confirmation of the Commission, or on January 1, when the Commission formally took over the custody and the responsibility for the Manhattan District? There were thousands of things to do, and there still are. What were the most important things to concentrate on? In an effort to establish a basis for perspective here, it is important to discuss this for the moment.

This matter of what the Commission should be preoccupied with—what the Commission as an organization should be preoccupied with—is something that will occur a good many times in the testimony to follow, and I think it is important that we refresh our recollections about this.

On June 14, 1946, which is somewhat over 3 years ago, 10 months after Hiroshima, Bernard Baruch, in an address that, in my opinion, will live as one of the great state papers of all times, summarized where mankind stood, and because we still stand there, and because this throws a great deal of light on the conclusions of the Commission as to what to concentrate on, upon the many things that might be done, I should like to read a few lines from that memorable statement. It was, of course, the statement of Mr. Baruch, acting in behalf of the United States, to his fellow members of the United Nations Atomic Energy Commission set up to seek an answer to the question of how can we eliminate atomic energy from warfare.

He began by saying:

We are here to make a choice between the quick and the dead.

That is our business.

Behind the black portent of the new atomic age lies a hope which seized upon with faith, can work our salvation. If we fail, then we have damned every man to be the slave of fear.

At the conclusion of his statement——

The CHAIRMAN. We have failed so far, have we not?

Mr. LILIENTHAL. We have indeed.

All of us are consecrated to making an end of gloom and hopelessness. All of us want to stand erect with our faces to the sun, instead of being forced to burrow into the earth, like rats.

The light at the end of the tunnel is dim, but our path seems to grow brighter as we actually begin our journey. We cannot yet light the way to the end.

What Mr. Baruch said in June of 1946 is at least as true today—I would say, even truer today. In a way, it is mankind's way to seek to ignore things that are uncomfortable, but it is certainly, it seems to me, true.

In any case, nearly a year later, in April of 1947, when the Commission began its work, that light, that dim light, at the end of the tunnel, which this distinguished American citizen believed he saw in June of 1946, was so dim as to be no light at all, and it is no light at all today.

Russia, and Russia only, among the great nations of the earth, has been unwilling to take those steps which might make that dim light at the end of the tunnel, which this hopeful man saw in June 1946, somewhat less dim and brighter.

Well now, confronted with this situation which every realistic man would have to recognize, that the dim light at the end of the tunnel had gone out, the light of hope of early international agreement, an early end of fear, what should the United States Atomic

Energy Commission do, having as its paramount objective, as defined by the Congress, the common defense and security of this country, and the promotion of world peace? What should we concentrate on? What should we be preoccupied with? We believe as one man, and the President, our immediate superior, believed that we should let nothing stand in the way of arming this country atomically in such a way as to erect a great deterrent to aggression in the world; that we should establish unquestioned and unmistakable leadership, and in this way thus buy time for reason to prevail.

What did this mean? It meant that production must be drastically stepped up; that from being a nation virtually unarmed atomically, which was our condition at that time, we must become a nation which had a leadership unmistakable and unquestioned. The country had to be told again and again that the monopoly and the knowledge in the making of atomic weapons was one that could not last indefinitely. The country had been told, and correctly, that Russia will in time be able to make an atomic weapon.

The phrase "when Russia gets a bomb" was repeated again and again; but the country had not been told, because at that time it was hazardous to speak out, so weak were we, that numbers and not simply the first atomic weapon are the crucial item in providing a great and impregnable deterrent to aggression; that numbers, that level of production and quality could provide what a dwindling monopoly lost us.

Numbers meant added production; numbers meant a change in the raw-material situation. Numbers meant new facilities; numbers meant research must be stepped up; quality of production meant improvements had to be made in processing, in fissionable-material production, in weapon design, in weapon engineering, and in weapon field testing.

Right or wrong, Mr. Chairman, we concentrated on that, and we refused, as best we could, to be distracted by the thousand and one useful things that in a normal enterprise and under normal conditions one's attention might well have gone to.

We believe that urgency was required then and, I believe, it is required today. We believe that the chances should be taken, that boldness was necessary. We did not believe that the bureaucratic rule "Don't stick your neck out; don't take a chance on making a mistake" had any application to the situation that our beloved country faced.

Well, the witnesses will devote themselves, not so much to charges, because in the course of these hearings we have, with the courtesy of the committee, its members, Senator Hickenlooper, been able from time to time to indicate the answer to most of these charges insofar as the shortness of notice in some cases permitted.

These witnesses will devote themselves to those things which we believe had to be done, and done fast and done hard, and still need to be done fast and to be done hard and desperately. Those things that we believe—to which we believe every moment of time and every ounce of energy should be concentrated.

Whether what has been presented will substantiate the charges as far as they go, is for the country to decide and for the committee to decide. We believe that none of the matters presented measure up to the charges. Nevertheless, whatever cloud has been cast over the

project can and must be removed if it should be removed. A healthy program, Mr. Chairman, requires confidence; it requires boldness and a sense of urgency. These we cannot carry forward under existing circumstances until the committee has reached its conclusion and these hearings have concluded.

We make no claim to perfection. Over 60,000 people, as we are meeting here, all over the country, are engaged in this work. It would be very extraordinary if at this moment some one of them or more of them were not doing something that was careless, something that was stupid, something that was negligent, something that was contrary to his instructions, or just contrary to good sense.

We say there are inadequacies in the atomic energy program, and I have some very strong feelings about what those inadequacies are. They would differ rather sharply with what some of our critics would regard as inadequacies.

We do not seek to escape responsibility for stupidity or the carelessness or the negligence or the perfidy of any of these 60,000 people scattered through the country who are on the work at this hour. But if the charge is that we as a Commission, or your witness, or any one of the 60,000 is not perfect and not always right, judged as of the time or by hindsight, then the answer is "Guilty as charged."

But this is surely not the standard where "incredible mismanagement" is the charge. The legality of the atomic energy program and the security of the United States is the important thing. We believe we have tried hard to make it so. We believe that there has been progress.

Dr. Robert Bacher, you will recall, was one of the original members of the Atomic Energy Commission. His background at Los Alamos is, I think, familiar to the members of this committee and to the country. If it is the wish of the committee, it is Dr. Bacher's wish and that of the Commission that he proceed along the lines indicated by the statement I have just made.

The CHAIRMAN. All right, Mr. Lilienthal.

Mr. LILIENTHAL. Thank you, Mr. Chairman.

#### STATEMENT OF DR. ROBERT FOX BACHER, CHAIRMAN, DIVISION OF PHYSICS, MATHEMATICS, AND ASTRONOMY, CALIFORNIA INSTITUTE OF TECHNOLOGY

The CHAIRMAN. Doctor, it is a pleasure to see you again under any circumstances and you may proceed.

Dr. BACHER. Thank you, Mr. Chairman.

Mr. Chairman and members of the Joint Congressional Committee on Atomic Energy, I hope you will realize that during the past 2 months I have been doing my best to forget everything I did know about classified matters of atomic energy, and I fear that I may not have some of the things at my fingertips that may be necessary for a presentation of what we carried on during the past 2 years under the Atomic Energy Commission.

However, I was a little bit surprised to find, when I made a few notes on this on the plane coming down here yesterday, that there were at least a few things I did remember still about the project.

Unfortunately, I have not followed very carefully the proceedings in these hearings since they were not available to me where I was, and

I hope I may ask your indulgence if I do not show the amount of familiarity with these proceedings which you might otherwise expect.

When the Atomic Energy Commission took responsibility for the atomic energy project in January 1947, our job was largely determined by what we found at that time. We had to adjust what we proceeded to do by what the state of the project was.

Our conclusion was immediately that first things had to come first, and that vigorous action on the production of atomic weapons and their development, and assuring the production of fissionable material had to be our first responsibility.

This continued to be our first responsibility during the period of my membership on the Commission, and I am sure continues today to be the first line of responsibility of all people who are engaged in that work.

When we took over in January 1947, as a representative of the Commission, I went to Los Alamos to make an inventory of what we had. I made a rather complete inventory—this is at the end of December in 1946. This was directed primarily at making an inventory of the vital components of weapons and fissionable material in our stock. This was not something which I or any other members of the Commission took lightly at that time. We took it very seriously.

I spent 2 days as a representative of the Commission going over what we had. I was very deeply shocked to find how few atomic weapons we had at that time. This came as a rather considerable surprise to me in spite of the fact that I had been rather intimately associated with the work of the Los Alamos project—roughly, a year before.

It might be interesting just to tell a word about how we conducted that inventory. I actually went into the vaults where material was kept and selected at random cartons and various containers to be opened. These, I then inspected myself, using suitable counters and other methods to determine to the best of my knowledge and observation that the materials were what they were declared to be.

In addition to that, I was accompanied by Colonel Gee, Dr. Bradbury, and other representatives of the various departments at Los Alamos, whom I questioned on every piece examined as to whether, to the best of their knowledge and belief, the materials were as represented on the inventory cards which we carried with us.

Judging by the consternation which appeared on some of the faces around there, I concluded that this must have been about the first detailed physical inventory that had been made; and I think I can say without any doubt, that this was about as thorough inventory as could be made without actually tearing things completely to pieces.

Our work during the year 1947 was largely determined by what we found at that time.

Our first effort had to be devoted primarily toward changing the weapon position; and before going into that in any detail, with your indulgence, I would like to go back and give a little bit of background as to how the project operated during the war.

The atomic energy project under the Manhattan Engineering District was a very complex organization. The fundamental scientific and technical work was carried on in a number of universities under contract, and in a certain number of special laboratories that were primarily devoted to one phase or another of the work.

As you may recall, there was a large laboratory at the University of Chicago for the study of atomic piles, or nuclear reactors as we call them today. At Columbia University was a large project for studying the diffusion process for separating uranium 235. At the University of California there was a large laboratory devoted to the study of the electromagnetic process for the separation of isotopes.

In addition to this, a great deal of work was carried on in industrial laboratories at the General Electric Co., Westinghouse, Kellogg Corp., and a large number of other companies that participated in the technical developments that were needed for the atomic energy project.

In addition, the industrial contractors carried that technical development into the pilot-plant stage and they carried it on further into the construction of enormous plants to accomplish these ends. This was a tremendous step forward.

In reactors, for example, one had to go from the construction of a small reactor operating at a few watts to reactors operating at enormous power, and the same thing was true in almost every other phase of the work.

The industrial know-how which American industry possessed was a vital part of that transition, and the industries went further in that they set up the plants, put them into operation, and kept them in operation.

Many times, of course, this was augmented by help and advice, consultation from scientists and technical people who had participated in these developments from their earliest stages.

Now, at the end of the war, after the project had been carried through successfully to the development of the atomic bomb and the materials had actually been produced which were necessary, much of this organization that had been built up melted away.

Many of the people who had worked on the project had been obtained on loan from industries, from universities, from other research organizations, and there was a definite commitment that they would go back to their normal pursuits, and this was the basis on which they had been obtained.

Similarly, many industrial contractors had been promised that they would be relieved of responsibility as quickly as possible at the end of the war. It was more or less inevitable then that at the end of the war the atomic energy project would go into a very dramatic decline, and it did.

This is no reflection whatever on the Manhattan Engineering District and on the stewardship under Lt. Gen. Leslie R. Groves. They did a fine job, and it was more or less inevitable that at the end of the war the project would come crashing down, and it did.

During 1946 there was unquestionably a very serious deterioration in the atomic energy project. Los Alamos, for example, suffered a series of calamities of one sort and another which were very discouraging to the personnel there. Many people became disheartened and left, and a few hardy souls elected to stay with the project and fought it through.

Some of the calamities might just be recalled to you mind. In December 1945, the project ran out of water. All the water that was obtained on the Los Alamos project for a period of some months or more was obtained by hauling it in tank trucks.

The CHAIRMAN. At a cost of \$8,000 a day.

Dr. BACHER. I am not quite sure of the cost, Mr. Chairman, but I do know that a good deal of it tasted of kerosene.

Senator HICKENLOOPER. The pipes froze; did they not?

Dr. BACHER. The pipes froze up; water reservoirs ran low; the project very nearly came to a dead standstill, and part of this experience I lived through myself. I came home from a trip to the East to find my family living in a place with no heat. I am sure I did not get any fraction at all of what many of the other people got who stayed there longer.

During the spring of 1946, water was extremely short. I think it is only by the greatest of luck that a serious calamity in fire did not occur during that period. I was not at the project during the early months of 1946, in the summer, but I am told by people who were there that it was pretty grim and people were very greatly disheartened.

You may recall that it was during the same months——

Senator HICKENLOOPER. Do you mind being interrupted, Doctor?

Dr. BACHER. Not at all.

Senator HICKENLOOPER. I was going to say that the fire hazard still exists, except that you have more water.

Dr. BACHER. Senator, I would say that the greatest fire hazard came from the fact that there was not any water with which to fight a fire.

Senator HICKENLOOPER. I mean the buildings are the same type, generally. They have not been replaced.

Dr. BACHER. The buildings have in part been replaced, in sense that there are now at Los Alamos critical buildings which are fire-proof, and in most of the buildings, there exists a sprinkler system which, I believe, is quite an adequate way of fighting a fire provided you have got some water to back it up.

Senator HICKENLOOPER. Well, at least, last September when I was out there, the buildings seemed to be about the same buildings that had been there a year or so before.

Dr. BACHER. The technical buildings are very much the same. It has seemed unwise to interrupt the work too much in this critical period of 1947 and 1948 to get new buildings, when action at the moment was what was needed.

I believe also that the fire hazard in those buildings, while still existent, is very much diminished by the presence of water in sprinkler systems.

During the fall of 1946, after the passage of the McMahon Act and the setting up of a Commission, spirits began to pick up at Los Alamos, and I would like to say just a word or two, if I may, about some of the conditions at some of the other sites.

At Hanford during that period up to the end of 1946, the pile deterioration had become a very serious matter, and our attention had to be focused on ways of getting around the difficulties which, at that time, seemed to be technically insurmountable. This was a serious matter.

There were also many uncertainties at the Hanford Works which came out of the uncertainties about the contractor.

As you may recall, the plant had been built and put into operation by the du Pont company; at the end of the war the du Pont company asked with vigor to be relieved. This gave rise to great uncertain-

ties in the technical personnel, but to a very considerable extent people who had been actively engaged in the project stayed with it through these rocky times, and a great many of them are there today.

At Oak Ridge, the production situation at the end of 1946 was in the process of rather serious adjustment, but I think one can say that it was in considerably better shape than most of the other things on the project.

The laboratory at Oak Ridge, which had served as a pilot plant for the reactor development during the war, had largely passed through the phase for which it had been built, and at the end of the war the reactor was beginning to be used as a research tool and the laboratory was beginning to be set up around that reactor, directed primarily at fundamental experimentation.

Also the reactor was beginning to be used for the production of radio isotopes which have more recently made such an important contribution and played such an important part in various research projects.

I could go on into the recalling of the status of some of the other parts of the project in 1946, but let me just try to summarize a little bit what the status was when we took over on January 1, 1947.

With weapons, the situation was very bad. We did not have anything like as many weapons as I thought we had, and I was very deeply shocked at what I found when I made an inventory of what we really did have.

The CHAIRMAN. Was the inventory correct?

Dr. BACHER. I made the inventory, and to the best of my knowledge, Senator, it was correct.

The CHAIRMAN. Well, I did not refer to that, Doctor. I meant; you were furnished with the inventory files, cards? You went into the vaults?

Dr. BACHER. I found no discrepancies.

The CHAIRMAN. You checked it physically?

Dr. BACHER. I found no discrepancies whatsoever.

The CHAIRMAN. That is what I wanted to find out.

Dr. BACHER. The status of the Los Alamos Laboratory was depressing to me. I had the greatest admiration for the people who were there and who were trying to build a laboratory anew out of what they had, but it was a difficult job and a heartbreaking job.

At Hanford the stories on the estimated life of the piles out there were distressing, and no one at that time knew how these piles could be prolonged in life. I will not go into a numerical estimate of what the life was supposed to be, but it gave me a very deep shock.

Our production of fissionable material at Hanford had been reduced primarily because of this deterioration which had set in. Our technical work at Hanford and elsewhere, too, had been very greatly slowed down at the end of the war.

At Oak Ridge, K-25 production—that is, at the diffusion plant—was good. They were, however, in the middle of a new test to determine new operating conditions for the plant.

At that time, when we took over, the Y-12 electromagnetic plant was still operating, and there had been considerable success in cutting the costs to moderate figures, but it was perfectly clear that more changes were in store for us.

The laboratory at Oak Ridge was being set up as a general-research laboratory, as I indicated before, and also as a training school for

getting more people, particularly from industry, acquainted with the fundamentals of the atomic energy project.

To summarize it in a word, the technical developments during 1946 had slowed not to a stop but were so slow that motion was hard to detect.

Now, just one more word about the technical developments at that time: One other subject that has been very important to us is the subject of reactors. At the end of the war there was a great deal of optimism about how nuclear reactors could be designed and built overnight, and a big power industry was going to come out of this in a great hurry.

The years 1946 and 1947—particularly the former—brought us a great deal of technical information which was in the nature of a surprise. Looking back at this, we probably should have anticipated some of it a little bit more, and, of course, the optimism of one person is never quite the same as the optimism of another, but the fact is that the serious way in which materials would deteriorate in a reactor and the problems that this would cause in designing and building reactors to operate at high power and under conditions of high specific power were greatly underestimated.

These problems were serious, and they had to be overcome, and it set the whole reactor development project back a great deal. This was a disheartening fact at the end of 1946; and at that time it was not even possible to assess completely how serious a matter this would be.

One could only see that there were big problems that had to be tackled and overcome.

This is more or less the background that the Commission had when it came in and assumed control of the atomic energy project on January 1, 1947.

What we did during 1947 and 1948 was largely conditioned by that state of affairs, and that is the reason that I have gone into it in some detail. I am sure I have overlooked a number of points. If this turns out in the course of further discussion, I shall be glad to amplify these previous remarks.

Our first attention had to be directed toward the production of atomic weapons and to the development of new atomic weapons and to the production of fissionable material to go into atomic weapons, and this is what we did.

Furthermore, we felt it our first responsibility to do everything in our power to build the Los Alamos Laboratory as a solid research and development and production center, because on that laboratory everything depended during that period, so we did our best in that direction.

I think I can say without being immodest, since most of the credit goes to the members of that laboratory who went through that period, that success has been very marked. The Los Alamos Laboratory during 1947 went through a change that I could scarcely believe, and I believe today it stands as a very strong development and research laboratory, with a remarkably high morale.

On the production of fissionable material at Hanford, the problems associated with pile deteriorations were attacked vigorously. These were both the technical problems and the problems of replacement reactors in case the technical problems could not be solved.

Both lines were attacked. The technical problems have been rather successfully solved in the course of the past 2 years, and in the meantime, as you know, replacement piles have been under construction, and this has been carried through to a state of completion.

During that same period, we went rather carefully into the subject of how we might get out more fissionable material from a given amount of raw material, since raw material, as you know, is at a premium, and our objective is the production of fissionable material and to get as much fissionable material as we can from a given amount of raw material.

There has been during the past 2 years a very considerable success in these efforts, and we can today get more fissionable material out of a given amount of raw material, and I am confident that the success will be even more marked in the future.

Furthermore, at Hanford during that critical year of 1947 the first steps were made to figure out how the actual production could be raised, and the first steps, the first actual steps in this direction, were made. Of course, the most important thing that occurred at Hanford was probably that the project was transferred from being a temporary project to being set up on a permanent basis. This made a great deal of difference in the morale of the people who are there and in their outlook on their work.

At Oak Ridge during 1947, the operations at Y-12 were considerably reduced. This was in keeping with the higher costs of the electromagnetic process, and the improvements and developments in the diffusion process for the separation of uranium 235.

The operations at the diffusion plant, K-25, during this same period were stepped up, and there has been continued technical improvements which by the end of 1947 had led to increased production, with a decreased number of people carrying on that production.

During that same period, 1947, we frankly did not have very much success in stabilizing the laboratory at Oak Ridge, at X-10. We had a very difficult situation which arose because of changes in personnel, people who had been on loan, and also which had arisen because the contractor wished to be relieved of responsibility for the operation of the plant.

These introduced unsettling conditions in the laboratory, and, I believe, that the laboratory has only recently recovered from some of the shocks which it had received during that period.

Remarkably enough, during 1947, and still during 1948, the laboratory has continued in scientific output to be a major source of fundamental information about atomic fission and various nuclear processes, and has produced a remarkable series of publications in the technical journals which, I think, are a very great credit to the project.

To speak more directly on the subject of research and development and the problems during 1947, our course during this period was guided to a very great extent by the advice which we received from the General Advisory Committee which had been appointed by the President at the beginning of the year.

This committee, as you know, is composed of distinguished scientists and technical people from the universities and industry, and the Commission has relied very much on their advice on general technical questions.

Also during that same period, we set up an ad hoc committee on biology and medicine to give us some advice as to what we ought to do in these subjects.

This committee was under the chairmanship of Dr. Robert Loeb, and it seemed to us advisable to get an outside committee to offer us some advice as to what we ought to do on this subject.

As you gentlemen are, I am sure, aware, during the war only those subjects in biology and medicine which were of the utmost urgency in the manufacturing and technical problems were studied at all. There was a very great shortage of doctors and of all people with research experience in biology and medicine.

At the end of the war we found ourselves in the position of being unable to understand in any great detail the fundamental question of hazards associated with radioactive materials and particularly with the production and handling of fissionable materials.

We did not understand very well the effects of radiation, and there had not been time to do the fundamental work that was necessary in order that such an understanding of these effects could be obtained.

We tried as soon as possible in 1947 to expand the work in biology and medicine so that there might be a better understanding of the effects of radiation, and so that also some of the beneficial effects of atomic energy and its products might be enjoyed by the country at the earliest possible moment.

Subsequently, a permanent advisory committee on biology and medicine was set up, and this committee, composed of distinguished doctors and biologists, meets regularly and offers advice to the Division of Biology and Medicine on its conduct of work in that field.

During this period of 1947, the advances in the research laboratories were very considerable.

At Berkeley, the research laboratory had quickly gone into high gear at the end of the war under the enthusiastic leadership of Dr. Ernest Lawrence, and considerable new work was being carried on, new machines were being developed, and subsequently, rather startling new results have been achieved with these machines.

At the Brookhaven Laboratory on Long Island, the laboratory actually came into being during this period as a going concern, and today, I think, can be numbered among the strong research laboratories of the country.

At the Argonne Laboratory in Chicago the problems of continuation at the end of the war were indeed very serious. The laboratory had been housed to a very considerable extent in buildings that had been loaned to it by the University of Chicago. Its buildings in the country where the reactors were housed were on borrowed land where I believe commitments had been made for evacuation at the end of the war.

But during this period and in spite of the scattered facilities that were available, good reactor work was going on and good fundamental research was going on. Fortunately, the people at the University of Chicago cooperated on a very thoroughgoing basis with the Argonne Laboratory, and there is today, as you know, the closest exchange of ideas and interchange of personnel. Many of the people at the University of Chicago played major roles in the development of this project during the war.

At the Knolls Laboratory at Schenectady most of the work had to be carried on in temporary buildings that were set up during this period, but the project got ahead with reactor design work and there were during this period some significant advances.

One of the big problems that the Commission had during 1947 was the problem of adequate raw material. There was not as much raw material available as we wanted and needed. We had to figure out how to get along with less and get more out of it. We also had to figure out how we could get more raw material.

I believe this constitutes, Mr. Chairman, a summary of what happened during 1947. I would like to go on to amplify that a little bit further with some of the accomplishments during 1948.

Probably the most outstanding accomplishments during 1948 were the advances which were proved in the Eniwetok tests which were carried out in the spring of 1948. The importance of these tests to the atomic energy project, I believe, cannot be overestimated. I believe we learned more about how atomic bombs work and what we might do in further design work from these tests than had ever been learned before.

You may recall that the test at Alamogordo was accompanied by numerous physical measurements which were carried on to find out how the bomb exploded and what it did when it exploded. Subsequent tests at Bikini and, indeed, those bombs which were exploded over Hiroshima and Nagasaki, were accompanied by a minimum of physical measurement.

The purpose of the Bikini tests was military, not technical. The purpose of the Eniwetok tests was to find out how better bombs might be built, and to that end a great many measurements were made. These measurements were, for the most part, very successful. Our conclusions of the results of the development which led to the design of the bombs used at Eniwetok gave us great heart for new future development.

Senator HICKENLOOPER. Doctor, the design of the weapons tested at Eniwetok were really designs that were conceived during Manhattan District days and laid aside for testing later under a little more peaceful atmosphere; is that not right?

Dr. BACHER. No, Senator Hickenlooper, they were not.

Senator HICKENLOOPER. I think there is some dispute on that subject. I would not dispute your word on it, of course, but there is some dispute about the fact that those designs were generally conceived in the Manhattan District but were not used in the war efforts over Japan.

Dr. BACHER. Senator, if by "conceived" you mean that there was a gleam in the eye, then I would be inclined to agree with you. In developing an atomic bomb there is a long distance between the gleam in the eye and the actual design of the weapon.

Senator HICKENLOOPER. I understand that. I meant to go further and say that even some of the mechanical ideas involved in the tests at Eniwetok were actually proposed under the Manhattan District. I am not quarreling between the Manhattan District and the Commission, but just to get the order of things properly set up.

Dr. BACHER. One of the principles incorporated in the Eniwetok tests had been thought of and planned for prior to the end of the war.

Senator HICKENLOOPER. Yes.

Dr. BACHER. But one of the major developments—I would say the major development—that was tested at Eniwetok we would not have dared to do at that time.

Senator HICKENLOOPER. Yes. That is the point. It was the examination into that phase of it which was left for more proper peacetime atmosphere to develop.

Dr. BACHER. I think one can say, Senator, that there just had not been enough research and development work done at the end of the war to lead to the design of weapons of the sort that were shot at Eniwetok; and on this basis I would say that the Eniwetok test was not the test of weapons which had been designed a long time before, but represented the test of weapons which had been designed on the basis of the research and development work which had been carried out at Los Alamos during 1947 primarily.

Senator HICKENLOOPER. Manifestly, we cannot discuss details about those things at the moment. Excuse me, go ahead.

Dr. BACHER. One of the main results of the Eniwetok tests was that it has led us, in the analysis of the results that were obtained from the measurements that were taken, to the design of new weapons which will make considerably better use of fissionable material than any weapons we knew about before.

This point, Senator, is completely new and even contrary to some of the ideas that we had during the war.

Senator HICKENLOOPER. There was even a school of thought during the war in the early days that the thing would not blow up at all.

Dr. BACHER. I believe some people had that idea. I did not share it.

Senator HICKENLOOPER. There were some eminent people who believed that it would not blow up at all, as I understand it. There was a difference of opinion on the matter. I think it is immaterial now.

Dr. BACHER. I believe I can say that during 1948 the status of the Los Alamos Laboratory, with some fluctuations, to be sure, steadily improved, and I believe it is a very great credit to the members of the laboratory that they were able to design weapons, produce them, and carry through the tests at Eniwetok.

On the production front—that is, production of fissionable material at Hanford—there were some major accomplishments leading to the increase in pile life. I had mentioned before that at the end of 1946 we were confronted with the serious problem of pile deterioration. During 1947 and more particularly during 1948 there were some major technical accomplishments at Hanford which gave us more information on the nature and origin of this deterioration and how it might be circumvented.

Other developments at Hanford led to still further increases in the production of fissionable material from a given amount of raw material, and these improvements are still in the course of development and test. But we are beginning to reap the benefits of this technical work.

There were considerable improvements in chemical processing both in the efficiency of the present process which is used and in the development of new processes which we hope can be installed in the

future and which will contribute still further to the conservation of raw material.

A major construction project, as you know, was undertaken at Hanford. In fact, I guess it is probably the largest peacetime construction project that has been undertaken in the country. A replacement pile, which was designed to be ready as quickly as possible for operation, was set up, and this construction has been completed.

The construction of further units, which were diverted to an increase in our production of fissionable material as new technical developments came along, was also undertaken.

We had established as a general Commission policy that we should increase our supply of fissionable material by every means at our disposal within reason. In addition, during 1948 steps were taken to establish metal production facilities at Hanford. The problem of taking the output of a chemical separation processing plant and producing plutonium element is a very difficult one and involves many problems of remote handling because of the toxic qualities of plutonium.

A plant for the production of plutonium metal was started during this period and largely brought to completion on one of the most rush schedules that the Commission undertook to carry out. Part of the need for this plant came because we felt there should be alternative production facilities for this material and part of it came because in the problem of fabrication and refabrication of weapons there was a major drain on production facilities for fabricating metal and new facilities were needed. That was particularly the case after the Eniwetok tests when new designs came along.

At Oak Ridge the diffusion plant at K-25 continued with its production, and during this same period both increased its production and decreased its staff. The continued high efficiency operation of the diffusion plant has been very cheering.

The plant at Y-12 early in that year was thrown completely into stand-by condition and subsequently, as you know, has been put in even more remote stand-by condition. This goes back to the point that the developments of the diffusion process have outstripped the developments in the electromagnetic process.

Whether subsequent scientific and technical developments will lead in this same direction I think no one can guess. But so far the diffusion process has certainly outstripped the electromagnetic process.

On the subject of reactors, during 1948 the main reactor responsibility at the beginning of 1948 was transferred to the Argonne Laboratory. As you know, reactor work was also carried out at the Knolls Laboratory at Schenectady and was also carried out at the Oak Ridge National Laboratory, and some reactor work was carried on at Los Alamos. By and large these four laboratories have been the main centers of new development work.

I mentioned before that we had been greatly disappointed by some of the things that we found, about some of the obstacles, I guess I might say, that we found had to be overcome in the development of new reactors. During 1947 and particularly during 1948 many of these came a little closer to solution, and while all of the answers are by no means clear even today, certainly some of the answers look much closer to being obtained.

The success at the Argonne Laboratory in going ahead with their designs of a fast reactor have been very considerable, and they have

also carried the main responsibility in the development of the materials-testing reactor or high-flux reactor as it has been sometimes called. This reactor, you may recall, was initially designed by the Oak Ridge Laboratory, and they are now cooperating with the Argonne Laboratory in its design for construction.

The Argonne Laboratory is also carrying the main responsibility in the development of a Navy reactor which is being designed for the propulsion of a ship or submarine and which is being carried to completion with the cooperation of the Westinghouse Electric Co., who have recently taken a contract for this work.

The other reactor, which has been under development at the Knolls Laboratory, has been largely carried on by the General Electric Co., though here, too, they have obtained a great deal of information and know-how from the people who have been engaged in this work for a long time at the Argonne Laboratory. The reactor at the Knolls Laboratory is an intermediate reactor designed with two aims in mind: One, the production of usable power and, two, the accomplishment of the breeding principle with which you gentlemen are familiar.

I think I can say that the reactor program has not gone ahead as fast as we had hoped it would. I think there are a great many reasons for this. Certainly, one reason is that it had to take second place during 1947 to the problems of weapon production and development and the problems associated with the immediate production of fissionable material.

Also there were technical problems which had to be solved before design work could go much further. But I believe today we stand on the threshold of a very great development in this field. I am sure that if we—and by “we” I mean the people of the United States—are not timid in going ahead with this work, I believe that major successes will come to us, but timidity and playing things safe simply are not a background for atomic energy development. If we wait until everything is going to be sure in these developments, we will suffer a major setback of the atomic energy program in this country.

Senator HICKENLOOPER. Doctor, may I interrupt again and ask you: Do you believe that we have been timid in the past? In other words, if I may use a phrase, do you believe we have moved with mincing steps?

Dr. BACHER. I believe, Senator, that during the past 2 years we have taken some pretty considerable steps forward. I believe the best example of this comes from the accomplishments of the Eniwetok tests.

Senator HICKENLOOPER. I just used the term “mincing steps” with the hope that it might strike a responsive chord in your memory.

Dr. BACHER. I certainly remember the phrase “mincing steps.” I recall, I believe, using those words in a hearing with the joint congressional committee some months ago, when I said that I hoped we would not move ahead in this development with mincing steps, but strike out in a bold fashion, and I feel that we are on the verge of those strong steps at the present time. A program has been set out for the development of reactors. This was formulated by the Commission in the fall of 1948 and has formed the background of all steps in this direction which have been taken since then.

The CHAIRMAN. Doctor, if it works, what will it mean to the people of the United States?

Dr. BACHER. Mr. Chairman, it is always very difficult to look too far ahead. With the development of the first steam engine, it would not have been possible to envision the railroad system we have today.

But I think one can be sure that a long-range development of nuclear reactors will have a very great effect upon the lives of the people in this country, upon their living standards, upon the location of their houses, and upon the conditions which generally serve as boundaries to their lives.

There are great areas of this country today which are essentially uninhabited because of the absence of power and water. Atomic energy will not solve all of these problems, but it at least does not have some of the limitations to which we have been subject in past years such as proximity to coal or oil.

In connection with the formulation of a reactor program by the Commission in the fall of 1948, we found that some of the bold steps that needed to be taken would require the setting up of a remote site, remote not only from major cities and other installations, but also remote from any other manufacturing installations which were vital to the project itself.

Accordingly, as you know, steps have been taken to set up such a project in southern Idaho near Arco. It is my own belief, as I think I have expressed to you before, that the establishment of such a project so that the development of reactors may go ahead without that extraordinary excess and overweighting caution, which would inevitably govern it were it to be located elsewhere, would be a necessary part of a reactor program.

Two other points on reactors: There has, during the past year, been a considerable amount of success in the early stages of design and critical assembly tests of the reactor at the Knolls Laboratory at Schenectady. These results which have been obtained have made us understand that there were some problems in the operation of intermediate reactors which had not been fully understood before, and a great deal was learned. This will undoubtedly change in some ways the plans for that reactor.

This is the course of a normal development in a new field and should be expected. It has occurred, and I am sure it will occur again in the future.

Senator HICKENLOOPER. In other words, Doctor, there will be no such thing as a static reactor which is the last word. You will always learn things from every new reactor you build.

Dr. BACHER. I would most certainly be disappointed, Senator Hickenlooper, if we did not learn from each reactor that was built and each reactor will contribute to the building of new reactors, and as far as I can see, the horizon on this is a very, very long way ahead.

Senator HICKENLOOPER. So that there is no such thing as building a reactor and saying, "This is the final word." One has to take a step and build a reactor that encompasses all of the lessons that have been learned at some time and then go forward from there. Is that about the program that has to be followed?

Dr. BACHER. Well, perhaps, I might say it this way, Senator: If you build a reactor then, within the bounds of what you can get into that reactor, you try to incorporate all of the technical advances of the past. If you are building an intermediate reactor, you can incorporate only

part of the advances that have been obtained in the building and operation of a reactor which is greatly different from that.

Senator HICKENLOOPER. But the point is that we do not build reactors and keep saying, "Well, we will study a little more and next year we will learn more," and next year we say, "We won't build a reactor this year because next year we will know more." We would never get any reactors built.

Dr. BACHER. I believe one could only agree with that, Senator.

Senator HICKENLOOPER. That is the point. There must be a point where design is frozen and construction begins and then learn from there for future activities.

Dr. BACHER. There is always a question of balance involved and it is my own conviction that in development of reactors a certain amount of boldness is needed. We must go ahead with the design and the construction of reactors at a time which is long before all of the problems are understood. If we do not do this, we will most certainly lose out in the development of atomic energy.

Senator HICKENLOOPER. I think I agree with that, and I may say also that, as you already well know, I am not at all qualified to discuss reactors with you. I am not a scientist. I am clear out of my element on those things.

Dr. BACHER. I enjoy discussing reactors with you very much, Senator.

Senator HICKENLOOPER. I think it would give you a great deal of pleasure if I undertook to discuss them with you. My ignorance would immediately become apparent.

Dr. BACHER. At Los Alamos during this past year a fast reactor, which was designed at the end of the war, has been constructed and put into operation, and more recently has been operated at the power for which it was designed.

I have been very much interested to learn of the success of that operation, particularly at the designed power, and feel confident that there will be very much scientific and technical information learned from that reactor which will be of benefit to the reactor program as a whole.

It should, of course, be clearly understood that this reactor is a relatively small reactor compared to those which are needed for preliminary units for high-powered reactors, but it is the first operating fast neutron reactor.

Senator HICKENLOOPER. The fuel of that reactor varies somewhat, does it not, from the normal fuel heretofore used in reactors?

Dr. BACHER. This is the first reactor which has been designed to operate with plutonium as a fuel.

Senator HICKENLOOPER. That is what I meant.

Dr. BACHER. The information, Senator, which can be obtained from that reactor will be applicable to other reactors as well.

Senator HICKENLOOPER. I think I saw it shortly after it started up. They were just beginning to get some data out of it.

Dr. BACHER. At the Brookhaven Laboratory, there has been under construction during 1948 a reactor for research use of that laboratory. This reactor is generally modeled on the reactor which is located at Oak Ridge, although it incorporates a number of advances and improvements and will operate at somewhat higher power. We believe

that this reactor, when in operation, will be a major research tool and will provide for that laboratory facilities for research in nuclear physics and neutron physics and general pile technology which will bring to that work many people who would otherwise be working on subjects which are quite unrelated to atomic energy.

I might add that it has been one of the central ideas in the development of the regional laboratories for atomic energy, to provide facilities for the carrying out of more research and for the training of many new people in this field, since I am quite sure that in the days to come the limitation of trained people will be a very serious one.

On the subject of research and development at the end of 1948, I would like to review just a few major accomplishments. At the Berkeley Laboratory where the development of accelerators was undertaken with vigor at the end of the war, they have been successful in completing and putting into operation the big cyclotron, incorporating the frequency modulation principles which were initiated at the end of the war. With this instrument in the spring of 1948, there was the first laboratory production of mesons. These particles which seem to be transitory and with a relatively short life, we believe are intimately related with the origin of the nuclear forces. These are the forces which hold the particles of the atomic nucleus together.

Now, it has been one of the principal ideas in research of the Atomic Energy Commission to promote research and development work aimed at the achievement of a better understanding of the atomic nucleus. It would be impossible for me to come to you and say that I am sure this will lead to the production of better fissionable material or more fissionable material or better weapons or more weapons, but I can assure you, without any qualification at all, that if we are to have a sound atomic energy project, we must have a sound, vigorous, and all-inclusive general research program in the country behind it, lest otherwise we will not be able to make the technical developments which would grow out of these fundamental discoveries.

Senator HICKENLOOPER. This meson business to a layman—is that in the nature of creation of matter, creation of something, rather than splitting or destruction? Is it not sort of putting reverse English on the disruption of matter?

Dr. BACHER. We believe, Senator, that the mesons originate when there is a change of a neutron into a proton, or vice versa.

Senator HICKENLOOPER. I thought that it was the reverse from a fission, more or less the combination of something or in the nature of the creation of something rather than out of these energy forces.

Dr. BACHER. In the sense that mesons appear only when you have a very great concentration of energy, this is most certainly correct, Senator. This is the fundamental reason why in order to study these particles, large and expensive machines are needed in order to accelerate particles to these extremely high energies.

That is the reason why we have been undertaking this sort of work only in a limited number of places.

Senator HICKENLOOPER. What do they call this machine that is bigger than a cyclotron, a bevatron or something?

Dr. BACHER. There are two names for this machine, depending on whether you are an easterner or a westerner.

Senator HICKENLOOPER. I live halfway between.

Dr. BACHER. I do not know what the Iowa term for this machine is. Senator HICKENLOOPER. We do not have them in Iowa.

Dr. BACHER. The same principles which have been incorporated in the frequency modulation cyclotron at Berkeley have been extended into a machine which at Brookhaven has been called a cosmotron and at Berkeley is called a bevatron.

The reason for the Berkeley name, I believe, is that it is hoped that this machine, when constructed, will accelerate particles to several billion electron volts. At the present time the Berkeley cyclotron is the largest machine in actual operation.

One other machine has been constructed at Berkeley, and this is at the present time the largest machine for the acceleration of electrons. The cyclotron, the bevatron, and the cosmotron are primarily of use in accelerating heavy particles—that is, protons, helium nuclei, or other nuclei.

Senator HICKENLOOPER. They will make a stack of pennies stand on edge, I know that.

Dr. BACHER. The synchrotron developed at Berkeley is a machine for the acceleration of electrons, and this machine was successfully operated early in 1948 and has also subsequently been used for the—I beg your pardon. The synchrotron at Berkeley was brought into operation at the end of 1948 or early 1949 and subsequently has been used to produce mesons from the gamma rays or X-rays, which are produced when electrons collide with material after acceleration.

I think these can be said to be major milestones in the subject of nuclear physics and the origin of nuclear forces, which are behind the atomic energy project.

In addition, the Commission has during 1947 and 1948 had a long and vigorous cooperation with the Office of Naval Research in promoting projects in a great many universities. Most universities at the end of the war found that it was quite impossible for them to go into those subjects with the vigor that would be needed in order to have any significant accomplishment if they had to do it entirely with the funds at their disposal.

The Office of Naval Research performed a great service to the country, in my opinion, in helping the universities to get started with this work at the end of the war. The Commission has been cooperating with the Office of Naval Research, and during the past year furnishing, I believe, somewhat more than half of the funds for carrying out the nuclear physics projects which they had undertaken and in undertaking new projects.

In addition, the Commission has undertaken a considerable number of new projects by direct contract. I do not believe that the importance of these projects can be overestimated. They form the foundation stone on which future work will be built. They form the means by which new people will be trained with that information which is necessary for a strong and vigorous atomic energy project.

To sum up where we stand today, I think it is safe to say that today the bomb production is in the best shape ever. Bomb development is now in progress which will make a major improvement in the utilization of fissionable material. This work is based primarily upon the results of the Eniwetok tests.

On the production of fissionable material, the efficiency in the production of U-235 is still increasing, and Y-12, the electromagnetic plant, is no longer in active stand-by condition.

The plutonium production is today increasing and greater than it has been, and we can expect more in this direction in the near future, based on steps that have already been taken.

New facilities for production are now ready. There has been a major accomplishment in prolonging pile life. How far that may go, I do not believe we can hazard a guess today.

In the operation of a reactor you may always have some unforeseen difficulty arise tomorrow. But we have had extraordinary good success so far. We are now producing more plutonium from a given amount of raw material than ever before, and facilities at Hanford are now available for metal production and fabrication.

On raw material, the limited facilities for the production of raw material in this country are now expanding, and I believe that I can say there have been major successes in the technical work which should lead to the utilization of low-grade ores. I believe this is a major accomplishment.

On reactors today, the problems on materials which go into reactors, both the structural materials and the fuel elements, are beginning to be licked. We have learned a great deal about the use of liquid metals in the cooling of reactors.

This is a major step toward the production of power, and I think one can say, without being overoptimistic, that we are getting to the point where we might consider this really feasible. We are beginning to see our way through some of the problems which existed 2 years ago.

There has been a major advance in the fabrication of unusual metals. Fabrication of many of the metals that are needed in reactors has been extremely difficult and has involved metallurgical problems which 4 or 5 years ago were thought to be impossible and which 2 or 3 years ago looked extremely difficult.

The successful operation of the Los Alamos reactor at its designed power is, I think, very heartening. Critical experiments on the model of the Knolls reactor have led to many new results in reactor development. The consummation of a contract with the Westinghouse Co. for carrying out the development of a reactor for the propulsion of a naval vessel in cooperation with the Argonne Laboratory is, I believe, a major step forward, and will, I hope, lead to the early development of a land-based nuclear reactor which could serve as a prototype for a unit actually to be installed in a ship or submarine.

On the general subject of research, I think I could say that the results of the postwar encouragement of research are now beginning to show in a major increase in the output of the scientific laboratories and in the number of competent scientists that are available. The scientific journals are full of important articles reporting work which has been carried out with the help of funds that have been provided by the Commission and materials that have been produced in Commission-operated reactors.

This whole question of research, of course, is a long-term job, and I do not mean to imply in any of the optimistic statements I have made about research that you can expect the ultimate tomorrow, but research must be carried out over a long period of time. Many experiments

will be done which will not lead to results that will be of any help in the project, but occasionally there will be that unusual experiment which will give a surprising result that will just turn the tide in some new development. This is the history of all scientific and technical developments in the past, and I am sure one can rely on this in the future.

I did not mention while discussing the Los Alamos Laboratory some of the significant developments of recent months at the Sandia Laboratory which operates in close cooperation with the Los Alamos Laboratory and also in very close cooperation with the armed forces. This laboratory, as you know, carries on certain development, engineering, and production jobs at the present time.

Recently the Commission has had a thoroughgoing survey made of this work of this laboratory, as well as a survey of the work of the Los Alamos Laboratory.

Based on this report, which was in many respects most flattering to the people at Los Alamos, certain new advances and new plans are being instituted at the Sandia Laboratory. Many of these have been carried on in the time since I have left the Commission, and I am not familiar in detail with them, except that I heartily concur in the report which was prepared and on which these plans are based.

In conclusion, Mr. Chairman, I would like just to emphasize one or two points. I do not believe that you can examine one small fraction of the atomic energy project by itself and hope to come up with any conclusions or answers which are definitive. You must look at the project as a whole. You must look to the results which are obtained.

The project is technically very closely tied together, and the participation by the Commission here in Washington is not just a participation on paper, but it is an actual participation. The decisions which must be made and the plans that must be developed must show an integration of all of the work of the project.

This is true in the development of atomic weapons, it is true in the production of fissionable material, it is true in all the research and development work, and it is most certainly true in the development of nuclear reactors.

Furthermore, I believe that the people who work on the project must have some confidence in the stability of this project. That is what keeps them on the job. It was the uncertainty and instability of the project at the end of the war which sent many people away from the project. We must at all costs avoid that instability and loss of confidence.

Our real strength for the future depends upon progress. Many people say, "Let's lock up the secret of the atomic bomb." Nothing could put the United States in a poorer position in the future. We depend not upon locking things up, but upon new developments and new progress. This is the only way we will get ahead. Speed and competent development we depend upon.

The Commission must be charged with the job of getting ahead as fast as possible with the development of atomic energy and anything that detracts from that speed will endanger this country.

Thank you.

The CHAIRMAN. Senator Hickenlooper?

Senator HICKENLOOPER. I do not have very many questions to ask the doctor, if any. I might have one or two.

I am glad to see you back again. I am always glad to see you back. I am sorry you saw fit to leave.

Dr. BACHER. Thank you. I am glad to be back, Senator.

Senator HICKENLOOPER. I want to assure you, as I have in times past, I have tried to make utterly clear that I feel the scientific people who are engaged in this process, this whole program, have done a tremendously fine and integrated job. I believe their integrity has been high and within the limitations of the tools and the programs that they have to work with; I think they have done a reliable job for the country and for the whole atomic energy set-up.

I, therefore, have no particular questions. I would like to ask you just this question, or these three.

Are you satisfied with our progress in the waste-recovery end of this program?

Dr. BACHER. The atomic energy project in general, Senator, is not one to be satisfied with ever, regardless of what the accomplishments are, because satisfaction indicates that you cannot pour on more oil, and I think we ought always to be pouring on more oil.

Senator HICKENLOOPER. I am just wondering if you are satisfied with the progress we have made on the waste-recovery end of this matter.

Dr. BACHER. I think in any phase of the project, waste recovery included, Senator, we could always do better.

Senator HICKENLOOPER. Are you satisfied with the progress we have made on the chemical separation processes?

Dr. BACHER. I think I would give the same answer to that.

Senator HICKENLOOPER. I shan't try to press that further. What I am interested in, Doctor—and I think you are, too—is to keep our atomic energy program generally as far out in front as possible with its most efficient operation. That goes into general over-all policies as well as operational policies outside of the scientific and technical developments.

Scientific and technical development, I think, has gone forward, after the hiatus that occurred after the dropping of the bomb on Hiroshima, which I believe is a natural let-down because of the uncertainty and because of the quarrels between those who advocated military control of atomic energy and those who advocated civilian control; I think there was a period when no one knew what the future of this program would be and I think a great many people, scientists and technicians and others, went back to their normal work. There was a disruption during that period of time which was probably quite normal after the development of this bomb for the purpose of winning a war.

Therefore, I would not be technically able to dispute you on technical ends of this thing, and I am perfectly willing to agree that the progress has been made on the scientific and the technical end.

I have in mind that when we talk about the Manhattan District and the Commission, a great many of you composed the Manhattan District. You were part of the Manhattan District. Dr. Bradbury was part of the Manhattan District. Dr. Lawrence was a part of the Manhattan District. A great many other famous scientists and technicians were the Manhattan District, who did this job. I think they are still carrying on at a very high level of integrity and a very high level of accomplishment.

That is all I have.

The CHAIRMAN. Mr. Jackson?

Dr. BACHER. Mr. Chairman, might I add just a word to this point? I have a very great respect for many of the people with whom I worked during the war. Many of the people who are in responsible positions now for the Atomic Energy Commission in the technical work were colleagues of mine during the war. There was Dr. Bradbury, Dr. Zinn, and Dr. Haworth at the Brookhaven Laboratory, as well as many others; and I think they deserve a great deal of credit.

Senator HICKENLOOPER. My omission of names did not mean I did not want to credit a great many other people with these accomplishments.

Dr. BACHER. There are many of them who deserve a great deal of credit for this.

I think, Senator Hickenlooper, that it is not possible to draw a sharp line between the technical developments of the project and other developments of the project or between the planning of some of these developments that I have just been discussing this morning and other questions of management. It is my belief that these are the questions of management which are most vital and that other decisions are made so that these may go ahead with the utmost speed.

Senator HICKENLOOPER. My interest is that the other decisions of management, outside of the scientific and technical—that the other decisions of management involved are such that the scientific and technical can go ahead with the greatest possible efficiency and the greatest possible progress.

The CHAIRMAN. Mr. Jackson?

Mr. JACKSON. Dr. Bacher, I take it from what has been commented on by Senator Hickenlooper, that the technical management of the Commission has been in good hands. What is your feeling as to the over-all management of the program insofar as it affects the very vital program of atomic weapons, something which the American people are interested in, in view of these hearings that have been held during the past few weeks?

Dr. BACHER. Mr. Jackson, I think one can only judge this project by what is produced and, accordingly, in trying to give some over-all summary of it this morning I have tried to say what I thought the situation was today.

I believe that the decisions of management that have been taken during 1947 and 1948 have led to a very much stronger project today than we had before. A great deal of effort has been put in, and I believe there is a very considerable measure of success. I am not at all ashamed of where we stand today on the production of fissionable material and the production and development of weapons.

The CHAIRMAN. Mr. Jackson has yielded to me, Doctor. You say that we can tell by the results. You also say that you are not ashamed of the final results—namely, the production of fissionable materials and the number of weapons.

It has been heretofore the policy of the committee not to inquire into or to get reports on those two measures of the Commission's work and, of course, that will only be done after full consideration by the committee itself, a decision with which I heartily concur.

I take it that in your opinion if the results were made known to the American people, you would be satisfied to have those results made

known as composing a test, a very definitive and concrete test, of the success of the Commission's activities.

Dr. BACHER. Well, Mr. Chairman, this poses, of course, many problems, because one must evaluate the importance of that information in the defense of our country. I would not propose to set myself up as a judge of the importance of it.

The CHAIRMAN. I am not talking about the wisdom of doing it or not doing it, Doctor. I am pointing out my belief that if that information could be known, it would be the best test of all as to the success of the Commission in its primary work for the last two and a half years.

Dr. BACHER. I think, Mr. Chairman, that in order to make that single piece of information carry the amount of knowledge to the people of the United States that it should, they would need to know considerably more about what the effects of a given bomb would be, how the bomb was constructed, what went into it, what it might do, how it would be used, and, indeed, a whole lot of things about the fundamentals of atomic energy, so that this might be evaluated against some background.

Let me give an example. I have read from time to time in the press about how it is advocated by one person or another that material be devoted to the development of reactors and production of power and not to the production of weapons. I do not believe that anyone can offer a sensible comment on that unless he knows how much material goes into a bomb, how much material there is, and how much material might be used in a reactor. If you knew these simple things, one might be able to give an evaluation of it.

I am afraid that on these subjects we have, by reason of the security which is imposed on the project, a great deal of misunderstanding and, therefore, a great deal of misinformation is put out, and this gives rise to the jitters and hysteria which we find on all sides at this time.

The CHAIRMAN. Thank you.

Mr. JACKSON. Doctor, would you say that the scientific portion of the atomic energy program is the heart of it?

Dr. BACHER. I would most certainly say that the scientific and technical development work is the heart of the program, and all future progress will depend on these developments.

Mr. JACKSON. In other words, the security of our country, so far as atomic weapons are concerned, does not rest alone with the weapons that we have today but with the possibility of exploiting the best brains and scientific know-how that this Nation possesses?

Dr. BACHER. You are most certainly correct, Mr. JACKSON.

Mr. JACKSON. If the scientific know-how that is available is in good hands, I assume the only other danger would be the question of dissemination of the knowledge we now have and the knowledge that we acquire from time to time in the field of science, if that dissemination is not properly managed.

Do you feel that proper steps have been taken in the field of security, consistent with the over-all aim of providing adequate protection to this country in developing new weapons and the new devices that must be constantly developed if we are going to be secure?

Senator HICKENLOOPER. Mr. Chairman, I have no hesitancy whatsoever in discussing the security program of this Commission, but I call

your attention to the fact that I was stopped on discussing security methods, and if we are going into security and having opinions of various people, then I certainly would like to open up the security question, because I think it is unfair to Dr. Bacher to ask him to give an opinion on security when I will not be able to confront him with various instances and various situations.

I am perfectly willing to go into it, but if we go into it, let us take the whole ball of wax and look at it. I am in no position to cross-examine Dr. Bacher on this thing as to his opinion, one way or the other, and I feel as long as this security matter has been taken away from me and the committee now has it, that until the committee decides what it wants to do with it, that is a field which in fairness cannot be discussed on one side alone, as a matter of pure opinion of a witness.

Mr. JACKSON. Mr. Chairman, my understanding was that as far as security is concerned, the question of individual cases has been held in abeyance or at least the committee has taken action suggesting that those matters be handled in executive session.

But I do think that in view of the discussion that has taken place for at least a couple of days here and possibly more than that on the broad subject of security, that it would be in line for the witness to make a general comment on the over-all situation regarding security.

The CHAIRMAN. Do you, Senator Hickenlooper, believe that the security is barred from discussion by the fact that individual cases have been withdrawn for action in executive session?

Senator HICKENLOOPER. I most certainly do.

The CHAIRMAN. As I understand it, your charges on security rest in the main part upon the individual cases of some individuals who were in the project. As I understand Mr. Jackson's question, he is asking a general question as to whether he believes that the security aspects of the program have been properly attended to. Am I right?

Mr. JACKSON. That is right. Over-all.

Senator HICKENLOOPER. Then I will just say that if the chairman permits Dr. Bacher to answer that question, I expect to ask Dr. Bacher about a great number of individual cases and about individual situations and see whether he approves. I just feel that this whole security situation as it now stands is one that has to be resolved so that we know what we can talk about in public hearing and what we cannot.

I have been staying completely away from that out of respect for the joint committee's authority in these hearing until it decides what it wants to do about them. I do not have any hesitancy about discussing security at all, except that I would not be content to have Dr. Bacher give just a general opinion here without going through a great many things with him, and I feel in the rather nebulous situation that security is in at this time it might even be unfair to him in his answer, it might be unfair to the committee in its final determination.

The CHAIRMAN. In other words, Senator, your contention is that you would be restricted in the scope of your cross-examination, assuming that Dr. Bacher would say that the security of the project has been given proper attention, that you then feel you should be allowed the fullest scope of cross-examination on individual cases.

Senator HICKENLOOPER. The whole field of security, I believe, if that is the case. In other words, I have attempted to stay completely away from the security end of this thing as a matter of discussion or opinion since the action was taken on certain security files, and I have been holding that in abeyance until the joint committee has had an opportunity to determine its own policy on that matter.

Mr. JACKSON. Mr. Chairman, I am not going to press the question now. I just thought that in view of opportunity that was given to the Senator sometime ago in which even one case was discussed at considerable length, that a general statement might be in order, but I am not going to press it at this time.

The CHAIRMAN. I presume that if you do not press it, there is no occasion for me to rule on admissibility of the question. If Senator Hickenlooper believes that that particular question should of necessity give him a right to open him up for cross-examination on these individual cases, it would result in defeating the will of the joint committee as it was expressed in a session that it had about 3 weeks ago. So if you do not press the question, we are not faced with the problem.

Dr. BACHER. Mr. Chairman, I have just one small remark.

The CHAIRMAN. Make it small now, Doctor.

Dr. BACHER. I was reading awhile ago the hearings on the confirmation of Dr. Smyth, and I find, unless my memory serves me wrong, Senator Hickenlooper agreed at that time that on the over-all question of security a pretty good job had been done, but this is not my opinion. I am only quoting his. I am giving no opinion.

Mr. JACKSON. Doctor, how much of an investment was involved in the reactor problem at Hanford as it affected the very serious problem you had of deterioration awhile back? How much money was involved if you had to bring about a replacement?

Dr. BACHER. Mr. Jackson, I think those figures ought to be furnished to you separately, since I do not recall them accurately at the moment, and I do not want to give you something that is misinformation. But I will see that the Commission furnishes it.

Mr. JACKSON. Roughly was it \$10,000,000 or \$50,000,000?

Dr. BACHER. It was more nearly on the order of a hundred million or more. As a result of new developments it has been possible to defer indefinitely over \$150,000,000 worth of Hanford construction that was considered essential in 1947 to keep the production program going and to meet the new goals.

Mr. JACKSON. And as a result of the work that the Commission had been engaged in, it found it not necessary to replace the reactors?

Dr. BACHER. The plan is not to let that work go but to utilize the facilities which have been built to increase the production of plutonium and, in fact, when the reactors were planned, this idea was already incorporated in selecting their location.

Mr. JACKSON. Doctor, you worked with some of the British and Canadian scientists during the war?

Dr. BACHER. I did.

Mr. JACKSON. I wonder if you would be good enough to comment on our policy in connection with the British and the Canadians very briefly and whether you think it has been properly handled.

Dr. BACHER. Just to make a few remarks on this, Mr. Jackson, the cooperation with the British and Canadians during the war was quite complete. It did not cover all parts of the project, but many parts of the project it covered with considerable thoroughness.

For example, with reference to the heart of the project, the laboratory at Los Alamos, the first discussions with the British were undertaken, if I recall correctly, in August of 1943. Subsequently, a sizable British mission came to Los Alamos, headed by Sir James Chadwick and composed of a number of eminent British scientists.

These men worked in many parts of the project. Several of them were in the Theoretical Division there and contributed ideas to the development of the bomb which were very important. As members of the Theoretical Division, of course, they had quite general access to work that was going on in the rest of the project and they had access to the work in experimental physics, in experimental chemistry, to the general metallurgical work that was going on there, to the ordinance development work, and to the bomb physics work. In fact, they had general access to all of the information that was developed at Los Alamos.

Many of them were in these various sections of the laboratory at Los Alamos and participated in that work. One of them was a very close associate of mine in the Bomb Physics Division and was responsible for and participated in many of the critical assemblies of vital materials which were made in the development of the bomb. So they had a thorough and complete knowledge of all the bomb work.

On other parts of the project I cannot speak from quite such close association, but I know that, likewise, they were associated intimately with the development of the electromagnetic process of separation, with the diffusion process in its early days. The Canadians in particular were closely associated with the development of the piles at the metallurgical laboratory at Chicago. The extent of the knowledge which was exchanged during that period of cooperation between the British and Canadians with the United States was very deep.

Mr. JACKSON. What has their participation been since that time?

Dr. BACHER. Their participation in 1946, of course, with the passage of the Atomic Energy Act, was cut to zero; and there has been no participation by them directly in the United States atomic energy project since then. There have, as you know, been established, certain areas of technical cooperation which have been spelled out in considerable detail in papers that have been furnished to the joint congressional committee. There are, I believe, nine areas, some classified, some unclassified.

Mr. JACKSON. Do you feel that their participation assisted materially in the work that you were engaged in at the time at Los Alamos?

Dr. BACHER. There is no question of that, Mr. Jackson.

Mr. JACKSON. As far as the over-all program is concerned, do you feel that every reasonable effort has been made by the Commission to place this country in a superior position as far as atomic weapons are concerned?

Dr. BACHER. That has been the aim of the Commission in everything that it has done. Certainly every decision that the Commission has taken has been toward increasing our position with respect to other nations of the world in the development of atomic energy. I

think, again, that the success can only be judged by what the results are. I believe these results are pretty good.

The CHAIRMAN. As a commission you functioned as five men?

Dr. BACHER. Yes.

The CHAIRMAN. You distribute, I take it, the credit equally among the five?

Dr. BACHER. I think I would like to say just a word about this point, Mr. Chairman, if I may. As a commission, we had a great many meetings. We had many formal questions on which decisions were taken, formal votes. We had a great many informal meetings and we had a great many individual discussions.

I think if there are any questions of management or mismanagement leveled at the Commission or at any member of the Commission, all of the members of that Commission are equally responsible. At least, this is my own view. We participated in all decisions and if these decisions are found to be incorrect, all members are equally responsible.

Now, just a word about how we functioned as a commission.

Mr. Lilienthal, of course, was appointed as Chairman of the Commission and as its head. At the same time, four other members of the Commission were appointed and in general it was our policy to talk over all questions rather much in detail. Inevitably, if you find five people with different backgrounds, they do not have the same opinions on every subject. We rather quickly gained a respect for each other's opinions. I certainly gained a very great respect for my former colleagues and their opinions. When I expressed an opinion and they had some disagreement with it, I took that disagreement seriously because I usually realized that there was something behind that that should be considered very deeply.

Inevitably this meant that in formulation of a Commission policy there would, after discussion, be some view which would emerge. I think this is an inevitable conclusion of the operation of a group of people who have respect for each other's opinions; and it was in this way that most of the Commission's decisions were arrived at.

Now, as you know, there were some points on which we did not have complete unanimity, but I believe it was clear even on these points where there was not complete unanimity of opinion, that there was a thorough-going respect in both directions for the opinions that were expressed.

Mr. JACKSON. I take it from what you have stated here today, Dr. Bacher, that we are making every reasonable effort to do the job that was incumbent upon the Commission during the time you served.

Do you feel that, considering that that has been the objective, it is going to be very easy for any other foreign power to catch up with the United States, considering the productive facilities that we have available and the efforts that are now being made?

Dr. BACHER. How fast other countries will move, Mr. Jackson, depends primarily upon how vigorously they pursue their atomic projects. In some cases we have a rough idea how vigorously their projects are being pursued, and in other cases we have no information at all.

Mr. JACKSON. I think the American people are anxious to know whether we are lagging behind, considering the potential that other

countries might be able to develop and at the same time knowing the great industrial potential that this country has. If those goals are reached by our country each year, do you feel that it will be a very short time or will it be easy for other countries to catch up with the progress that we are normally capable of bringing about?

Dr. BACHER. Let us take a specific example. I think maybe we can do this without getting on too delicate ground.

The British have an atomic energy project. They are setting about the production of fissionable material and have announced that they are developing and intend to produce atomic weapons. I am sure they will be successful in this undertaking. They have all of the technical know-how, all of the scientific background that is necessary for such a development, and I believe it is only a question of time until they do produce bombs.

Now, it is a long step from the production of the first fissionable material to the production of the first atomic weapon. It is another long step from the production of the first atomic weapon to the production of atomic weapons in quantity. It is also another long step from the development of the first reactor to the development of reactors which produce fissionable material in quantity. It is a still further step to the production of reactors which will produce useful power and possibly even breed fissionable material. It is a series of steps, and one must be achieved before the last step can be taken.

Mr. JACKSON. In other words, from what we know now, we are way out in front?

Dr. BACHER. I hope we do not pat ourselves on the back too much for that, Mr. JACKSON.

Mr. JACKSON. I appreciate your feeling about the word "satisfaction," that we should never be satisfied, but I mean, speaking now of facts, what we know of other countries—is it not true that we are way out in front?

Dr. BACHER. I believe there is no question at the present time that the United States is ahead in the development of atomic energy.

Mr. JACKSON. I mean we are not just a little ahead but we are way out in front.

Dr. BACHER. It is my belief we are.

Mr. JACKSON. That is all.

The CHAIRMAN. All right, Doctor. Thank you very much indeed. It is nice to see you again and I hope that future occasions will come about when we can take advantage of your knowledge on this subject.

The Commission has another witness to produce tomorrow morning?

Mr. VOLPE. Mr. Chairman, we have several witnesses that we will produce. There is a little difficulty in travel. Many of these witnesses have to come a long distance and they are very busy men and they have had long-standing engagements. We will have witnesses tomorrow morning. It is a little difficult to say who they will be right now. The names have been mentioned before.

The CHAIRMAN. You do not know what order they will come in?

Mr. VOLPE. That is right.

The CHAIRMAN. We will meet at 10:30 tomorrow morning in this room.

(Whereupon, at 1:22 p. m., the joint committee adjourned, to reconvene at 10:30 a. m., Thursday, July 7, 1949.)

# INVESTIGATION INTO THE UNITED STATES ATOMIC ENERGY PROJECT

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## HEARING

BEFORE THE

## JOINT COMMITTEE ON ATOMIC ENERGY CONGRESS OF THE UNITED STATES

EIGHTY-FIRST CONGRESS

FIRST SESSION

ON

## INVESTIGATION INTO THE UNITED STATES ATOMIC ENERGY PROJECT

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PART 20

JULY 7, 1949

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# INVESTIGATION INTO THE UNITED STATES ATOMIC ENERGY PROJECT

THURSDAY, JULY 7, 1949

CONGRESS OF THE UNITED STATES,  
JOINT COMMITTEE ON ATOMIC ENERGY,  
*Washington, D. C.*

The joint committee met, pursuant to adjournment at 10:35 a. m., in the Caucus Room, Senate Office Building, Washington, D. C., Senator Brien McMahon (chairman) presiding.

Present: Senators McMahon (chairman), Millikin, Knowland, and Hickenlooper; Representatives Holifield and Price.

Also present: David E. Lilienthal, Chairman; Sumner T. Pike, Commissioner; Lewis L. Strauss, Commissioner; Gordon E. Dean, Commissioner; Henry D. Smyth, Commissioner; Carroll L. Wilson, General Manager; Walter J. Williams, Director, Division of Production; Gen. James McCormack, Jr., Director, and Capt. James Russell, Deputy Director, Division of Military Application; Frances Henderson, Assistant to the Chairman; Joseph Volpe, Jr., General Counsel; Bennett Boskey and Everett L. Hollis, Office of the General Counsel; Morse Salisbury, Director, and Rodney L. Southwick, Division of Public and Technical Information Service; Charter Heslep, Information and Editorial Specialist; Dr. Norris E. Bradbury, Director of Los Alamos Scientific Laboratory; all of the United States Atomic Energy Commission; Clark Center, General Manager, Carbon & Carbide Chemicals Co., and William Hume, Superintendent, K-25 Operations, Carbon & Carbide Chemicals Co., Oak Ridge, Tenn.; and Mervin J. Kelly, executive vice president, Bell Laboratories, Inc., New York, N. Y.

The CHAIRMAN. The committee will come to order.

Senator KNOWLAND. Mr. Chairman, before we get started with witnesses this morning, there are just two matters I would like to call to the attention of the committee.

Under date of July 7, a letter was addressed to Mr. William L. Borden, Executive Director, Joint Committee on Atomic Energy, signed by Carroll L. Wilson, General Manager, reading as follows:

DEAR MR. BORDEN: At the hearing on June 29, Senator Knowland requested that the Commission supply information relating to the number of holders of AEC fellowships who have not yet completed and returned the non-Communist oath. This request appears at page 1697 of the stenographic transcript. The NRC has furnished us the following information:

The notifications were mailed to all fellows on June 1, 1949.

Out of 497 fellows all but 21 had signed and returned the form of the oath as of Friday, July 1, 1949. Of these 21, 19 had simply not been heard from. Of the remaining two, one has refused to sign and has been notified of the cancellation of his fellowship; one refused to sign and has resigned.

Of the 19 who have not yet returned the form, some appear to have changed their address. In such cases, a new notification has been sent to the professors under whom the fellows are to work.

No follow-up letter was sent by NRC and no deadline for the the signing of the oath was established. It should be pointed out, however, that NRC will grant no payments to a fellow who has not returned the oath.

Sincerely yours,

CARROLL L. WILSON.

Mr. Chairman, I ask that that be made a part of the record so we may have answers to the questions I have raised.

Secondly, on yesterday I received a paper labeled "Memorandum to the file—For general circulation", from W. A. Hamilton, re AEC contractor salaries (reading) :

The memorandum on this subject to Senator Knowland, dated June 28, 1949, should have been classified "Confidential". This information reached this office on July 6, from the Office of Organization and Personnel at the Commission.

It is requested that all outstanding copies of this memorandum be so noted.

It is initialed "WAH", with copies to Senator Knowland, Senator McMahon, and Senator Hickenlooper.

I want to say, Mr. Chairman, that my recollection is that I had put those communications in the record about the day following the time I received them. They should have been printed in the record by this time.

Secondly, I want to raise a point that there is, so far as I can see, no question involving the national security, and this is a type of classification which seems to me to be unwarranted.

The CHAIRMAN. Let me ask you: What is it that was labeled "confidential"?

Senator KNOWLAND. Apparently it was not labeled at the time it was turned over to me on June 28, but on July 6 they discovered that it should have been labeled "Confidential." It is the salaries of those contractors' employees receiving more than \$14,000.

Now, they are being paid out of public funds. I understand the policy of the Commission is that they must have approval of the Commission when salaries of that nature are paid. It seems to me that since this is the public's business, since no matter of national security is involved, it is an unwarranted use of classification to prevent either the committee or the public from having information which I believe should be unclassified.

I would like to ask, Mr. Chairman, that the staff check up and see if the paper or the material was put in the record at the time I requested it. I understand it has been.

(The data referred to above are marked "Exhibit 19" and will be found in the appendix.)

The CHAIRMAN. As I understand it, Senator, these are merely salaries that are paid to contractors' employees.

Senator KNOWLAND. That is right, of more than \$14,000.

The CHAIRMAN. More than \$14,000 a year. Well, there may have been some reason. If so, it was not followed and at any rate, security has not been impaired.

Is that all, Senator Knowland?

Senator KNOWLAND. That is all.

The CHAIRMAN. Mr. Lilienthal?

**STATEMENT OF DAVID E. LILIENTHAL, CHAIRMAN, UNITED STATES ATOMIC ENERGY COMMISSION**

Mr. LILIENTHAL. Mr. Chairman and members of the committee, it is the Commission's purpose and its hope to conclude presentation of witnesses by Monday noon of next week. The testimony this morning will consist of two parts.

The first part deals with military applications of atomic energy. After some introductory remarks on my part relating to the statute and the Commission's relation to this the witnesses will be the Commission's Director of Military Applications, Gen. James McCormack; Mr. Mervin Kelly, the executive vice president of the Bell Laboratories, Inc.; and Dr. Norris Bradbury, the Director of the Los Alamos Laboratory.

The second part will relate to the production of weapons materials at Oak Ridge, and the witness who will be the general manager, Mr. Wilson, and Mr. Clark Center, superintendent of the Carbide & Carbon Chemicals Corp., the operator at Oak Ridge.

In respect to military applications, I have just this word, principally for the record because it is well known to the members of the committee.

The Commission's responsibilities are derived principally from the provisions of the McMahon Act, notably section 4 (c) (2) and section 6 (a). Section 4 (c) (2) reads in part:

"The Commission is authorized and directed to produce or to provide for the production of fissionable material in its own facilities," and further it is provided that "The President shall determine at least once each year the quantities of fissionable material to be produced under this paragraph."

Section 6 (a) provides:

The Commission is authorized—  
and then the first subsection—

to conduct experiments and do research and development work in the military applications of atomic energy and, (2), to engage in the production of atomic bombs, atomic-bomb parts, or other military weapons utilizing fissionable materials, except that such activities shall be carried on only to the extent that the express consent and direction of the President of the United States has been obtained, which consent and direction shall be obtained at least once each year.

That is to say, under the act the President once a year as a minimum fixes the requirements which bind the Commission in its program activities. The President's determination is, by the practice prevailing since the beginning of the Commission, upon a joint report. There is no requirement that the report shall be joint, but this has been the custom. It is a report which is joint, signed on behalf of the Commission by its Chairman and on behalf of the National Military Establishment by the Secretary of Defense.

This report it has been our custom to make to the President personally, by the full membership of the Commission and the General Manager, and the Secretary of Defense, who is also accompanied by individuals from the National Military Establishment.

How these requirements once fixed by the President are to be met—that is, the program for meeting those requirements—is determined by the Commission after consultation, and ordinarily rather extensive consultation, with the National Military Establishment.

In the formulation of how these requirements are to be met the Commission draws upon the entire organization and a good many of its divisions, notably the Division of Military Application and the Los Alamos Laboratory, the Division of Production, the Division of Raw Materials, the Division of Research and, of course, maintains constant consultation with the General Advisory Committee.

Finally, conclusions as to how these requirements are to be met are developed for the Commission by the General Manager and the Director of Military Application, and in the process of this final development of how requirements are to be met, the Los Alamos Laboratory assumes, of course, major responsibility for execution.

The Director of the Division of Military Application is the General Manager's chief deputy in this area, and he is the chief representative of the Commission itself in the discharge of its responsibilities under the law, under the direction of the President, and under the method of meeting the requirements as developed by the Commission itself.

By provision of the act, section 2 (a) (4) (B), the Director of the Division of Military Application is a member of the armed forces of the United States in active service. Brig. Gen. James R. McCormack has been the Commission's Director of Military Application since the Commission took over the atomic energy project.

General McCormack's staff, the Military Application Division staff, is made up of officers and men from all three branches of the service, plus a number of civilians. As the Director of Military Application is under the General Manager, he is directly responsible for the activities at Los Alamos and at Sandia and is also the Commission's staff member primarily responsible for liaison with the National Military Establishment through the statutory Military Liaison Committee.

The Office of the Director of Military Application is the focal point of the Commission's day-by-day relations with the National Military Establishment, including, of course, the Military Liaison Committee.

General McCormack's deputy is a naval officer who is familiar to members of this committee, Capt. James Russell, who is present here this morning.

I should like, then, to ask General McCormack to carry this presentation further.

**Mr. PRICE.** Mr. Chairman, if I may, we have had testimony on the atomic weapons and the testing of weapons through the hearings, and I think it would be important if we could hear some testimony on what has been accomplished to date about the medical effects of atomic bomb explosions and radiation.

I hope that during the presentation by the Commission some testimony will be given on the peacetime application of atomic energy.

Do you have any plan to make such a presentation?

**Mr. LILIENTHAL.** We had not planned any other than a rather brief presentation by Dr. Shields Warren, the Director of the Division of Biology and Medicine, and Dr. Alan Gregg of the Advisory Committee on Biology and Medicine.

This would be rather a summary of the progress made in this field. There is, however, some very interesting information and experience which has been developed, on the effect of atomic explosions, which could be summarized and presented here in the course of these hearings.

I should think it could be done probably in the course of a half hour, and although this is perhaps not directly applicable to the immediate subject matter of the investigation, it might be appropriately included.

Mr. PRICE. I thought the public would be interested in such a presentation.

Mr. LILIENTHAL. In terms of civil defense, as well as the progress of science and medicine, this is, of course, very proper. With the committee's concurrence, we will see that it is presented.

Mr. PRICE. You will discuss sometime during the presentation some of the peacetime applications of atomic energy?

Mr. LILIENTHAL. We will in the field of biology and medicine, particularly, expand on what we had planned.

I might say also the Commission's semiannual report, which must be filed with the Congress during the month of July, during this month, is primarily devoted to the field of biology and medicine, both as to evidences of peacetime progress and also because of its very direct bearing on civilian defense in the event of atomic warfare.

Dr. Fermi will be here, I believe, tomorrow, and he will have a good deal to say about peacetime application.

The CHAIRMAN. You know, I suggested at one of our meetings last February that it would be a good thing if we took some testimony on civilian defense aspects of atomic energy, and then added as a somewhat sardonic postscript, that perhaps we should not do it because we would let other people know how to defend themselves. About 2 weeks later I read a letter in the *Washington Post*, which missed the fact that I was not too serious about the objection, and they criticized me very much for having suggested that we should take that testimony.

It was quite illustrative of the public mind on it, and I think it would be a good thing if we got some of that in the record.

Mr. LILIENTHAL. Mr. Chairman, this reminds me of earlier statements we have made to the committee about our purpose in seeking to develop a volume devoted to the effects of atomic weapons, an unclassified volume.

It is not too useful to have information—that is, useful for architects, engineers, physicians, nurses, disaster relief officials, and so forth—so highly classified that they cannot have any access to it.

It does present the problems suggested by the chairman's remark. We have been delayed in our concentration on it. It all adds up to this same problem with which we have been wrestling from the beginning: How do we inform ourselves reasonably, without injury to the national defense? And the balance always is: Is it better for us to know this information, would we derive more strength from it than a potential enemy would derive strength?

Well, in this testimony by Dr. Warren you will get a kind of preview of the sort of information which it seems important that the American people must have, the facts being as I believe them to be, as I suggested yesterday in the remarks I had to make, and then weigh the question of how far we have to go in that direction.

**STATEMENT OF BRIG. GEN. JAMES McCORMACK, JR., DIRECTOR,  
DIVISION OF MILITARY APPLICATION, UNITED STATES ATOMIC  
ENERGY COMMISSION**

General McCORMACK. Mr. Chairman and members of the committee, there is entered into your record on June 13 a statement by the General Advisory Committee which contained the following three sentences:

When the Commission took over, the future of the whole enterprise was uncertain, the continuity of production of fissionable materials was far from assured, the design and development of improved weapons was nearly stagnant. In each of these respects, the picture was radically changed. Better weapons have been developed and tested, the production of materials has been substantially increased and assured, and a sound and forward-looking program has been established.

That is the end of that quote from the General Advisory Committee.

Dr. J. Robert Oppenheimer, who appeared before you on that same day, remarked at some length in extension of this statement of the General Advisory Committee, and there are four quotations from his remarks which I should like to recall to your attention at this juncture.

He said:

I think that it is generally regarded by my colleagues that Los Alamos is the best Federal laboratory and the best laboratory working on a military job that there is in the country.

He said further that this laboratory—

has learned a number of things; and it has the courage to try out a number of new things, and it is air-borne. This being air-borne is the result of many things, but it is largely the result of the understanding, the encouragement, the babying if you want, that the Commission has given it. The laboratory could have gone to pieces. It has not.

He also said:

Quite a number of very important improvements in atomic weapons design and atomic weapons manufacture have been worked out. The present program of the laboratory is to carry this further and to get into some new and more difficult things. It is a sound program; it is soundly conceived; and it is going forward full steam ahead.

He also said:

I think the first years of the Commission's administration were in many places a period of great solidification of morale. The laboratory that is closest to me is Los Alamos, and it has certainly changed from the laboratory that was insecure and rather hesitating in its technical work, to a forward-looking, vigorous establishment. The morale of the scientists engaged in making weapons of war is always going to be an unstable thing. We know that. We do the best we can.

That is the end of the quotations I would recall to you from Dr. Oppenheimer.

As regards the quality of the work which has been done in the weapons field during the past 2½ years, I do not intend myself to bring forward any new evidence. I shall try rather to indicate to you how a few of the management problems affecting this work have been approached, and how, through solving these problems in one way or another, we found the means of assuring the performance of the technical work. You may be sure that the work of a laboratory,

for instance, goes forward in the long term only when supported and guided by management which permits and encourages forward motion. You do not get an "air-borne" laboratory—to use Dr. Oppenheimer's phrase—or a solid production program, within the framework of mismanagement.

At the beginning of 1947, Los Alamos was not only the heart of the weapons program—it was in fact the whole of it. And the deficiencies which the Commission found at Los Alamos were many.

This statement is not made, of course, in criticism of the Army management which was then on its way out; indeed as an Army officer myself, I can say that it would be a point of great pride to me had I been connected with the Manhattan project from its beginning until its final disbandment and be in a position to take some credit for its achievements.

However, the simple fact was that at the beginning of 1947 Los Alamos was on its back. The big job then was to sort out from the seemingly infinite number of deficiencies those whose correction should help most in putting the enterprise on its feet again.

It seemed to the Commission that three primary managerial improvements were necessary to enable the laboratory to devote itself to putting the technical work back together.

First, there was needed a long range program of research and development in weapons that made sense from the point of view of military requirements, and also made sense to the laboratory. Such a program was developed and the Commission directed that it be put into effect.

Second, looking toward the future, and looking at the great difference between doing weapons work in peacetime and wartime, we had to find ways of relieving Los Alamos of the work of routine weapon production to enable the laboratory to concentrate more fully on its very vital research and development task. This is easy to say; it is not easy to do.

This business of relieving the laboratory of production is easy to say. It was hard to do.

Third, it was clearly necessary to make Los Alamos into a place which would attract and hold the scientists who would carry out the program of the laboratory. The Manhattan project had begun rather extensive community construction to this end.

All of this had to be done without interruption of a short-term program which would at all times assure continuous production of as many weapons as could be made with the facilities we then had and weapons that were as effective as we could then make.

It was necessary to block out the longer term research and development program in order to give focus to the test program which was urgently required and was carried out the following year at Eniwetok. We, of course, had to make a number of assumptions as to the probable success of the Eniwetok tests. Since those tests, we have found that our assumptions were in the main correct; but of course we have revised them where necessary.

Simultaneously with preparing for the Eniwetok tests we began to remove the burden of routine weapons production from the laboratory. It must be borne in mind that the handful of key people at Los Alamos who had in their minds—not on paper—the know-how of weapons production were the same handful of people who had to

advise and assist in the thoughtful task of laying out the longer term program, and who also had to carry out the extensive and urgent preparations for the Eniwetok tests.

The production task ahead was obviously much larger than the "custom" type of manufacture of the weapons which had been made up until that time. It was clearly in large part an industrial type of job. The Commission, therefore, decided to bring industry into this work and certain technical bureaus of the Army and Navy. In the process of this expansion of production we faced many problems of security, of selection of firms and individuals best suited to the tasks at hand, and of mutual education of scientists and industrialists. We had to arrange also for a complete weapon model change while we were getting production started. The facilities at Oak Ridge and Hanford had to be meshed into the plan. All of this had to be done while a Commission staff, from my office down, and field organization were being built to manage the enterprise, and during a period when the pertinent parts of United States industry were not seeking Government work.

The result, after 2 years, is that the weapons-production program is now on a stable basis. The plants, which are dispersed widely through the country, have cost in excess of \$100,000,000. Thousands of people are now at work in these plants, and the operating budget is a large one. While of course much remains to be done, we believe that all bottlenecks worthy of serious concern in this field have now been broken.

There were at Los Alamos during the peak of the war effort some 3,000 technical workers. At the beginning of 1947 this number had been reduced to approximately 1,500. The Commission has separated those aspects of weapons-development work which need not be absolutely and intimately connected with nuclear developments and are now doing a large part of this nonnuclear work elsewhere. In the process, we are building an ordnance engineering laboratory at Albuquerque, N. Mex. Meanwhile, the Los Alamos Laboratory has gone back up to a strength of some 1,700 persons, devoted primarily to research.

We are relatively in terms of numbers of people devoted to this research and ordnance engineering task about at the same numbers that the laboratory was during the latter part of the war.

The construction of the town of Los Alamos was necessarily begun during an unfavorable period—that is, during 1947 and 1948. The town has cost more to build than it would now cost if we could go back and start all over again. However, had the Commission waited, you would not now have a good laboratory at Los Alamos.

New laboratory construction to replace and supplement wartime facilities was also necessary, but we have held the "replacements" part of this technical construction insofar as possible in a priority second to that of building the town. This is an important point to understand.

The Commission's standing policy has been that Los Alamos shall be built for a program of indefinite duration. This is a most important point. To run a laboratory engaged in such unique work, in a high degree of isolation and in peacetime, it is essential that there be a feeling of permanence to the program.

We have applied throughout the process of revitalizing and expanding the weapons program the highest attainable sense of urgency.

Both Dr. Bradbury and Mr. Tyler have worked under this whip since 1947. It has been the Commission's policy that there shall be no slackening of impetus and incentive if we can possibly avoid it.

As in the case of the main effort of this country during the war years, this policy has had two results: The job is getting done, but there have inevitably been some untidy administrative odds and ends. On this point I would make one general remark: That since the administrative and management effort has as its main purpose the success of the technical effort, one has to look at both to be able to judge either.

So much for my voluntary remarks. I would like to remark on one of the gentlemen who will follow me that Dr. Bradbury needs no introduction to you and no plaudits from me.

On December 31, last year, some 6 months ago, the University of California asked to be relieved of the operation of the Sandia Laboratory. That is our ordnance engineering development laboratory, and liaison with the armed forces, with a rather marked industrial aspect. The university had decided, after careful thought over a period of years, that this type of work was really not suited to an academic institution. They felt it better for the university, better for the Los Alamos Laboratory, and better for the effort at large if another type of contractor could be found.

This posed us, of course, a rather serious problem because it involves the several types of work we have talked about. It also involved a type of program which cannot stop and wait while being built for the future. It has to roll every month and every day.

Many proposals were put forward as to the best way to run the Sandia Laboratory upon withdrawal of the University of California, which they had requested be effected by July 1, and we shall be a little late making that deadline.

Those of us inside the program were a little afraid to judge among the seven or eight major proposals for doing this. We were a little afraid we would be too myopic, that we had been too close to it and might be worrying too much about this week and next week. We decided to go out and find the best type of qualified person in the country outside our program to come in and look at Los Alamos, look at Sandia, look at even the fringes of the production program, and give advice on this point.

Dr. Oppenheimer has said that Los Alamos is the best Federal laboratory in the country. If one were looking for a laboratory to which "Federal" need not be applied, if you were looking for the best laboratory in the country, not a Federal laboratory, I think you would look to the Bell Laboratories, of which Dr. Kelly is the executive vice president.

He very generously gave us, over a period of 6 weeks during March and April, a great portion of his time. He actually spent 3 weeks on the ground in New Mexico, at Los Alamos and Sandia, talking to the armed forces, members of the Military Liaison Committee here in town, all members of the Commission's staff, the Commission and laboratory people, manufacturing employees. He really gave us a working over. He found some fault with us. We had asked him to do so.

Based on his recommendations, we are in the process of finding a new solution to the management and direction of the Sandia Labora-

tory. But in the process of investigation he found many things which I think it is important that you should hear, as well as the Commission, to the extent that they can be said publicly and to the extent that Dr. Kelly may say them. I do not know what he is going to say this morning.

The integrity of the technical and scientific people who are the top in this country goes without question, and it will certainly never be questioned by any of us, but I would invite your attention to the particular point that in addition to this integrity, Dr. Kelly also has an independence from the Commission's programs. This is the end of my voluntary remarks, sir.

The CHAIRMAN. Are there any questions?

Senator HICKENLOOPER has a question.

Senator HICKENLOOPER. General McCormack, I have been somewhat confused about the general down-grading that has been going on as to the Manhattan District. In other words, the general connotation that the Manhattan District was a bankrupt, failed concern, and that it had to be revitalized from the ashes, and so on.

I rather had the idea that the Manhattan District had done quite a job, that it started out with a theory and built an atomic bomb, and that that was the purpose for the Manhattan District. It was a war purpose, and they did quite a remarkable job in 2½ years, at the expenditure of about \$2,000,000,000.

They built many plants, and they started out, as has been said before, a "gleam in a scientist's eye," and the scientists and technicians did produce atomic bombs, and the war was ended.

Now, I am pretty proud of the Manhattan District. It is not a part of my matters here, but at the proper time and if the occasion arises, it is going to be a great pleasure to me to defend what I think is the greatest industrial and scientific accomplishment that has ever been created by man.

So that I do get a little restless once in a while about the depreciation of the Manhattan District, that it had to be taken by the sock heels, if you please, and revitalized.

Now, the atomic bombs were dropped over Japan, I believe, sometime in about August of 1945. As I understand it, that was the purpose of the Manhattan District, to get a bomb on the enemy, and that was accomplished. The war ended shortly after that. Is it not true that the Manhattan District, as a purely military operation for a war purpose, then went into a period of uncertainty? No one knew from that fall of 1945 whether a civilian operation or a military operation would be the policy for this great new atomic project. Is not that your understanding?

General McCORMACK. It is, sir.

Senator HICKENLOOPER. Do you know whether or not the President or anybody else ever gave specific direction to the Manhattan District after the fall of 1945 to go ahead and produce a certain quota of bombs?

Were those directions ever given, to your knowledge?

If that is classified information, I shall not press for it.

General McCORMACK. I have no knowledge on that point, sir.

Senator HICKENLOOPER. I may say I have no knowledge that any direction or orders or program was laid out for the Manhattan District during that uncertain period to go ahead and produce a specific quan-

tivity of weapons, and that, in fact, the Manhattan District did go ahead and hold itself together only pending the determination of the Congress on the policy of this country toward atomic energy.

Now, is that a fair statement, General?

General McCORMACK. It is, indeed, sir.

Senator HICKENLOOPER. So that on January 1, 1947, when the Commission came into power, they took over an organization and an installation that had been held in abeyance dependent upon the public policy that the Congress would adopt. Is that a fair statement?

General McCORMACK. Yes.

Senator HICKENLOOPER. Now, General, I think we have gone ahead and produced weapons in this program, and I have never disputed that. I am raising no issue on that score. But so far as Los Alamos is concerned, of which you have talked quite a little, the same contractor is running Los Alamos now who ran it during the Manhattan District, the University of California.

General McCORMACK. Correct, sir.

Senator HICKENLOOPER. And, generally speaking, the top scientists and top technicians at Los Alamos now are the same—that is, generally speaking—the same technicians and same able scientists who operated it during wartime.

General McCORMACK. Dr. Bradbury was appointed by General Groves, and many of the key people from that time are still there.

Senator HICKENLOOPER. He is doing a grand job, in my opinion, as I have said before, so that we have a continuation of the operation. In other words, there is a continuity, but there was a period of, we might call it “quiescence,” until policy was determined and the Congress did determine that a civilian control would be the policy of this country in accordance with the McMahon Act.

Those are my understandings of the situation, and I merely wanted to be sure that I am not making an unfair statement about the matter.

General McCORMACK. I would certainly hope, Senator Hickenlooper, I have not been misunderstood. I think the Manhattan project was one of the greatest achievements of all time. I truly do. At the end of the war, pending the legislation which was finally passed, I do not think any one—and I speak to the point of Los Alamos—could have done during the period of 1945 to the beginning of 1947 what it has been possible to do since the beginning of 1947.

I think the strength of character and constancy of purpose of General Groves, backed up by then Secretary of War Patterson, held it together as well as it could have been held together.

Senator HICKENLOOPER. And I think there were a great many other outstanding scientists and technicians who furnished that hard core of determination and intelligence. I know you would not leave them out.

General McCORMACK. Absolutely. I speak of what can be done from Washington, and Washington cannot do everything.

Senator HICKENLOOPER. I think that is all, Mr. Chairman.

Mr. PRICE. Mr. Chairman?

The CHAIRMAN. Mr. Price?

Mr. PRICE. I did not understand you to be attempting to depreciate the work of the Manhattan District in any way. As a matter of fact, you stated in your talk that you would have been proud to have been

connected with it during the war. You were merely stating the condition that the Atomic Energy Commission found when it took over the project, were you not, General?

General McCORMACK. That was my purpose; yes, sir.

Mr. PRICE. I imagine you also have a sense of pride in having been associated with the Commission during these few years.

General McCORMACK. I have a dual pride. I am in the Army, and the Army did it first. I am in the Commission, and the Commission took it over.

Mr. PRICE. That is all I have.

The CHAIRMAN. Mr. Holifield?

Mr. HOLIFIELD. You were at Eniwetok at the tests, were you not, General?

General McCORMACK. Yes, sir, for a part of them.

Mr. HOLIFIELD. Part of them? What was the experience of the military in their relations with the Atomic Energy Commission? Was it a satisfactory arrangement that they had? Was it without obstruction and interference, or did they have continuous trouble with the Commission in pulling off that great test out there?

General McCORMACK. Complete satisfaction was expressed both by Secretary Forrestal and by General Hull, who was the Task Force commander, and who is now here in town, incidentally.

Mr. HOLIFIELD. The subject during the hearings has been brought up of emergency clearances for that Eniwetok test. There were several thousand people involved. In your opinion, were the emergency clearances on that test taken care of in a businesslike way; that is, with due regard to the security of the Nation?

General McCORMACK. I think it was very well done, sir.

Mr. HOLIFIELD. If more complicated methods of security clearance had been adopted, would it have delayed the tests appreciably and prevented the culmination of the tests?

General McCORMACK. One gets around complications, Mr. Holifield, if one has time to prepare and lay the groundwork. The trouble we met in connection with preparing for the Eniwetok tests was the short period of time we allowed ourselves, which required a larger number of emergency clearances than would have been required if we had had an additional year to prepare.

The matter of emergency clearances is in a sense like a chain reaction. You have to clear first a person who can discuss a problem to see whether he thinks in general his organization can do it or to see in general how he should map out his organization to do it.

Next, when he has made up his mind—and he might say, “No, I cannot do it,” and then you have to go to another place and start over again.

When he makes up his mind, then there must be one, two, three, four, five or six key people who have to build their part of the pyramid. It builds downward. The question is not, “Does it take 2 weeks versus 3 months as between emergency clearance and the full procedure for an organization?” The question is, “How many successive steps are there to which this gap applies?” If there happened to be four steps, if the difference happens to be a month, then it is not 1 month, it is 4 months. The armed forces, too, would have been, I think, terribly handicapped in creating the task force, which was so very ably

created, had it not been for emergency clearances. If you want to go more in detail on this, Captain Russell, who is here with me, was the test director and ran it from the beginning on through to the end from the Commission's point of view.

I made half a statement a moment ago. I said Secretary Forrestal and General Hull expressed complete satisfaction with the Commission and its work and the laboratory and the people they had to deal with and the methods with which we went about doing our work.

I would like to say the Commission expressed an equal satisfaction with the armed forces. It was a marvelous team. It really was. Those of you who were there must have noted it.

Mr. HOLIFIELD. Thank you.

Senator HICKENLOOPER. Just for the record, I want to say at the moment, as far as emergency clearances at the Eniwetok tests are concerned, they have never been an issue that I raised at all. Any references to emergency clearances that I have made are entirely aside and apart from the Eniwetok tests which had a peculiar situation.

The CHAIRMAN. Were they part of the number—

Senator HICKENLOOPER. There might have been a few in the 30-day period.

Mr. PRICE. I think there were.

The CHAIRMAN. In the gross number?

Senator HICKENLOOPER. There would have been perhaps a few included in the months of perhaps March and April of last year.

The CHAIRMAN. How many were the emergency clearances that we have discussed? Something like 2,800?

Senator HICKENLOOPER. 4,000.

Mr. VOLPE. Close to 4,000. Captain Russell has the figures.

Senator HICKENLOOPER. Just over 4,000.

The CHAIRMAN. How many were in connection with the tests?

General McCORMACK. Captain Russell may have this figure.

The CHAIRMAN. While he is looking for it, General, as I understand the situation, we can analogize it to what we find in Detroit. When they are going to make a new model of an automobile, they build a hand-made model. Every bit of it is made by hand.

After they get the model the way they want it, they put it into mass production. They build an assembly line. If they did not do it that way, of course, we would not have automobiles.

Now, as I take it, the Manhattan District built by hand some atom bombs. When the Nagasaki bomb was dropped that was all we had. Models had been used, according to Mr. Stimson, and then you had to build an assembly line.

Is that a fair analogy?

General McCORMACK. It is a rather scattered line, but I see your point.

The CHAIRMAN. That is what had to be done.

General McCORMACK. It was a question of manufacturing component parts and bringing them together in a scheduled manner. I only point out that the geographical location of our assembly line is different.

The CHAIRMAN. I am analogizing it to industrial production. You had your hand-made models, and now you had to get into production.

General McCORMACK. And we had to prepare for production of the

model which had not been completely developed. It is a tough job to tool up for production before development is completed, and we had to tool up before Eniwetok, gambling on our success. We did not dare gamble on complete success, but we gambled on partial success, and we actually had more success than we had a right to expect. This caused some of the staff to do some of the work over.

The CHAIRMAN. There was an unfortunate period during 1945, 1946, and 1947, but it was not all due to the Congress, either, as one who was right here in the middle of it can very well testify.

Senator HICKENLOOPER. Mr. Chairman, I was not blaming Congress or anybody else. I think it was a normal time in which intensive study had to be made. I do not think there is any criticism of the gap.

The CHAIRMAN. I just wanted to get it into the record that we had a pretty good group of lobbyists around in those days.

Do you have those figures now?

Captain RUSSELL. I can speak to the figures on clearances in the Eniwetok operation. We had a total of 2,504 full "Q" clearances. Of this number, 2,086 were newly processed for the Eniwetok tests.

Our "Q-E" clearances, the great number of which were later shifted to a "Q" clearance, by mid-April numbered 792. "Q-E" are emergency clearances.

The CHAIRMAN. Seven hundred and ninety-two of them?

Captain RUSSELL. That is as of mid-April. I think we probably ran up to around 900 or a thousand eventually by the end of the exercise.

The CHAIRMAN. All right.

Captain RUSSELL. I would like to add also that there was a so-called "P" approval, in which there was an investigation to determine whether a man was fit for the expedition itself. We had 11,281 "P" approvals in addition to these full FBI clearances, and the short-term clearance, the Q-E or Q emergency clearance.

The CHAIRMAN. Thank you.

All right, Mr. Kelly.

#### STATEMENT OF MERVIN J. KELLY, EXECUTIVE VICE PRESIDENT, BELL LABORATORIES, INC.

Dr. KELLY. Mr. Chairman and gentlemen of the committee, as General McCormack has told you, the Commission requested me, in the latter part of February, to make a study of operations on the missile job at Los Alamos and Sandia with the principal object of advising with them as to the best method of carrying forward part of the operation that the University of California wished to withdraw from.

As the General has said, several alternatives had been proposed, and they wished an outside look at the situation and an appraisal of these alternatives and a recommendation. At the same time, the General asked, since it was necessary for me to look at the operations quite closely, that I appraise the general effectiveness and general direction of effort.

Now, the survey that I made was a survey by Kelly as an individual. The laboratories very kindly gave me the time, and my study and the reports that I made afterward were entirely matters of my own judgment and not matters of the laboratories' judgment and responsibility.

The CHAIRMAN. Now, Doctor, you are the director of the Bell Laboratories?

Dr. KELLY. I am the executive vice president of the laboratories, and in that position I am in charge of all internal operations. Dr. Buckley, the president, to whom I report, handles all of the outside relations and policies; all of the organization reports to me.

Now, before going out to the scene of operations, the Commission made it possible for me to get as much background as I wished. It might be called preparatory briefing. That was with members of the Commission and its staff, members of the military liaison committee.

Incidentally, Mr. Webster, the civilian chairman of that committee, went out with me and was there for the first several days of my visit, and General McCormack went, and scientists of the Manhattan District days who had left the project and returned to their places in universities; they were made available to me for discussion.

With that background, I went to the New Mexico area and spent some 18 full days looking in great detail at all operations in New Mexico and also the extension of the New Mexico operations in southern California.

You might wonder as to why so long a time was taken. This is indeed a complex operation; probably as complex as any single operation in applied science. It extends from basic research through development, design, manufacture, and control of manufacture by others, storage, and surveillance. It is an area in which I have spent my whole professional life.

This work, I found, required research physicists, chemists, metallurgists, and mathematicians, electrical and mechanical and chemical engineers, with their various technical skilled aides.

The method that I followed was to have general discussions from time to time with General McCormack, Captain Tyler, Dr. Bradbury, and his two associate directors of the organization as to the philosophy of operations.

I would say that I spent some 10 percent of this time with them. I visited all areas of the work and discussed it with the work leaders. Perhaps 20 percent of the time was spent with the division leaders, reporting to Dr. Bradbury, and 60 percent of the time with those in the organization of the division leaders.

Incidentally, all of my discussions and visits were not supervised or followed by people at levels of the organization above that with which I was working at the time. I was given complete freedom and co-operation by the University of California staff there and by the Commission staff.

The program was my own, and it developed as I went along. I spent about 10 percent of the time, the final 10 percent, with the armed forces special-weapons organization at Sandia, which is the junction point with the Commission on use of atomic missiles.

After this survey, my general conclusion was that it was a very good organization, doing a fine job. As a citizen I was very much comforted, for it had been my belief that because of the importance of this work to national security, the whole missile area, from missile research through manufacture, should be the best that American science, technology, and management know-how could provide.

The set-up that I had studied was well on its way to meeting this high standard and was made up of the ingredients essential to ultimately meeting this standard.

By this I do not wish to imply that all was perfect, for it was not, but considering the low point reached after the war, which has been previously discussed, tremendous progress has been made in less than 3 years.

There has been established a solid foundation for continued progress. You know, good laboratories, like good wine, improve with age, and a perfect laboratory is not built in 3 years.

As was to be expected, there was the greatest need for continued improvement in those areas of the project near the end; those farthest removed from basic research; those involving the know-how peculiar to the industrial scientist, engineering, and management.

I may say this fact was already recognized by the management, the General here, Captain Tyler, and Dr. Bradbury.

I would like to briefly point out the major factors contributing to this sound and promising situation.

First, the environment for the technical job was excellent. By that I mean there had been by the Commission a proper delegation of broad technical authority and freedom to the Director, which is most essential to the technical management of a project of this complexity and special nature. I found Dr. Bradbury had adequate freedom in organization, personnel recruitment and development, and programs. When I say freedom and programs, I do not mean to imply by that that the specially planned specific missile developments or manufacture were not well-programed and heavy pressure was being put on to meet the best that could be done in time on this effort, but in the broad area of research and development management program he had the required technical leadership freedom.

There was also, second, a splendid Commission staff support on all these aids to technology that represent servicing headaches that are most time-consuming and irritating to a technical management, if it has to do it itself, or equally time-consuming and irritating, if they are not done well by others. This aid of the Commission staff to the University of California staff in the general servicing and handling of all of the nontechnical things possible to separate from the technical leadership was in good hands and well handled, and I found a splendid relationship between Captain Tyler and Dr. Bradbury.

Third, the technical management, including Dr. Bradbury's two associate directors and his division leaders, rate high in their competence for the job. That was a thing that was very important to appraise and to evaluate, because in work of this nature, in general any cooperative efforts, leadership is important, but in work of this nature, with the kind of people involved, leadership of the right sort is most essential if results that are possible are to be obtained and high efficiency is to be realized.

Dr. Bradbury and his associates had recognized weaknesses in their staff. There was evidence of that because in the 6 months previous to my being there, two new men were brought into the picture at high levels of supervision, one at division level and one just beneath that, which materially strengthened the organization and plugged up spots that were not as strong as others.

Fourth, the technical staff, the professional staff, was strong. A good job of recruitment had been done during this almost 3-year period, during a period of generally good job opportunities. Those of us in industry, who were going out after the close of the war, trying to do recruitment of scientists, young scientists and engineers, those whom we had not been able to secure during the war, found very stiff competition from our associates, from the other laboratories, and there was generally a scarcity of top people.

The technical staff there under Dr. Bradbury had shown good vision in recognizing that only top men, only superior men were adequate to the needs of this highly technical job.

I can assure you from a very close inspection, seeing probably some 150 or so of the men during this time, and from a close study of the personnel cards, personnel history, training, background, experience, if any, before they came there, of all members of the technical staff receiving about \$4,500 a year or over, that a fine job had been done and that we have a staff of training and superior mentality required for doing this highly technical job.

Fifth, the internal morale was high, and teamwork was good. This is evidence of good leadership and proper environment, but the teamwork is essential in big undertakings of this sort, and the teamwork was good.

Sixth, the laboratory housing was poor. The housing that was put up during the war was put up on an emergency basis and without a complete vision of the whole, and grew rather like Topsy with relatively temporary buildings. The old housing was really inadequate for the permanent kind of job to which the general referred, and which they were setting up there and which should be set up as a permanent job in order to build properly. But there were good plans for improving and building permanent laboratory structures.

I went over those plans in detail with Dr. Bradbury and Captain Tyler, and when they get the housing, the laboratory housing, that is planned, they will have adequate and good facilities. These are essential because proper facilities are one of the important elements of effective work.

Mr. HOLIFIELD. Dr. Kelly, may I ask you a question? In the location of the new development on the new mesa, are you in full approval of the necessity for building the new development and did you approve of the location?

Dr. KELLY. I think that the lay-out for orderly work that will result when they are complete is good. I do not know the pros and cons of other approaches or why that was put on the mesa there as against anything else. I looked at completed plans and thought it through as to how the different elements of the project could operate when the plan was accomplished and completed, and found it good. I cannot speak of alternatives or as to particular reasons as to why that mesa location was chosen.

I found the program balance good and that is very important in an effort of this sort, covering the wide scope from basic research through manufacture. It is most important to a project that is continuing indefinitely that it be balanced and always ready to move forward the technology as rapidly as the total force on the job will permit.

Even with the great and immediate urge for improved weapons and increased manufacture, I found that the fundamental research and development program that insures the future, that provides a reservoir of basic knowledge from which better and much better missiles could ultimately be developed, that it was going on in proper balance to the whole. Also a very active program and good work on improved methods of evaluating what they had.

That is one of the very difficult things in this kind of work. Of course, the final pay-off is the dropping of a missile such as at Eniwetok, but the more you can devise, through instrumentation and through theoretical considerations to get at figures of merit that allow you to move along with no more than the essential tests, the Eniwetok tests, the better work can be done.

As to the outside relationships, the outside relationships are especially important in this isolated laboratory. I would like to speak about those in the different sectors, principal sectors of importance.

First, within the remainder of the atomic energy activities area, by that I mean Oak Ridge, Argonne, Hanford, I found good liaison and good cross-connections of knowledge between the programs. Actually, the week after I left there there was an internal scientific meeting at Los Alamos of the scientists from these different laboratories, all of them being cleared, and, therefore, they could talk about the basic physics that was fundamental to this job. They were having a meeting much like the physical society meetings, except on classified material, and the contacts on matters of business on the technical things that flow between these organizations were in very good standing and being well done.

Lines were open, avenues of communication were open and easy, and so the internal relationships within the Commission were good.

Second, the academic world—that is most important. First, it is most important to the specific job itself; and, second, to the morale and retention of scientists of high caliber. I found evidence that this was being worked at and recognized by the list of consultants that were available to the laboratory. This list would include the names of top scientists of the country who could contribute to different elements of this program. For example, Dr. Bethe and Dr. Teller in the area of fundamental and analytical nuclear considerations. The fact that men of their caliber were willing to give their time and found it worth their while to give their time, some of these men coming there for the summer—Bethe was to be there part of this summer—indicates that they were finding an intellectual atmosphere there that was of a level where they could get stimulation and where their ideas could be evaluated and used. They had a large number of outside consultants who were used to different extents, depending upon the areas of work. So that is in good order.

Finally, the contacts with the user—the armed forces. The armed forces have set up, in the armed forces special weapons project organization, an organization at Sandia that is adjacent to that of the Atomic Energy Commission's activities there, under the leadership of General Montague, and this is a most important relationship—the user to the developer—and needs to be very intimate. In its finest qualities, when it is perfect, there would be no evidence of a boundary line at all. There would be a complete and easy flow across that line.

Actually, in the early days of the Commission there was good evidence that that relationship was not so good. It is steadily improving. The Sandia Laboratory itself has taken the initiative in helping to improve it. General Montague and his people meet that fully. A foundation is set for a continuing better developer-user relationship.

These are the things that I reported orally to the Commission, its staff, and to the Military Liaison Committee in three separate sessions upon my return from this 18-day trip; also, of course, with my recommendations for the handling of this part of the contract that the University of California was withdrawing from.

In addition to the things I have said, quite naturally, I spoke of particular things. I said initially, of course, the job was not perfect; that from my background of experience I thought improvements could be had. Those are of a classified and detailed nature, and I do not need to repeat them here.

Thank you.

The CHAIRMAN. Any questions?

Senator HICKENLOOPER. No, Mr. Chairman, except I am glad to hear Mr. Kelly's report, because I think, in the main, it coincides with my belief that the technical end of this matter has been going along in very good shape, and I think I have observed some of the same things Mr. Kelly referred to about those matters. I do not have any questions to ask him.

The CHAIRMAN. Mr. Holifield?

Mr. HOLIFIELD. No questions.

The CHAIRMAN. Mr. Price?

Mr. PRICE. I would like to ask a few. You stated that you studied the Los Alamos Laboratory in some detail. I wonder if you would care to compare it with other laboratories you know about or have visited.

Dr. KELLY. Of course, its job is a unique job, but as an organization of spirit, enthusiasm and the kind of morale essential to progress of the kind exemplified in our best industrial laboratories. I would agree with Dr. Oppenheimer's statement.

Mr. PRICE. The laboratory is operated, as I understand, by a private contractor.

Dr. KELLY. The University of California; yes, sir.

Mr. PRICE. What do you think of that method of operation?

Dr. KELLY. As exemplified in operations there, I think it is splendid. It could well be, under different circumstances or with a different set of individuals, that there could be roughnesses and unwise lack of cooperation, but as done there, there was none of that, and there can be none of that. It also had the advantage inherent in that situation, inherent in that contract, of easier academic atmosphere. I believe the morale of the men, especially in the forefront of the work, fundamental science and fundamental development, is higher as a part of the University of California, their sense of academic position greater, and their freedom is certainly appreciated in that; and I believe that I could honestly state from discussions with the men and knowledge of that type of man, that many of the key men there would probably not be available in a Government-operated laboratory.

Mr. PRICE. I wonder if you would care to comment on the caliber of management that you observed during your studies that enabled the

scientific and technical advances to be made as you outlined in your presentation.

Dr. KELLY. The quality of the technical management?

Mr. PRICE. Management, in general.

Dr. KELLY. I would separate it into the technical and the general managerial functions of the Commission itself. As I stated, Dr. Bradbury and his echelon of people reporting to him would rate very high as research and development leaders in any industrial laboratory. They have been carefully selected, and, as I have pointed out, they have done some weeding, and I should say they are adequate to the job, and it would be hard to recruit an equivalent group.

Mr. PRICE. I gathered from your statement that you were impressed with the relationship between the Commission and the Military Establishment.

Dr. KELLY. That is right. As I said, it had started from a situation that I would call rough and unsatisfactory to one that I would say is now satisfactory and is moving in the direction of being very good.

Mr. PRICE. Mr. Chairman, that is all the questions I have to ask Dr. Kelly, but I would like to clear up a part that developed earlier this morning on the question of emergency clearances.

Senator HICKENLOOPER. I wonder if I could ask Dr. Kelly just a question. What was the date of the inspection?

Dr. KELLY. From about March 15 to about the 1st of May. I was there two times, and I do not remember the dates. It was during that 6 weeks' interval.

Senator HICKENLOOPER. This year?

Dr. KELLY. Yes; this year.

Senator HICKENLOOPER. Thank you.

Mr. PRICE. Mr. Chairman, earlier in the hearing it was developed that we were talking about the emergency clearances at Eniwetok, and I believe that Senator Hickenlooper stated that he had not raised the question of emergency clearances at Eniwetok; that they were not involved in his general charges in relation to emergency clearances.

I would like to point out the section of Senator Hickenlooper's remarks in the hearings before our committee as printed in part III of our printed report at this time. When we were discussing the question of emergency clearances, there was some question brought up at the time—this is a quotation from the Senator at that time, and it is as follows:

I think it has been amply stated here that the Eniwetok tests were among the most highly secret and carefully guarded experiments and tests that we have had since the first bomb in White Sands in New Mexico. I also state to this committee that the committee knew the approximate time of the Eniwetok tests weeks and weeks before the tests occurred. There was in my judgment ample time for investigation of the personnel and yet I submit, Mr. Durham, on that point, that in the most highly secret and most carefully guarded experiment that we have had many, many emergency clearances were given without any investigation by the FBI, although time was, in my judgment, available for such a situation.

So, I would like to submit, Mr. Chairman, that the clearances in the Eniwetok tests were involved in the general question.

Senator HICKENLOOPER. I recall Mr. Durham mentioning that. The question of emergency clearances does not specifically refer to the Eniwetok tests. It is a current month-by-month policy, is the main point of my reference to the emergency clearances, running month

by month over the last 2½ years, of which Eniwetok could even be left out, or which might be an incident in the entire clearance policy.

Mr. PRICE. Of course, Senator, in another section of this testimony, one of the points brought out in your discourse was the fact that the second year of operation in 1948, instead of 818 people cleared on an emergency basis with access to restricted data, 2,103 people were given emergency clearances.

I would like to point out that the reason for that jump at the time was the Eniwetok tests, so I think this is a perfect question to be considered in connection with the issue.

Senator HICKENLOOPER. Of course, we have not had any Eniwetok tests since April, and the clearances have been running from 115 to 150 a month, which is pretty close to 2,000 a year since then.

Mr. PRICE. Well, of course, I had the personal feeling that the Commission has fully explained those conditions in their previous presentations.

Senator HICKENLOOPER. Except the provision of law that prohibits it.

The CHAIRMAN. Now, we have Dr. Bradbury.

Dr. Bradbury, I am glad to see you.

Dr. BRADBURY. Thank you, Mr. Chairman.

#### **STATEMENT OF DR. NORRIS E. BRADBURY, DIRECTOR OF LOS ALAMOS SCIENTIFIC LABORATORY, UNITED STATES ATOMIC ENERGY COMMISSION**

The CHAIRMAN. There have been some very nice things said about you preparatory to your coming, so you are well introduced.

Dr. BRADBURY. I have been embarrassed to hear them.

The CHAIRMAN. Well, there were some said when you were not here.

Dr. BRADBURY. Gentlemen, my remarks here this morning will deal, I hope, with the general problem of the environment provided by the Commission for what I hope has been a successful operation of a technical laboratory.

You have heard in some detail the story of the difficult period faced by the Los Alamos Laboratory following the termination of the war. I would like to substantiate Senator Hickenlooper's remarks regarding the role of the Manhattan District during this time. It is quite true that we faced and went through very difficult and trying times.

It is also true that the Manhattan District took every possible step that it could to assist the laboratory, to start it out on a permanent career, and that great credit should go to General Groves for the decisions which he made, practically as an individual, during that time.

However, it is quite clear—it was clear to us at the time, it was clear to the War Department, it was clear to personnel that we might want to attract or keep—that neither General Groves nor the War Department could make a permanent commitment. They might have a philosophy, but there was not any guaranty that that philosophy would be borne out.

This sort of assurance, which is essential to the operation of a laboratory, was not forthcoming until the passage of the Atomic Energy Act of 1946 and the establishment of the Commission in the early part of 1947.

I hope it is clear that these steps taken by the Manhattan District during this time were every possible step that could be taken, but even

the best of intent during that time could not entirely prevent the rather continuous decline of morale up to the time of the passing of the Atomic Energy Act. This act appeared to us at the laboratory to be a proper and right thing. The selection of the Commission and their confirmation also appeared to us to be a right thing, the right people for the right job.

At that time, and from that time onward, the laboratory had a stable foundation on which to build.

I would like, therefore, to discuss briefly some of the administrative environmental things which the Commission has provided for the laboratory, not from the point of view that no other institution or organization or group of people could have provided these things, but from the point of view that these things had been provided and that they have contributed in their way to the growth and the progress and the results of the laboratory's technical and research activities.

Let me deal first of all with the matter of setting up a laboratory program. The way in which the Commission has gone about this is as follows: The Commission first asked the laboratory in 1947, in January of 1947, what its senior staff thought the laboratory should be doing.

Accordingly, we presented a program, both a basic philosophy for the long-term operation of the laboratory, and a specific program for the short-term period ahead. This program was based upon the assumption that the Los Alamos Laboratory should be the Nation's laboratory for research and development in the field of the potential military applications of atomic energy.

These applications would have various aspects. At that time there had to be a production aspect because no other laboratory or no other agency was available for the fabrication, the production, and certain other aspects of atomic weapons.

There had to be a short-range aspect to the philosophy with respect to research and development whose goals could be foreseen in 2, 3, or 4 years. There had to be a middle-range philosophy of laboratory goals which might require 5 to 10 years for their accomplishment, and goals toward which progress could not be specifically programmed, but which could be outlined as lying within general fields, and, finally, there had to be goals whose consummation might be 10 to 20 years away and toward which the research would be largely basic and stemming from the philosophy that if there are new ideas which might have military applications these ideas must be found in this country and must be found before any possible competitor can unearth them.

This program, this philosophy, went to the Commission from the senior staff of the laboratory. It was examined by the Commission; it was taken up with the various military agencies. The needs of the military were considered, the contribution of other laboratories and agencies of the Commission to our program were taken into account. These things were correlated, worked together and the program came back to us largely approved, but again coordinated with these other agencies, and with the suggestions of the military people involved, and given to us as directives regarding priority of development, time schedule of development, and questions of that sort.

I hope it is clear that this method of approach is one which is very intriguing and very attractive to the technical personnel operating a laboratory and the scientist feels as if he had a definite part in establishing a program of the laboratory; when it is done, he feels that he

has contributed the best technical ideas that he can to national policy; that these have been considered, they have been coordinated with other necessities, needs, and programs; and that he is an integral part of the technical program of the country in this field.

The next thing which I consider the Commission has done for us, and done well, is to provide us with a satisfactory contractual relationship.

As has been said, the University of California operated the laboratory for the Manhattan District during the war. At the close of the war, and at the time and up to the time the Commission took over, the Manhattan District requested that the University of California continue. This they did, recognizing that this was an interim situation, ultimately to be clarified by legislation.

Various possibilities of operating the laboratory were considered by the Commission when they took over in January of 1947. It was our opinion at the laboratory that an academic contractor provided the best possible administrative framework for the operation of a laboratory whose primary philosophy was research and development.

There are a number of reasons for this: Perhaps, the most conspicuous is the fact that by far the larger part of our technical staff and practically the entirety of our senior technical staff have academic backgrounds. They are accustomed to working for academic institutions; they are accustomed to working in academic environments, and the success of academic laboratories in advancing fundamental knowledge is one of the conspicuous attributes of the research progress of this country.

A strong academic contractor, with experience in operating research and development activity, with experience in handling technical personnel, knowing their needs, their requirements, their psychological reactions, seemed to us an extremely important thing. We were of that opinion in 1947; we were glad the Commission shared it. We still are of this opinion, and I believe the Commission still is of the same opinion, as well.

The first start, to take up another subject, toward a permanent Los Alamos Laboratory was, as I have said, made by General Groves when he initiated in the early part of 1946 a permanent housing program.

This was a drastic step on his part. It did good. This program was continued and amplified by the Atomic Energy Commission, following their assumption of duties.

I cannot emphasize to you too strongly the importance of providing for technical personnel adequate homes, adequate community facilities, adequate schools, and adequate medical care.

You must remember that during the period following the war—and it is true at the present time—that senior technical personnel—for that matter junior technical personnel—have had offered to them a wide variety of jobs. There are intriguing academic offers; there are numerous industrial offers. No scientist has to work on atomic bombs, nor does he have to live in a Government community where he cannot own his own home, but he chooses, and it is important that we offer an excellent environment to these people, which is as near normal as possible, so that they can be proud to live at Los Alamos; they can be happy to live there, and their families can be happy.

The patriotic motive is strong in people, I will admit. It has gotten more so in the years following this war. The necessity of doing this type of work appeals and appears to more and more people as a strong thing. However, a patriotic motive cannot be counted on to induce people to live under wartime conditions, under boom-town conditions, under conditions resembling a Government construction camp.

I think the steps that the Commission has taken to make Los Alamos a good place to live have not only been essential to our progress but they have been instrumental in our progress.

Senator MILLIKIN. Mr. Chairman, may I ask a question, please?

The CHAIRMAN. Surely.

Senator MILLIKIN. I am not challenging anything that you have said. Is it not true that this subject of atomic energy is the hottest subject in science at the present time?

Dr. BRADBURY. I would say so.

Senator MILLIKIN. I mean, does not a young scientist or an old scientist wish to identify himself with this coming development?

Dr. BRADBURY. Yes. I would like to speak to that point a little bit later, if I may.

Senator MILLIKIN. There is a very strong impulse for any man in any profession to identify himself with a coming part of it. Is that not correct?

Dr. BRADBURY. You are quite right, sir, and I would like to mention this—

Senator MILLIKIN. Is it not correct also that due to the money that we are spending, and whatever techniques are used in spending the money, that we are enabled—we are put into a position—to offer the scientist laboratory equipment and all of the technical things he needs to do an efficient job far beyond the ability of, let us say, the average college to provide? Is that not correct?

Dr. BRADBURY. It is quite true, sir. It is also true that the nature of the experiment that would have to be conducted in the frontiers with respect to nuclear physics and nuclear chemistry are very expensive experiments. They require elaborate equipment not available. They could not afford them.

Senator MILLIKIN. You could not find them in the average college?

Dr. BRADBURY. That is right.

Senator MILLIKIN. You could not find them in any college, the Government of the United States is alone able to furnish the kind of equipment the scientist wants to work with, and therefore that provides an additional attraction for his association with this great enterprise.

Dr. BRADBURY. That is very true.

Senator MILLIKIN. I am simply developing some of the inducements to scientists to come into the business, perhaps, in addition to the desire to have comfortable quarters and all of the other things that you have mentioned.

Dr. BRADBURY. That is very true, and since you have brought the subject up, I might elaborate just a moment more on this. It is true we are attracting personnel at the present time. We are successful, I believe, in attracting both new, young personnel, fresh from graduate work, from schools and universities; we are attracting also senior

personnel. There are various reasons for this: One reason you have mentioned, the challenge of a new field in science, supported by equipment, facilities unobtainable elsewhere.

Another reason is our forward-looking program, our permanence program, the general philosophy of the laboratory, the environment in which it works.

Another reason is the community which has been established there. It must be pointed out that we have to compete with certain attractions elsewhere, and we have certain difficulties of our own. It is not customary for scientists to work under conditions of security. The question of badges, the question of classified documents, these are something which are new to science, something which has come in since the war.

There is always the attraction in academic fields of freedom to do precisely what you want in the way of research.

At Los Alamos, of necessity, we have to suggest that research be conducted in certain fields, in certain programs. Research is programatized.

Senator MILLIKIN. My only point is, Doctor, they did not stand there entirely helpless so far as attracting personnel is concerned.

Dr. BRADBURY. Far from it.

Senator MILLIKIN. You are in the hottest scientific field in the world. You are in a field where every ambitious scientist wants to get. You have something to offer him which no one else can offer, and I should think that that, together with these housing things and all of these other matters that you mentioned, would be very helpful to you.

Dr. BRADBURY. It is extremely helpful.

May I make only one more remark?

Senator MILLIKIN. I bring this up—if I may add this observation—I think there is an unfortunate impression developing that the scientist is a sort of temperamental fellow who must be babied and given all sorts of special privileges.

I hope that we can get rid of some of that impression before this hearing is over, that after all he is a normal American citizen who takes his knocks, as well as the good things, as do other people, and that he is not a temperamental fellow who must be coddled and babied every moment of his progress through life. I think it would be very helpful if we could get something of that into this record before we get through.

Dr. BRADBURY. You are quite right.

Senator MILLIKIN. Who does not want a good home to live in? Who does not want a good school to send his children to? Who does not want these things that you are talking about? That is an ambition of every citizen, and I am glad that we can gratify it in this field. I wish it were gratified for everybody in the United States.

Mr. PRICE. Dr. Bradbury, would you describe it as temperament, as being temperamental among the scientists, possibly a fear among the scientists, that eventually he may be so restricted that he would never be in a position to accomplish the things that he would like to accomplish with his science?

Dr. BRADBURY. I think that one must regard scientists as people. There is this worry, but it is not an overriding worry. We have to be careful about it.

You, on this committee, have to be careful about this whole question of security, that it does not become an overriding question. This is so arranged that the progress and freedom to progress is guaranteed. This involves serious questions which people cannot debate, but there are questions which do have reasonable answers, to which reasonable answers have been found.

Mr. PRICE. But there is more than temperament involved.

Dr. BRADBURY. There is very much more than temperament involved; and I do not think our people are particularly temperamental. There is a problem which we have not considered here in detail, the things that Senator Millikin has just discussed, and they are, of course, very important; but to a man who is looking at this long-range program about which we are discussing, this 10- to 20-year program, these are very challenging fields to work in.

However, we have other short-range jobs where the work has to be very much more closely programatized, if you see what I mean. There I have to tell a man, "Will you please do this job, this specific job." It may not be looking at a new field of nuclear physics. It may be a very practical job which we have to get out in, say, 2 years. This takes men of the same caliber, same ability, as men who are looking 10 to 20 years ahead.

Senator MILLIKIN. This business of job security is another thing that plagues everyone. A Congressman has to go up against it every 2 years; a Senator every 6 years. There is much insecurity in the business. [Laughter.]

Dr. BRADBURY. Well, to a scientist, I think he generally feels that if he has a laboratory he feels he will be secure.

Mr. HOLIFIELD. Mr. Chairman?

The CHAIRMAN. Mr. Holifield?

Mr. HOLIFIELD. Dr. Bradbury, I want to ask you if in the normal pursuit of his avocation, a scientist does not like to go to scientific gatherings and present papers and expositions on the work that he has been conducting in his research. Is that not an important part of his life, that he be free to talk about the work that he has been doing, and to receive such recognition as he may have earned through intensive research and study?

Dr. BRADBURY. That is quite true.

Mr. HOLIFIELD. And is it not to a great extent barred in this particular line of work; that the scientist may come and work in this work but he is prohibited by the very nature of our national defense security from following out his usual habits along that line?

Dr. BRADBURY. You are quite right.

On the other hand, the Commission has recognized this particular problem and taken a very positive step to deal with it.

The Commission conducts semiannual meetings of its cleared technical personnel. These are called information meetings at which restricted data are discussed, not weapons, however, but restricted data not in the weapon field, in which restricted data are discussed by scientists from different laboratories.

Mr. HOLIFIELD. So they have tried to supply that lack. I have talked with several of the scientists myself, and they have all complained about that.

Dr. BRADBURY. There does exist in the Commission framework a very definite method of dealing with this particular problem.

Mr. HOLIFIELD. And while it is in existence it does give them a certain amount of recognition among themselves.

Dr. BRADBURY. Among their fellows.

Now, these meetings are large enough so that they comprise enough people to talk to so that one feels very much a part of a large technical, scientific group, where one can make a contribution which can be talked about and whose impact upon other laboratories can be considered.

Mr. HOLIFIELD. That brings up a thought in my mind: I find out as we go along in these hearings we have different testimony as to the progress, the technical progress, of the atomic energy program, and we find different environments which have been created jointly between the Commission and its contracting authorities, and the military liaison, and so forth; and I think we would be rather lax if we did not point out the importance of the Commission's work in making these arrangements satisfactory and adapting this program to the point where it is agreeable to its contracting authorities, and to the military liaison people; certainly we should give them full credit because it is in that field of coordination and making these adjustments for the benefit of the different feelings of the different contracting and participating parties, it seems to me, that it is in that field that real management is evidenced because it is in that field that monkey wrenches could be thrown into the complete machinery, and the complete morale, and a complete integration and coordination of the whole project could be absolutely left out to the detriment of the whole program, unless there was evidence on the part of the management of good judgment and ability to coordinate these things.

Dr. BRADBURY. I think you are quite right, sir. It is a very difficult problem, and it is a new problem faced by this country, the operation of laboratories of this sort, with so grave responsibilities and such ambitious responsibilities, under conditions of security in many cases with the Government communities, which is something new that this country is trying.

Mr. HOLIFIELD. It is something that you cannot, in other words, divide—you cannot divide this program and say that the technical advances have been made without giving some credit to the management of the thing, any more than you can take certain mistakes which have been made and say that management is not responsible for them, because if they are responsible for the mistakes, they are certainly responsible for the developments along the progressive lines.

Senator MILLIKIN. Doctor, I take it that this prestige element is very important. The Congressman who has just spoken mentions the papers that the scientists love to write. I think there probably has been some restriction on that.

The lawyer builds up his prestige by winning cases when he does, and the doctor by not having too many of his patients die; and we all have the same thing, the Senator by making headline speeches—we all have our methods of building up prestige, and I am quite concerned with those restrictions that do rest on a scientist in this business of writing papers.

I notice, in looking over biographies, that that sort of activity seems to be very important from the prestige standpoint. Dr. Bradbury writes a paper, and he says in the course of it "as was so learnedly said by Dr. McMahon"; they pat each other on the back, and finally, Dr. McMahon gets a degree from his college for Dr. Bradbury; Dr. Brad-

bury gets a degree for Dr. McMahon. It is a great business, and I am for it. [Laughter.]

I recommend Dr. McMahon right now. [Laughter.]

I am serious that we ought not to put too many restraints on that prestige-building morale factor, and I am curious as to how that is going to be handled and, at the same time, preserve the security.

Dr. BRADBURY. I would like to subscribe to the Senator's thesis that the joint committee members receive Ph. D.'s in nuclear physics, because I am certain they have been exposed sufficiently to it.

Senator MILLIKIN. That would include Dr. Lilienthal, then, because I seem to remember a headline, "Great scientist speaks on atomic energy."

Dr. BRADBURY. I thought he had received this.

Senator MILLIKIN. I nominate him also. [Laughter.]

Dr. BRADBURY. The thing you mention is a very serious one and, frankly, it strikes most deeply at the young man just out of graduate school whose scientific career is going to be judged in part by the papers which he publishes over the next 5, 10, or 15 years.

Now, we find two ways of handling this: It has not proved to be quite as serious a problem as many of us thought it would be. In the first place, a certain amount of research which we conduct lies in fields so basic, nuclear physics or nuclear chemistry, that it can be declassified and published.

The Los Alamos Laboratory over the past 2 years has published several hundred papers, declassified papers, in various fields of nuclear physics and chemistry.

This is good for the people who get them published. Not all of our people can publish. For them we have to find another method of self-expression.

As I said, these information meetings which the Commission holds are now large enough and comprise a sufficient body of people and exchange of documents of this nature between Commission laboratories, which is worked out on a very careful plan, and is now providing this means of public self-expression within a confined group of people.

Admittedly the group is confined. It is not a public group, but it is a large enough group so as to constitute almost the same thing, and if a man writes a good paper in some restricted data field, this document then is circulated to various laboratories entitled to receive it, and he gets credit and recognition among the staff of those laboratories, and this is good for his ego, so there is that way of handling it.

Another way in which we try to handle it is to try to provide some circulation among the laboratories so that a man does not always work in a field which is completely restricted and completely classified, but has some opportunity to work in a field which can be declassified.

Senator MILLIKIN. Am I correct in saying that this great advance in science comes from scientists picking each other's brains in these conferences which you are talking about?

Dr. BRADBURY. Great advancements come from these.

I should like to mention one or two more specific cases of administrative environment provided by the Commission which, in my opinion, have contributed to the pleasure of running the laboratory—not always pleasure.

I have mentioned housing: The housing at Los Alamos, as I am sure this committee is aware, has always been a problem, a serious problem. There has never been enough.

The manager, Mr. Carroll Tyler, established a housing board for the general allocation of housing. This board is comprised of one member from the laboratory, a member from a major contractor, and a member from the AEC staff itself.

Both Mr. Tyler and I have accepted the recommendations of this board with regard to the distribution of housing. I, of course, have had to reserve the right of appeal—appeal to Mr. Tyler in case of a decision of the board which would affect in some way the laboratory program.

Over 2 years of operation have passed and I have not yet had to appeal a single case, a single decision.

This again, I think, is an instance of the cooperative effort at Los Alamos between the Commission and the laboratory. The problems are viewed as joint and mutual problems, and the effort to attack them and solve them is a joint and mutual effort.

The same sort of attack has been given to our security problems there. We have a security board. This board is comprised of technical personnel from the laboratory, administrative personnel from the laboratory, and representation from the security staff of the Atomic Energy Commission.

The purpose of this board is twofold. It is to obtain from the laboratory a technical estimate of those things which it is important to protect. This information, this material which is important—and the grades of importance of things, and to utilize at the same time the knowledge of security—is in how to protect things. In this way we get a coherent program. In this way we also get a feeling on the part of technical personnel that security is making the best possible use of technical advice, and out of this comes a feeling of integration, a feeling of oneness between the laboratory and security in that the right things are being done at the right places.

Senator MILLIKIN. Dr. Bradbury, there has been considerable evidence which might be interpreted as indicating inadequate procedures in the laboratory insofar as running an accurate inventory of fissionable material is concerned.

Could you direct your observations to that?

Dr. BRADBURY. The problem of accounting for so-called S. F. materials is a very complicated and technical problem.

Senator MILLIKIN. May I make it a little more specific as I recall it? An alleged loss involved—

Mr. Chairman, how many months was it before it could be determined as to whether there was a real loss?

The CHAIRMAN. Five months.

Senator MILLIKIN. Five months. Five months is a long time in this business, Doctor.

Dr. BRADBURY. That is quite true. However, one is faced with certain technical problems which involve the fissionable material itself, and in some cases it is impossible to know precisely what you have. If you spent your time finding out precisely what you have you would not have any practical weapon. I do not want to go into the technical details of this, and I am sure you would not wish me to. I am not stating that one should not devote every effort to making sure that

one's accounting procedures, one's technical procedure, one's security procedures are as adequate as they can possibly be made. I think one must not lose sight of the objective, and that is to prepare weapons.

Senator MILLIKIN. I do not think you would suggest that in order to have production you have got to sacrifice security. Is there not a middle place?

Dr. BRADBURY. Yes.

Senator MILLIKIN. Where you can have as much security as is possible and, at the same time, move ahead with production?

Dr. BRADBURY. This is the ground one seeks to attain. It has to be a middle ground between the problem of getting a job done in the most expeditious way by the people, and the problems of counting every atom hour by hour.

Senator MILLIKIN. It is not a question of leaving the spigot open—

Dr. BRADBURY. Correct. This is a very complicated problem, and one to which we devote a great deal of attention.

Mr. VOLPE. Mr. Chairman, the particular problem Senator Millikin made reference to did not concern Los Alamos.

Senator MILLIKIN. I was not talking about that.

Dr. BRADBURY. We have the same general type of problem, and we have to face it, and all I can say is that we are doing all in our power to handle this question to the satisfaction of the Commission.

Senator MILLIKIN. I think the testimony indicates that you gentlemen ought to devise better techniques for determining what you have on hand to start with, and in process, and after you have finished.

Dr. BRADBURY. This we are doing.

The final example which I would like to give of administrative environment has already been touched on by General McCormack, and that is the Eniwetok operation.

This, from a technical point of view, was very satisfactory, and a source of pride to the laboratory.

From an administrative point of view the cooperation, the technique of setting up the operation by the Commission, seemed to us practically a fantastic success.

The operations were smooth; the Commission provided the most senior members of its staff to make sure that our relations, our techniques of operation with the military were carried out in the best possible way.

I can only have the highest praise for that type of operation.

As I have said, we are attracting men; I think we shall continue to attract men, continue to attract good men.

I do not say that these things have been accomplished only because of the Atomic Energy Commission. I do say that the Commission has provided an environment which has permitted this, and has facilitated it. Doubtless it could have been done in other ways. I would say it could have been done well when it would be not hard to do it poorly and make it more difficult.

Senator MILLIKIN. What, may I ask, in bringing it down to cases, does a senior scientist get in the way of accommodations or assignments? Does he get a house?

Dr. BRADBURY. You mean a senior scientist with a family.

Senator MILLIKIN. Yes.

Dr. BRADBURY. A senior scientist with a family will get a house, which depends upon the size of his family. We are not yet in a position to give a man all the bedrooms he would like, unless the size of his family warrants it.

Senator MILLIKIN. You have no restriction on the size of his family? [Laughter.]

Dr. BRADBURY. We have no such restriction. I would hesitate to enforce it.

Senator MILLIKIN. Does he get heat? Does he get his heat supplied?

Dr. BRADBURY. He pays a standard charge, depending upon the size of his quarters, for his utilities.

Senator MILLIKIN. And electricity?

Dr. BRADBURY. This is included in his utilities. He pays rent and a charge for utilities.

Senator MILLIKIN. Is the shopping, are the stores under the control of the Commission?

Dr. BRADBURY. The stores—you are getting me slightly off my field here—the stores are, by and large, in fact I think in every case, leased to concessionaires, concessionaires of the Government, subject to leases.

Senator MILLIKIN. He is able to buy his food at reasonable prices?

Dr. BRADBURY. The prices are identically the same as those at Santa Fe. In fact, one of our supermarkets, so-called, used the same advertising at its Los Alamos store as it does at its Santa Fe store, identical.

Senator MILLIKIN. What rent does he pay for his house?

Dr. BRADBURY. For a three-bedroom house of our best category, of the type of western area type house, the rent is approximately \$75 a month, and there is another \$15 or so for the utility charge.

Senator MILLIKIN. Very fair.

Dr. BRADBURY. That is a fair rent. A house has roughly 1,000 square feet of area.

I think I have possibly give you some of my own ideas on the nature of the collaborative effort between the Commission and the laboratory in establishing its program and in handling administrative problems.

I think this is very important, it has been very important to me as an individual. I will not say, and I know you would not believe me if I did, that we have always agreed with the Commission. We have had our areas of disagreement. They have asked us questions about administrative procedures, and we have given our own ideas and have been very quick to give them.

There have been times when they disagreed and disagreed strongly, but we have disagreed, I believe, on the basis of how to get a job done, recognizing that the job is there to be done, and have disagreed as to the best way to accomplish it.

Now, this is a field in which they respect our ideas and, I am sure, we respect theirs. We have not disagreed, as far as I can recall, on any technical question.

Senator MILLIKIN. One thing about this disagreement business, if you disagree one of you is apt to be right. If you agree, both of you may be wrong. [Laughter.]

Dr. BRADBURY. Well, I am not even sure that I agree with your first statement, sir. [Laughter.]

This is essentially the nature of my remarks.

The CHAIRMAN. I see. Are there any questions?

Senator HICKENLOOPER. I do not want to ask any questions, but as I said before, Doctor, I think you and your group out there have done a grand job, and I think the country owes you a vote of thanks for the long years of devotion that you have given to this great subject, and I think you are making progress.

Dr. BRADBURY. Thank you, sir.

Senator HICKENLOOPER. I have no further questions.

The CHAIRMAN. Thank you very much, Doctor.

Senator HICKENLOOPER. I may say, Doctor, that I have repeatedly said that I am not raising any criticism against the scientific progress in this whole enterprise.

Dr. BRADBURY. So I understand.

Senator HICKENLOOPER. My criticism does not go to that point at all, and I am glad to read your testimony about progress this morning, but it does not touch the matters that I am concerned with in this enterprise.

The CHAIRMAN. Now, I take it that that concludes the Commission's presentation for today?

Mr. VOLPE. No, Mr. Chairman. We have Mr. Wilson and Mr. Center.

The CHAIRMAN. I did not know that.

Mr. LILIENTHAL. Mr. Chairman, would it be appropriate, prior to that time, to read into the record the communications that passed between the Secretary of Defense, the late James Forrestal, and the Commission, indicating the quality of harmony and integration between the civilian and military segments of that operation, or would you prefer that we defer that to some other time? The question has been raised, and it is relevant to this whole question that Dr. Bradbury has been discussing, and also Dr. Kelly. We can either put them into the record or read them.

The CHAIRMAN. I would rather put them into the record, Mr. Lilienthal, for this reason: I would like to get on, and I doubt if we can finish with Mr. Center.

Would you rather reserve them and read them later?

Mr. LILIENTHAL. I think so.

The CHAIRMAN. All right.

Mr. VOLPE. Mr. Chairman, while they are getting to the table here, on this matter of names of contractor employees and their salaries, I asked that that be checked, and the answer is that the original list of names and salaries was not classified. There was a supplementary list sent up, which included names of individuals engaged in the weapons program, which for security reasons, it was felt should be classified "Confidential," and it was a supplementary list that was classified.

The CHAIRMAN. Thank you.

**STATEMENT OF CARROLL L. WILSON, GENERAL MANAGER, UNITED STATES ATOMIC ENERGY COMMISSION; ACCOMPANIED BY CLARK CENTER, GENERAL SUPERINTENDENT, CARBIDE & CARBON CHEMICALS CORP.**

Mr. WILSON. Mr. Chairman, at the time that matters at Hanford were under discussion, Mr. Winne, of the General Electric Co., described some of the operations there, and some of the progress which had been made during the past two and a half years.

At Oak Ridge the operator of the technical facilities of the Commission is the Carbide & Carbon Chemicals Corp., which is a part of the Union Carbide Co.

The Carbon & Carbide Chemicals Corp. was asked early in 1943 by the Manhattan District to become the operator of the gaseous diffusion plant, and their association with the project dates from that time.

Early in 1947, when it was planned to put the electromagnetic plant at Y-12 into stand-by condition, the operator of that facility, the Tennessee Eastman Co., asked to be relieved of this job, and the Commission asked the Carbide Co. to take over the operation of the facility in its stand-by condition, and to carry on development work on improvement of the electromagnetic process.

Early in 1948 the Commission also asked the Carbide Co. to assume responsibility for the operation of the Oak Ridge National Laboratory, and to bring about any integration of the three facilities at Oak Ridge.

Reference has been made by Mr. Williams to some of the aspects of the impressive performance record of the Carbide & Carbon Chemicals Corp. in the tasks which they have undertaken at Oak Ridge, both in terms of increased production and in the reduction of costs.

This company has applied to the operations for the Commission at Oak Ridge the techniques and know-how of a very successful industrial concern, and has applied these in the conduct of our operations at Oak Ridge.

I would like to ask Mr. Clark Center, who is general superintendent for the Carbide & Carbon Chemicals Corp. at Oak Ridge, to speak of some of the operations which they have conducted there, and some of their working relationships with the Commission.

Mr. Center has been associated with this project since February 1943, and has for 22 years been a member of the Carbide & Carbon Chemicals organization. Mr. Center.

Mr. CENTER. Mr. Chairman, I would like to speak briefly on the relationships existing between our corporation and the Atomic Energy Commission.

In order to do this effectively, I must again go back, as many of us here have done, to some of the developments which led up to the extent of our operations in Oak Ridge.

When we first came on the project in early 1943, other groups were established and were doing very much of the important work in regard to research and development.

The main part of this work was done by Columbia University under the direction of Dr. Harold Urey and Dr. John Dunning.

This group was called the S. A. M. Laboratory. It was their function, as I have just said, to do all the research and development which led into a successful operation for the separation of fissionable materials.

The engineering and preparation of the final drawings was the responsibility of the Kellogg Corp., which is a subsidiary of the M. W. Kellogg Co.

Our responsibility, that is, Carbide & Carbon Chemicals Corp.'s responsibility initially, was to review the process design and specifically the final working drawings to be satisfied that the plant was operable.

Emphasis, as the plant neared completion, was on operations.

As time went on it became apparent to us, that a better job could be done if all these various phases which led to the design of the plant were coordinated and done at Oak Ridge. This opinion was also concurred in by the Manhattan District.

Before the close of the war, various members of our organization met with the people concerned, and plans were laid to effect this. As time went on also, and because the electromagnetic process had always done the final chemistry of the product from K-25, it was the opinion of the Manhattan District, and later under the Atomic Energy Commission, that we should be asked to operate that plant.

We have done that since May 4, 1947. Later we were also asked to operate the Oak Ridge National Laboratory and have been doing that since March 1 of 1948.

Among some of the accomplishments, approval of which was asked of the Commission, and which was granted, in the manufacturing line is the production of a special plastic known as flurothene which is needed in the process operations at Oak Ridge.

The manufacture of barrier, which is the material which makes diffusive separation of gases possible, also was undertaken and is being produced in Oak Ridge.

The original consolidation of the various groups at Oak Ridge with respect to operations led also to the design of an expanded diffusion plant. We are busily engaged in that now.

At the electromagnetic plant, the notable improvements made include improvements in the final method of handling the product from K-25. We have also assumed there, at the request of the Commission, manufacturing facilities and operation of those facilities for the production of weapon components. This work is very closely coordinated with Los Alamos.

With respect to our relationships with the Commission, I consider the Commission itself in the same light that I consider our board of directors. It is to them that we look for the over-all basic policies, the general direction of the program.

Their direction and policies established for the accomplishment of this purpose have been very farseeing and have enabled us to work within the framework of those basic policy decisions.

In the determination of these policies, we are generally consulted first, and have the benefit, too, of our experience in operating our own private business, and our suggestions are considered carefully.

In regard to our relationships at Oak Ridge, we are in daily communication with the people there who represent the Commission. Their outlook toward our operation has been very helpful, and has been a great aid to us in accomplishing our work.

The CHAIRMAN. Are you through?

Mr. CENTER. Yes.

The CHAIRMAN. Senator Hickenlooper?

Senator HICKENLOOPER. I do not believe I have any questions.

The CHAIRMAN. No further questions?

Senator HICKENLOOPER. Except this, Carbon & Carbide has been in this continuously since during the Manhattan District days?

Mr. CENTER. Yes.

Senator HICKENLOOPER. Is that true? I do not believe I have any more questions.

The CHAIRMAN. Any other witnesses, Mr. Volpe? I guess you are the ringmaster, are you not?

Mr. VOLPE. I am the errand boy. [Laughter.]

The CHAIRMAN. Have you got anybody else?

Mr. VOLPE. Not this morning.

Mr. WILSON. Not this morning, Mr. Chairman.

The CHAIRMAN. All right. I am advised that tomorrow you will produce Mr. Parker, president of the Detroit Edison Co., chairman of the Industry Advisory Committee; Mr. Isaac Harter, vice president of Babcock & Wilcox, member of the Industrial Advisory Committee; Dr. Lee DuBridge, president of California Institute of Technology, and member of the GAC; and Dr. Enrico Fermi of the University of Chicago, a member of the General Advisory Committee who, of course, has a great reputation.

All right, gentlemen, we will recess until 10:30 tomorrow morning.

(Whereupon, at 12:50 p. m., the joint committee adjourned, to reconvene at 10:30 a. m., Friday, July 8, 1949.)

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1. The first part of the paper is devoted to a discussion of the various methods which have been proposed for the determination of the rate of reaction of a substance with oxygen. The methods are classified into three groups: (a) direct methods, (b) indirect methods, and (c) methods based on the measurement of the change in the physical properties of the system. The direct methods are those in which the rate of reaction is measured directly by observing the change in the concentration of the reactants or products. The indirect methods are those in which the rate of reaction is measured indirectly by observing the change in some other property which is related to the concentration of the reactants or products. The methods based on the measurement of the change in the physical properties of the system are those in which the rate of reaction is measured by observing the change in some physical property of the system, such as the change in the volume of the system or the change in the refractive index of the system.

2. The second part of the paper is devoted to a discussion of the various factors which influence the rate of reaction of a substance with oxygen. The factors are classified into three groups: (a) physical factors, (b) chemical factors, and (c) biological factors. The physical factors are those which influence the rate of reaction by changing the physical properties of the system, such as the temperature, the pressure, and the concentration of the reactants. The chemical factors are those which influence the rate of reaction by changing the chemical properties of the system, such as the nature of the reactants and the presence of catalysts. The biological factors are those which influence the rate of reaction by changing the biological properties of the system, such as the presence of enzymes and the state of the system.

3. The third part of the paper is devoted to a discussion of the various applications of the study of the rate of reaction of a substance with oxygen. The applications are classified into three groups: (a) industrial applications, (b) medical applications, and (c) biological applications. The industrial applications are those in which the study of the rate of reaction of a substance with oxygen is used to improve the efficiency of industrial processes. The medical applications are those in which the study of the rate of reaction of a substance with oxygen is used to improve the treatment of diseases. The biological applications are those in which the study of the rate of reaction of a substance with oxygen is used to improve the understanding of biological processes.

# INVESTIGATION INTO THE UNITED STATES ATOMIC ENERGY PROJECT

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## HEARING

BEFORE THE

## JOINT COMMITTEE ON ATOMIC ENERGY CONGRESS OF THE UNITED STATES

EIGHTY-FIRST CONGRESS

FIRST SESSION

ON

INVESTIGATION INTO THE UNITED STATES

ATOMIC ENERGY PROJECT

PART 21

JULY 8, 1949

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# INVESTIGATION INTO THE UNITED STATES ATOMIC ENERGY PROJECT

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FRIDAY, JULY 8, 1949

CONGRESS OF THE UNITED STATES,  
JOINT COMMITTEE ON ATOMIC ENERGY,  
*Washington, D. C.*

The joint committee met, pursuant to adjournment, at 10:40 a. m., in the Caucus Room, Senate Office Building, Washington, D. C., Senator Brien McMahon (chairman) presiding.

Present: Senators McMahon (chairman), Vandenberg, Millikin, Knowland, and Hickenlooper; and Representative Holifield.

Also present: David E. Lilienthal, Chairman; Sumner T. Pike, Commissioner; Lewis L. Strauss, Commissioner; Gordon E. Dean, Commissioner; Henry D. Smyth, Commissioner; Carroll L. Wilson, General Manager; Frances Henderson, Assistant to the Chairman; Joseph Volpe, Jr., General Counsel; Bennett Boskey and Everett L. Hollis, Office of the General Counsel; Morse Salisbury, Director, Rodney L. Southwick, and Robert Tumbleson, Division of Public and Technical Information Service; and Dr. Walter Colby, Director of Intelligence; all of the United States Atomic Energy Commission.

James W. Parker, president and general manager of Detroit Edison Co.; and chairman of the Industrial Advisory Group, United States Atomic Energy Commission.

Isaac Harter, chairman of the board, Babcock & Wilcox Tube Co.; and member of the Industrial Advisory Group, United States Atomic Energy Commission.

Dr. Lee A. DuBridge, president of California Institute of Technology; and member of the General Advisory Committee, United States Atomic Energy Commission.

Dr. Enrico Fermi, Institute for Nuclear Studies, University of Chicago; and member of the General Advisory Committee, United States Atomic Energy Commission.

The CHAIRMAN. The committee will come to order.

Senator KNOWLAND. Mr. Chairman, I would like to put into the record at this time a letter, which was in answer to an inquiry I raised at the hearing on June 29. It is a letter that was addressed to the chairman and signed for Carroll L. Wilson—I cannot make out the signature; I think it is the signature of Mr. Shugg—dated July 7. It is as follows:

DEAR SENATOR MCMAHON: This will transmit to you the summary salary data requested by Senator Knowland in the hearings on June 29, 1949. This request appears at page 1697 of the stenographic transcript. For the convenience of the committee we have also included a summary of the data previously submitted on employees receiving \$14,000 per year or more.

In connection with the preparation of this information, it was discovered that a change is necessary in the table recently submitted showing contractor per-

sonnel receiving salaries of \$14,000 or more per year. Under General Electric Co. at Hanford on that table, W. R. McKenna and R. C. Stanton are shown as receiving basic salaries of \$11,520 plus bonuses of \$3,440 each. These two employees have recently received salary changes due to a reduction in working hours and now receive basic salaries of \$9,600 instead of \$11,520 as previously reported. For this reason, they have been included in the attached table and it is requested that they be removed from the table that was submitted June 24, 1949.

Sincerely yours—

and it lists a summary of employees of the Atomic Energy Commission and its contractors receiving payment of \$10,000 but less than \$14,000 per year.

It shows in a break-down of contractor employees receiving \$10,000 but less than \$11,000, 73 of them; \$11,000 but less than \$12,000, 24; \$12,000 but less than \$13,000, 36; and \$13,000 but less than \$14,000, 17; or a total of 150 employees receiving between \$10,000 and \$14,000.

On the AEC employees it shows those receiving \$10,000 but less than \$11,000, 87; \$11,000 but less than \$12,000, 10; \$12,000 but less than \$13,000, 5; and \$13,000 but less than \$14,000, 2; or a total of 104.

Then, the break-down on the summary of employees of AEC and its contractors receiving payments of \$14,000 and above per year, that is as follows: \$14,000 but less than \$15,000, 9; \$15,000 but less than \$16,000, 13; \$16,000 but less than \$17,000, 5; \$17,000 but less than \$18,000, none; \$18,000 but less than \$20,000, 3; and \$20,000 and above, 3; for a total of 33.

Of the AEC employees, the previous list I just read was contractor employees, AEC employees, those receiving \$14,000 but less than \$15,000, 9; \$15,000 but less than \$16,000, 5; \$16,000 but less than \$17,000, none; \$17,000 but less than \$18,000, 1; and \$18,000, 3; for a total of 18.

The total number of employees receiving \$10,000 or over, contractor employees, 183; AEC employees, 122.

I ask that that be made a part of the record.

(The data referred to above are marked "Exhibit 31" and will be found in the appendix.)

Senator HICKENLOOPER. Mr. Chairman, before we proceed, if you would indulge me for just a moment, with respect to the discussion about the clearances for the Eniwetok test of last year, and the references to it, I asked for the records again this morning, and I find that in the record of emergency clearances for the month of April 1948 there is a specific notation that—

Clearances under the interim security measures for the armed forces issued May 23, 1947, or for project 19—

which is the Eniwetok test—

are not included; so that the totals of over 4,000 emergency clearances would have to have added to that the Army emergency clearances and the Eniwetok test clearances,

and they were not included in the original figures.

Mr. VOLPE. Mr. Chairman, actually there were two groups of clearances: One, emergency clearances for contractor employees connected with the Commission's phase of this operation, and then there was another group of interim clearances for the armed forces.

I am quite certain that the footnote Senator Hickenlooper makes reference to has to do with the interim clearances or approvals given

by the armed forces and does not include the emergency clearances given by the Commission which, I believe, are included in the total figure of approximately 4,000.

Senator HICKENLOOPER. I just was reading what was put on the Commission's own report, and it says that clearances for project 19 are not included, nor are clearances for the armed forces under the orders issued May 23, 1947, under interim security measures, and that was the——

Mr. VOLPE. It is not terribly clear, I agree, Senator. I would agree that we go back and check our records and submit a statement, because it may very well be that they were not included in that.

Senator HICKENLOOPER. I notice that the interim clearances for April 1948, as reported by the Commission, total 193. I do not find them for May, but they were running on the average of over 100 per month, which would indicate that the Eniwetok clearances were not included.

I merely want that in the record at this time, Mr. Chairman.

The CHAIRMAN. Now, is the Commission ready to proceed?

**STATEMENT OF DAVID E. LILIENTHAL, CHAIRMAN, ACCOMPANIED  
BY JOSEPH VOLPE, JR., GENERAL COUNSEL, BOTH OF THE UNITED  
STATES ATOMIC ENERGY COMMISSION**

Mr. LILIENTHAL. Mr. Chairman and members of the committee, the witnesses this morning are four distinguished citizens of this country, as follows:

Mr. James W. Parker, who is the president and general manager of the Detroit Edison Co., of Detroit, a very well-known engineer, and the administrator of a great utility company, and the past president of the American Society of Mechanical Engineers.

The second witness is Mr. Isaac Harter, the chairman of the board of the Babcock & Wilcox Tube Co., of Beaver Falls, Pa., and who has been in charge of operations of that great company for 45 years, a company, as I recall, which is engaged in the manufacturing of power boilers for industrial, naval, maritime, and other purposes, and in making special grades of steel, steel tubes for chemical and other purposes, special refractories for different kinds of materials, in which the element of development has been a very important factor.

These two gentlemen have been, respectively, the Chairman and member of the Industrial Advisory Group to the Commission, and Mr. Harter, more recently, has become a member of the Patent Compensation Board of the Commission.

The third witness is expected to be Dr. Lee DuBridge, the president of the California Institute of Technology, a distinguished scientist, and a member of the General Advisory Committee to the Commission; and Dr. Enrico Fermi, whom it is about as necessary to describe as Magellan or Copernicus, and who is on the staff of the University of Chicago, and a member of the General Advisory Committee.

I would like to present Mr. Parker first.

The CHAIRMAN. Mr. Parker, I am glad to see you here.

Would you give your full name to the reporter, please?

**STATEMENT OF JAMES W. PARKER, PRESIDENT AND GENERAL  
MANAGER, DETROIT EDISON CO.**

Mr. PARKER. My name is James W. Parker.

Mr. Chairman, you want me to offer my observations?

The CHAIRMAN. I think that would be in point.

As we understand it, Mr. Lilienthal said you are Chairman of the Industrial Advisory Committee and, therefore, we presume you have some knowledge of the operations of the Commission.

Mr. PARKER. That is true.

Previous to my appointment to that Industry Advisory Committee I had naturally been interested in this development because of the implications in my own industry. It was about the intelligent interest that anyone in the light and power industry would take in a new development that might possibly have a profound effect.

That interest was really that, you might say, of an interested observer and amateur. My contacts with the Commission were very casual. I had talked to various scientists who had been engaged on the work, but we were, of course, not dealing in any secret information at that time.

Upon my appointment to this Industrial Advisory Committee, however—

Senator HICKENLOOPER. What date was that, Mr. Parker?

Mr. PARKER. That was in November 1947.

Senator HICKENLOOPER. Thank you.

Mr. PARKER. This group of industrialists who were drawn from quite a wide area of industry, several men from the oil-refinery industry; Mr. Harter, who has been already introduced to you, a manufacturer; others who had been engaged in various manufacturing and businesses, based largely on scientific experience and information. I suppose I was chosen as being typical, we will say, of men in the management of the light and power business.

This group of businessmen was given every facility to see how the Commission's operations were carried on. We made numerous trips—I do not think you are interested in the exact number of them—but during that first 3 months, we made at least six or seven visits to the headquarters of the Commission, to their New York office, to the Oak Ridge Laboratory, Argonne in Chicago, and the Hanford plant in Washington, spending several days at each of these major installations, and then numerous visits and discussions with the Commission and their staff later on, until in May of 1948 we had prepared or had brought our thinking to the point that we wished to discuss it with the Commission. We wanted, before we wrote our final report, to correct any errors of fact, misinterpretations of things that we had seen, because although, as I say, we had made visits to all of these plants, it would be impossible in such a huge undertaking to undertake to know all of the details from direct observation.

We were everywhere met with complete openness; we were introduced to the Commission's contractors, and they were free to tell us everything that they cared to explain, and I am sure the whole impression was that we were being very frankly dealt with, not only by the Commission and staff, but by the contractors working for the Commission.

I suppose you would be interested in the general impression, first, of what seemed to us to be the progress that was being made. It was very obvious that progress was being made, that certain operations, for instance, at Oak Ridge, were being slowed down as being uneconomical, that the more economical process was being further developed and pushed forward.

At Hanford we remarked that the operating difficulties that had been encountered—and very naturally there were operating difficulties in so new an installation in so new a field—those operating difficulties were being understood and being corrected.

All of this visiting and discussion led to the first of the conclusions which we made in our report to the effect that in general we believed that the Commission was making great progress; that they were to be commended on the methods employed, and we rather applauded their policy of placing great reliance upon industrial contractors like the General Electric Co. and the Carbide & Carbon Chemicals Co. and people and organizations of great experience in allied fields.

When I say that we applauded that policy, I must say also that coming from Detroit and having some considerable first-hand observation of the operation of the principle of the industry, the automobile industry, with respect to which feeding plants of that community had converted themselves to an entirely new group of products, and the dependence placed upon that kind of capable business industrial organization by both the Navy and the Army, had greatly impressed me, and realizing the anxiety that the public generally felt for this whole development of the atomic energy field, it was something of a relief to me, at least, and I think to the others on our committee, to find that the Commission was not throwing out the window the greatest asset, in our opinion, that the country possesses, the industrial competence and ingenuity of the American industrial system.

I will put it another way: We, believing that it was necessary that the talents of the American industry be drawn upon continually, if we were to continue to make progress, drawn upon as we are certain they were drawn upon during the period when the Manhattan District was in charge, were somewhat relieved to find that dependence was placed upon that kind of operation.

If the talents of these industrial organizations as teams—and I want to emphasize that, they worked as teams; you cannot take them apart; you cannot take the components out of them and put them into another organization and expect to get the same results—you either take them as a team or you do not use them well—you do not make use of them—it was clear to us that it was very desirable that as many men as possible of competence in the application of scientific experience and data be informed, within the limits of security and safety, of the methods and of the purposes of the Commission.

I do not think I have to emphasize, because it is so obvious that it would not be necessary to emphasize, that we realized always that a great deal of the information dealt with is secret and must be kept so.

But when it comes to matters of organization, of organizing the work so that the Commission's contractors could really exert their abilities and accomplish what they are able and have been able to accomplish, when they are informed and have a free hand, it would be very desirable that they know a good deal of the internal organiza-

tion of the Commission. A great deal of the information that need not be considered secret could be put into their hands. So, we recommended a greater participation; we recommended the formation of a permanent industrial advisory group. We were not looking for jobs. We very promptly discharged ourselves or asked for our discharge when we made our report, but we did think that the Commission would benefit by the continuing advice of a rather large group of industrial men predominantly in executive positions but with training in engineering and scientific work who had come up, in other words, from that kind of a foundation.

Dr. Robert Wilson of the Standard of Indiana is a typical example of the kind of man I speak of, an eminent scientist, but, at the same time, a very competent business manager.

The CHAIRMAN. He was on your committee?

Mr. PARKER. He was on our committee. He would be the type of man who should serve, and in our opinion would have been very useful, would be useful, to the Commission.

We recommended also that from time to time when special problems arose, it would be desirable for the Commission to pick special committees that would serve temporarily and work on specific problems, and then be discharged. That was a practice that they followed from time to time, and we felt they should continue to follow it, and to the best of my knowledge they have, since the making of that report, continued to do so.

Now, there were certain matters of management within the Commission that we recognized as really not in the field of our terms of reference—I believe that is the word—and we were asked to report on the possibility of securing more industrial participation, but we asked the Commission if they would like to have comment on the type of organization that had been set up, with the idea that some changes might conduce to a better participation on the part of industry.

You can well imagine that an awkwardly organized Commission would be something that the outside contractor would find it possibly very difficult to deal with, or rather very difficult to do his best work for.

Now the fact that we had some changes to recommend implies certain criticism, but it was, I believe, the sort of criticism that a consultant might possibly make when he is called in on any engineering or industrial job to advise.

We remarked, for one thing, that the General Manager, in our opinion, had too many officers reporting to him, too many division and department heads reporting to him, and we considered that an almost intolerable burden to place on one man.

Well, it was our experience, as we discussed these matters, and we were continually discussing our observations with the Commission, that they began to make changes faster than we could recommend them. In other words, at one time it seemed almost as if our report would be almost useless because everything that we were about to recommend had already been done. That is a little bit of an exaggeration, it was not quite true; but it is true that after our discussion of our first draft of the report, which was merely our attempt to put our thinking together, and after that discussion with the Commission,

we discovered that they were already making moves quite along the lines of those we were recommending, and before the report was finally turned in, the Commission had made considerable changes in their organization; among others, they had appointed—among other changes that were made—a Deputy General Manager who would take some of the burden off the General Manager.

There was a concentration on division heads of executive responsibility, which we thought should be placed there, a general clarification of responsibilities of the different employees and division heads within the Commission.

Now, these changes were not very dramatic things. You would have to watch the thing very carefully to know that any change had taken place, but nevertheless those changes have taken place.

We made our final report in December, I think—yes, December 1948—and although I have not been in as close contact with the Commission's operations since then, it appears from various appointments that have been made and various new practices that have been adopted that the Commission has been moving along the general line of recommendations of this report.

I will not want to undertake to say whether they might or might not have moved faster, but at least there have been moves, and they have been in that general direction.

I will be glad to answer any questions, if you have any.

The CHAIRMAN. Do you have any questions?

Senator HICKENLOOPER. I do not believe I have any questions of Mr. Parker. I have read your report.

Mr. PARKER. I read it again last night.

Senator HICKENLOOPER. And I am somewhat familiar with the contents.

Mr. PARKER. Yes, sir.

Senator HICKENLOOPER. But I have no questions.

Senator VANDENBERG. No questions.

Senator KNOWLAND. No questions.

The CHAIRMAN. Thank you very much.

Mr. PARKER. You are very welcome indeed.

The CHAIRMAN. Now, Mr. Harter.

#### STATEMENT OF ISAAC HARTER, CHAIRMAN OF THE BOARD, BABCOCK & WILCOX CO.

Mr. HARTER. My name is Isaac Harter.

The CHAIRMAN. You are a member of the Industrial Advisory Committee and you are a member of the firm of Babcock & Wilcox?

Mr. HARTER. Babcock & Wilcox.

Senator HICKENLOOPER. May I ask Mr. Parker one question?

Mr. PARKER. Yes.

Senator HICKENLOOPER. Is your company doing any work for the Commission at this time?

Mr. PARKER. The Commission has, I have just learned, in fact, placed a small research project in one of our plants.

Senator HICKENLOOPER. You are equipped, are you not, to do work for the Commission in certain fields if it were deemed advisable?

Mr. PARKER. This is a very incidental thing—I might say at no profit.

Senator HICKENLOOPER. Yes.

Mr. HARTER. Mr. Parker has given an account of the contact of our committee with the operation of the Commission, so that I need not refer to that particularly, except to say that his viewpoint coincides very much with mine about the work of the Commission and its progress in what we both think are the right directions.

I would like to speak a little about another side of this matter. Great industrial developments have been made, as a rule, things of slow growth. They have begun small, and if well-managed, have prospered and have become large, like a number of the companies now working for the Commission.

In that time they have had an opportunity by trial and error to find what works well and what does not. In the case of the Commission's work they are engaged in probably the most difficult industrial operation that there has ever been. They have entered into it under pressure of time, and they have had to take the military side of the matter and make rapid progress with that. At the same time, they have had to branch into a field which, in some respects, is perhaps more difficult than the military side because it is more complex; and they have the problem of immense size in adequately organizing the personnel, and with methods, and I think, in thinking of their operations and the progress that they are making, we should all be very careful to contrast a period of about  $2\frac{1}{2}$  years in which they have been engaged in their job, with the period of 25 years or 50 years that corporations have had, as for example my own, 50, to grow up, in our case to about a fifth of the size of the operation that the Commission is now having.

The CHAIRMAN. How big?

Mr. HARTER. About a fifth the size of the Commission's operations.

Judged against that background—and I think it is a very important background to have—I, as a member of our committee, and with the contact in that way that I have had with the Commission, feel very strongly that their accomplishment is remarkable.

It is not to be expected that in a rapid operation and in the short time that mistakes will not be made. They are made in all corporations, so far as I am familiar with them, even in spite of their advantage of long training, and the problem of proportion must always be carefully considered: How great are the errors compared with the general magnitude of the operation?

In the discussions that you have had here before your committee, the elements of security, the methods of estimating on operations, and methods of procedure generally, have come in for a good part of the discussion.

I think that you must be very careful in considering all those problems to recognize that too much control of them can do harm as well as good. I do not think—take, for instance, the question of estimates for work—I do not think any corporation ever finds itself where it is within its estimate on work. I do not believe that most corporations feel that it would be a healthy situation if they always were. They would feel, I think, very properly, that the men responsible for the estimates are making them sufficiently large that no trouble of that kind will happen.

In our own group, we aim as far as we possibly can to come to the most correct view of what constitutes the total amount that is most

likely to turn out to be justified when the work is done, and then we add to that sometimes 10 percent, sometimes in risky work even more, to cover the possible contingencies, and if, in a complex thing made up of many elements, they all came out black, we would, I think, feel that something ought to be looked into because the estimating was not upon a correct basis.

In all those things, if too much is made of that side of the matter, there will be inevitably a wrong result instead of a good result. I think that is something that should be thought of in this whole affair, as I have been reading about it as it has gone on.

In looking at the work of the Commission, so far as I have come in contact with it and with its people, I am greatly impressed with the high sense of obligation and duty and the effort with which they are trying to carry out their work.

I do not think that any corporation that I know of has in its standards any better approach to their problems or works any harder at it, and I think, in conclusion of what I am saying, we ought to remember that this is 2½ years old, not 25 years old, and that background, I think, of its accomplishment to date is very fine.

Senator HICKENLOOPER. Just to clarify the record a little, Mr. Harter—

Mr. HARTER. Yes, sir.

Senator HICKENLOOPER. Did the Commission build Los Alamos, or did the Manhattan District build Los Alamos?

Mr. HARTER. The Manhattan District.

Senator HICKENLOOPER. Did the Commission build Oak Ridge, or did the Manhattan District build Oak Ridge?

Mr. HARTER. Up to a certain stage of completion, the Manhattan District.

Senator HICKENLOOPER. Yes, certain facilities have been torn down.

Mr. HARTER. Yes, some parts have been added, but in general it has been built by the Manhattan District.

Senator HICKENLOOPER. Did the Commission build Sandia base or did the Manhattan District build Sandia base?

Mr. HARTER. I think it was in between, if I remember correctly.

Senator HICKENLOOPER. Did the Commission build Hanford, with the exception of one new pile which is in the process of being completed now, or did the Manhattan District build Hanford?

Mr. HARTER. Manhattan District, except for—

Senator HICKENLOOPER. So that this is not an installation or a plant that has been built in the last 2½ years. You do not want to be understood as saying that, do you?

Mr. HARTER. No, but it is not alone just a question of plant; it is a question of what you do with that plant. Those plants were built for military purposes.

Senator HICKENLOOPER. Yes.

Mr. HARTER. The Commission's problems are very much wider.

Senator HICKENLOOPER. Is there any difference in the main purpose of those plants now from that which existed before? Are they still being operated in major degree for military purposes?

Mr. HARTER. I would expect that those who really know the answer to that would say yes to it.

Senator HICKENLOOPER. Yes. In other words, there was a very extensive going concern built during the war, was there not?

Mr. HARTER. Going under war conditions, and under that pressure, and operating and, therefore, successful for that purpose; but not going in the sense of a long-term industrial affair which is, after all, what it is in many of its aspects, has to do if it is to be efficient, and if it is to continue, and I think the main work of the Commission is to take the operations that were in a state of beginning, able to do what they had to do, but to improve them to the point where they should be for economy of operation and for extension of their field of work, and I think in those regards the Commission has had a tremendous task on its hands, and it is that that I speak about in the 2½-year period.

Senator HICKENLOOPER. But what operation is the Commission able to do now that was not done by the Manhattan District?

In other words, the Manhattan District built bombs; the Manhattan District produced isotopes; the Manhattan District set up health surveys and had beginnings of research in biology and things of that kind. I am just wondering what new and different operations are in effect now; some of them have been perfected to some extent.

Mr. HARTER. I think that the whole thing turns upon just that question of perfection to some extent, and there my contacts with the various operations of the Commission lead me to feel that the degree of perfecting is a very great degree. I do not mean it has all been accomplished by any means. It is still a great part which yet remains, but it is a very significant difference to me in what contacts I have had between the state of the matter at the time the Commission took over and what has happened to it in this brief time.

Senator HICKENLOOPER. Did you have any intimate connection with the Manhattan District?

Mr. HARTER. No, sir.

Senator HICKENLOOPER. So, then, you are not in any position to judge what the state of perfection was in the Manhattan District except by hearsay.

Mr. HARTER. No; I beg your pardon, sir. I have an idea of certain processes carried on in a certain manner at the time the Commission took over the work.

Senator HICKENLOOPER. Yes.

Mr. HARTER. And I have some idea of the changes in the most important particulars that have been made in those processes.

Senator HICKENLOOPER. You are aware of the fact—are you not—that after the dropping of the bomb on Hiroshima, the whole Manhattan District went into a quiescent state, awaiting the establishing of a public policy by Congress as to how the matter would be handled?

Mr. HARTER. Oh, yes.

Senator HICKENLOOPER. So it was in what one might say was a semioperating state during that period until the method of operation had been determined by Congress through law in the establishment of whatever type of control Congress would decide to establish.

Mr. HARTER. Yes; I believe a recent witness described it as being "flat on its back."

Senator HICKENLOOPER. Yes. Well, perhaps he did. I think the description was one which could be subject to argument, but the fact is that the plant was there, and it was being held in abeyance in its operations until there was a determination of what the direction of operation would be, and the only purpose of questioning was to try

to probe for a moment your suggestion that this entire plant had been built in the place  $2\frac{1}{2}$  years ago.

Mr. HARTER. I did not mean to give that impression.

Senator HICKENLOOPER. Yes.

Mr. HARTER. But I do want to bring out that what Manhattan finished with was for a single purpose, under great duress, accomplished under those conditions in a remarkable degree, but a very different and insufficient total purpose as against that which the Commission immediately took on as its duty.

Senator HICKENLOOPER. What company do you represent, Mr. Harter?

Mr. HARTER. Babcock & Wilcox Tube Co., a subsidiary of the Babcock & Wilcox Co. For most all my time I was in the former company until 2 years ago, when I retired from that.

Senator HICKENLOOPER. Was your company engaged in the past, or are you presently engaged, in any work for the Commission?

Mr. HARTER. I beg your pardon, sir?

Senator HICKENLOOPER. Has your company engaged in the past, or are you presently engaged, in any work for the Commission?

Mr. HARTER. We are doing some work for the Commission; and, compared with our operations, I suppose, it is a matter of a percent, a half percent, or something of that sort.

Senator HICKENLOOPER. I see. I think that is all, Mr. Chairman.

Senator VANDENBERG. No questions.

Senator KNOWLAND. No questions.

The CHAIRMAN. Thank you very much.

Mr. HOLFIELD. No questions.

The CHAIRMAN. Thank you very much, Mr. Harter.

Mr. HARTER. Thank you very much.

Mr. LILIENTHAL. Dr. DuBridge was not in the hearing room at the time I indicated that he would be one of the witnesses. He is here now and prepared to testify.

He is, as I said, the president of the California Institute of Technology.

The CHAIRMAN. Dr. DuBridge, are you ready?

#### STATEMENT OF DR. LEE A. DuBRIDGE, PRESIDENT, CALIFORNIA INSTITUTE OF TECHNOLOGY

Dr. DuBRIDGE. Yes, sir.

The CHAIRMAN. Doctor, it is nice to see you again.

Dr. DuBRIDGE. It is nice to see you gentlemen. Would you like to have me start with a brief statement of my views on this whole question?

The CHAIRMAN. Yes; I think that would be quite desirable.

Dr. DuBRIDGE. I assume that I have been called because I am a member of the General Advisory Committee and, in particular, because I am the chairman of the Subcommittee on Research of the General Advisory Committee. For that reason I will confine my remarks largely to the Commission's activities in the field of basic research.

I would like, before coming to the Commission's activities, however, to say just a word about the position of basic research in science in this country. In my view, it is a very precarious position. We, as a Nation, are bragging a great deal about our scientific personnel and

our scientific resources; but, as a Nation, we are doing very little about them to strengthen them still further.

The reasons for this situation are a little complicated. During the war the scientists of this country were mobilized into great war laboratories; and, as you all know, they were spectacularly successful in developing new weapons of war such as radar, the proximity fuze, and, of course, the atomic bomb.

As a result, there is a widespread feeling in this country that the only purpose of science is to develop weapons of war and that, therefore, science can be kept on a wartime footing.

Now, both of these assumptions are grossly untrue. The chief goal of science is not to develop weapons of war, but to understand nature. The knowledge of science is, and always has been, primarily used to improve the happiness and welfare of men; nor can science survive or thrive on a wartime footing. Science did not thrive during the past war.

On the contrary, science, as such, was stopped during the war while the scientists devoted themselves to developing weapons of war.

The developing of weapons of war, particularly under the stress of war, is a very different thing from doing scientific research. When the practices and techniques of weapon development are extended to pure science, science is stifled rather than strengthened. And yet it is a tragic fact, which bodes ill for the strength of science in this country, that the only Federal agencies today which are supporting to any large extent the Nation's program of basic science are the agencies whose primary function is a military one, namely, the National Military Establishment and the Atomic Energy Commission.

Now, both of these agencies have done a fine job in the supporting of science; but, since their interests are largely in military weapons, the areas of science they support are those related to military applications, and the methods that they are forced to use in such support derive more largely from the traditions of military development rather than from the traditions of pure science.

Therefore, I want to make, as a fundamental thesis of my remarks, the statement that the support of pure science, with which also goes the education of new scientists, is a totally different task from that of developing weapons of war and must, therefore, be treated on a totally different basis.

Now, to be more specific: I think it is obvious to the members of this committee that a strong base of pure science in this country is essential to national security. We were strong in the last war because we were strong in science. It will be even more important, if there should be another war, to have this strength to count upon.

Science is essential to national security. Nevertheless, when we attempt to extend to pure science the principles of secrecy which go under the name of security rules, we automatically suppress the progress of science. Therefore, secrecy imposed upon basic science is actually inimical to national security. Thus, we have the paradoxical situation that for greatest national security in the field of pure science there must be a minimum of the so-called security regulations.

It is unfortunate that this word "security" and the word "secrecy" have come to be regarded as almost synonymous. In the field of basic science, secrecy and security are neither synonymous nor even com-

patible. Unless these things are clearly understood, we will only have confusion when we discuss the program of the Atomic Energy Commission as it relates to the field of pure science.

May I come down more definitely now to the responsibilities of the Atomic Energy Commission in the field of pure science?

These responsibilities of the Commission are set forth fully in the McMahon Atomic Energy Act of 1946. You will recall that the Atomic Energy Commission was charged with three responsibilities: (1) for the development of atomic energy as a military weapon; (2) for the development of industrial applications of atomic energy; and (3) for the encouragement and support of basic science in fields related to nuclear energy.

I am personally very glad that the Atomic Energy Act does provide that the Commission shall lend its support to the development of pure science. Nevertheless, I am also cognizant that this responsibility is a most difficult one for the Commission to fulfill, because the policies which the Commission can and must adopt in forwarding its other two tasks are very different from the ones that it must adopt in forwarding basic science.

May I review briefly the history of the Commission's activity in the support of basic science?

When the Commission first took office, as you know, the atomic energy enterprise was in a precarious position, following the year and a half of uncertainty between the end of the war and the day the Commissioners finally took office.

The tasks of the Commission at that time, as I see them in order of their priority, were very clear cut; namely, first, the restoration of the bomb-development program at Los Alamos and the placing of this program on a firm foundation.

As other witnesses have already testified to you, this objective has been accomplished with superb success.

The second task of the Commission was to place upon a sounder footing the activities relating to the production of fissionable material. This meant removing the Oak Ridge and Hanford plants from a war-time footing, where speed was the primary consideration and economy and efficiency were secondary, and placing them on a permanent peacetime basis, with due regard to economy, efficiency, and stability.

Now, I am not an expert in the field of production of fissionable materials, but it is my firm conviction, from what I do know, that in this task, too, the Commission has met with great success.

Production facilities have been increased; production has steadily risen, and economy and efficiency have been successfully achieved.

The third task of the Commission was to build up the facilities for the development of atomic energy as a peacetime tool. This means primarily the development of methods for producing atomic power.

The Commission could not give adequate attention to this task until the first two were placed on an adequate footing, but during the past year or more enormous strides have been made in connection with this objective, the strengthening of the atomic power program; and this, too, can now be regarded as on a solid foundation and progressing most satisfactorily.

Fourth, the final task of the Commission, in order of priority—and I am neglecting a number of other tasks which I will not speak

about—was the development of the country's facilities for research in science, in the field of nuclear science and allied fields.

In this area, the task of the Commission was twofold: (1) the development of adequate research programs in the Commission's own laboratories and (2) the development of many centers of research in universities and industry throughout the country.

Naturally, again, the Commission gave first attention to the research program in its own laboratories. I am not speaking here so much of the research at Los Alamos and Argonne and Oak Ridge, research which is incidental to the development of atomic weapons or nuclear power. Much research of this sort is, of course, necessary, and is being pursued on a large scale at those laboratories.

There are, however, two Commission laboratories which are primarily devoted to what we call basic research. These are the Radiation Laboratory of the University of California and the Brookhaven National Laboratory on Long Island. Neither of these laboratories is primarily concerned with atomic weapons or with nuclear power. Both are concerned with strengthening our basic knowledge in nuclear physics, in nuclear chemistry, in radiobiology, in metallurgy, and other fields which are related to nuclear science.

Now, both of these laboratories were actually established by the Manhattan District before the Commission took over, but during the last three years the Commission has been most successful in encouraging the growth of these laboratories so that both are now flourishing and are valuable assets to the country's scientific program.

It is unfortunate, though possibly inevitable, that certain secrecy restrictions have to be imposed on these two laboratories. At neither of them does the work, for the most part, have anything to do with the design or production or use of atomic weapons.

However, at Berkeley, there is some work on the chemistry of fissionable material, and at Brookhaven, one of the chief facilities is a nuclear reactor, whose design is still classified. Practically all the other activity at these two laboratories is unclassified and is freely published and freely discussed, as it must be if these laboratories are to make a contribution to science.

Yet, because of the small amount of classified work, secrecy restrictions must be imposed even at some cost in speed and the effectiveness of the work.

This situation, I say, although unfortunate, is at the present time inevitable. I would, however, like to pay tribute to the Commission for the wisdom it has shown in providing, as far as is possible within security requirements, for the atmosphere of freedom in both of these laboratories, which is most essential to their success.

I would like now to come to the final aspect of the Commission's responsibility in the field of basic research, namely, the stimulation of research throughout the country in fields related to atomic energy.

Science is not strong solely by having one or two large laboratories. Its strength grows from a widespread interest at many centers, by many individuals. Also, science will stay strong only if there is an extended program of training of new scientists. Consequently, the Commission early recognized as a part of its task the stimulation of university centers of research and of teaching in the field of nuclear science.

The General Advisory Committee, of which, as I have said, I am a member, has always had a very keen interest in the Commission's activity in strengthening research at universities. This is partly because many members of our committee are university scientists themselves, and it is partly because the General Advisory Committee is charged under the law with advising the Commission with respect to scientific and technical matters.

University research is an area in which we feel competent to advise. We were quite cognizant of the fact that the Commission was unable to take any strong forward steps toward the encouragement of basic science in universities during the early days when it had more urgent tasks to perform. Even so, we, on the committee, on various occasions, gently, I think, reminded the Commission that sooner or later they must direct themselves to this task. They have now made a number of most important moves in this direction. The first one was to continue and strengthen the program which was initially established by the Manhattan District relating to the distribution of radioactive isotopes manufactured in the reactor at Oak Ridge.

It happens that I was asked by General Groves back in 1945 to serve as chairman of what he called the Interim Advisory Committee on Isotope Distribution, at the time when the program was being established, shortly after the end of the war.

General Groves felt, very wisely I believe, that the Manhattan District could make an important contribution to the development of science in this country by providing recognized scientific laboratories with radioactive isotopes which they needed in their research and which could be supplied from the Oak Ridge Laboratory.

Our Interim Advisory Committee set up a suggested program and a set of suggested policies to be followed in allocating these isotopes, and this program and these policies were adopted by the Manhattan District.

The Interim Committee recognized that in the initial stages the program would need to be a restricted one with only a few isotopes available, and the distribution policies would need to be on an experimental basis. But, as time went on, and as the needs for the isotopes increased and the ability of Oak Ridge to produce them increased, we proposed that the distribution program be gradually expanded, as, of course, it was.

When the Atomic Energy Commission took over, this Interim Advisory Committee was continued for a time, and in line with its recommendations the isotope distribution program was gradually enlarged. Eventually, after the Commission got fully organized, it appointed a permanent committee to advise on this matter, and, because of my own membership on the General Advisory Committee, I withdrew from the isotope advisory group.

As a member of the General Advisory Committee, however, I have followed the isotope distribution program with some interest up to the present time.

As you know, our committee has been asked to advise the Commission on this isotope distribution program, and the position of the General Advisory Committee on this subject has been outlined to you in considerable detail by Dr. Oppenheimer, our chairman. I wish only to add to Dr. Oppenheimer's testimony, that I agree fully with

what he has said, and that I believe the isotope distribution program has been an extremely valuable one and has been, on the whole, very wisely administered, and that it has made a most important contribution to the progress of science.

I believe, also, that the distribution of isotopes abroad was a wise move under the conditions under which the foreign distribution was set up. The knowledge of science knows no national boundaries, and the developments of science in Europe will have just as great a value to us as to any other country; indeed, probably a greater value because we have greater technological facilities for making use of new knowledge that opens up in the field of science.

The distribution of radioactive and, later, of stable isotopes to research laboratories in this country and abroad, then, was the first step which the Commission took toward the strengthening of basic science.

A second step of great importance was taken when the Commission entered into a cooperative agreement with the Office of Naval Research for the joint support of projects in nuclear physics and in biology and medicine.

The Office of Naval Research, as you know, has taken a keen interest in the development of basic science in this country since the war. In recognition of the important role which science played during the war in the development of our military strength and the important role which it will play in any future conflict, the Office of Naval Research has taken that keen interest.

The demands upon the Office of Naval Research, however, were much greater than its budget would allow it to fulfill, and the contribution of the Atomic Energy Commission to this program was of far-reaching value.

A very large share—and this is not often realized—of the basic research in nuclear physics which is now being carried on in the universities of this country is supported by the joint Office of Naval Research-Atomic Energy Commission program.

A third step taken by the Atomic Energy Commission in support of basic science was the direct support, through contracts of its own rather than the Office of Naval Research, of university research projects.

I personally believe that the Atomic Energy Commission would have been wise to have initiated this program of direct support at an earlier date than it actually did. However, I also understand the reasons why this was impractical in view of more urgent tasks.

Fortunately, the cooperative program with ONR enabled the Atomic Energy Commission to get its feet wet in this field while it was setting up for itself a suitable administrative organization to handle the problem more directly.

I believe that the Atomic Energy Commission's direct support of research projects in nuclear physics, in nuclear chemistry, radiobiology, and other fields is of very great interest to this country for the following reasons: (1) These activities, these research activities, greatly need more financial support than the universities themselves are able to give. The university budgets are hard pressed because of rising costs in every area, and research in many of these fields requires expensive facilities which the universities themselves cannot afford; (2) a strong program in these fields is important to national

welfare, and it is appropriate that an agency of the Federal Government should take responsibility for encouraging progress in these areas; (3) the atomic energy program itself, because it depends heavily on science and technology in many areas, greatly needed the support of and the contacts with basic science. In the long run, progress in the atomic energy field will depend very critically on the basic research program of the country and the new knowledge which this program will uncover; (4) it is wrong for the sole Federal support of basic science to come from a military agency, even one such as the Office of Naval Research, which has shown exceptional wisdom in administering its program.

The CHAIRMAN. Who is the director of that?

Dr. DuBRIDGE. The Office of Naval Research is now headed by Admiral Solberg, and the scientific director is Dr. Alan T. Waterman, and they have quite a capable scientific staff in various fields to assist them.

Universities and scientists feel more comfortable in having also a civilian agency with which to work and which can lend support, such as the Atomic Energy Commission.

Finally, the Atomic Energy Commission is specifically charged with the encouragement of basic science in the Atomic Energy Act of 1946. I firmly believe that one of the best investments the Federal Government could make would be to allow in the Atomic Energy Commission budget a sum of not less than \$25,000,000 a year for the direct support of university programs in basic science in fields related to the Commission's responsibilities.

A final step taken by the Commission in fulfilling its responsibilities for the support of science was in the establishment of the National Research Council fellowship program. With this program, of course, you are all familiar.

I wonder, however, if you are familiar with the long history of the National Research Council's fellowships. As you know, these were first established through a grant by the Rockefeller Foundation back in the early 1920's, and at that time the National Research Council picked the most promising of the young Ph. D.'s in science each year and provided them with stipends in research funds which they needed to continue their studies at a research center in this country or in Europe.

A very large share of the leading active scientists of today got their start through National Research Council fellowships. For example, Dr. Oppenheimer was a National Research fellow in 1927 and 1928. Dr. Ernest Lawrence of the University of California was a National Research Council fellow from 1925 to 1927. Dr. H. D. Smyth, now a member of the Atomic Energy Commission, was a National Research Council fellow from 1921 to 1924, and I am glad to admit that I am prejudiced in this matter, since I, also, was a National Research Council fellow from 1926 to 1928.

Mr. HOLIFIELD. Dr. DuBridge, may I interrupt you there?

Dr. DuBRIDGE. Surely.

Mr. HOLIFIELD. We have had, as you know, quite a sensational situation develop among these fellows in regard to the granting of a fellowship by the National Research Council to one Hans Freistadt.

Dr. DuBRIDGE. Yes, sir.

Mr. HOLIFIELD. Who was an open and avowed Communist.

We have had under consideration, of course, the wisdom of extending this service which the Atomic Energy Commission has been able to extend through this National Research Council to these boys, giving them this opportunity, and the wisdom of continuing this has been quite sharply questioned in view of the fact that we are, in effect, in the case of Freistadt, in his case, for instance, expending taxpayer's money to people who are not in accord with our form of government and are in sharp discord with it, you might say.

The question I wish to address to you is this: Do you believe that it is possible for the Atomic Energy Commission to continue the fellowships in the field of nonsecret research, basic research, without the onus that will come upon the Commission's work as a whole in cases that develop such as the Freistadt case?

Dr. DuBRIDGE. I think the National Research Council fellowship program is a most important part of the Commission's activities. I think it would be most unfortunate to the Commission and to the country if this fellowship program should be abandoned.

Mr. HOLIFIELD. You are speaking of the field of nonsecret research?

Dr. DuBRIDGE. Exactly.

Mr. HOLIFIELD. Of course, in the secret field now we require the FBI clearances.

Dr. DuBRIDGE. That is right.

Mr. HOLIFIELD. Now, about the FBI clearances in the nonsecret fields.

Dr. DuBRIDGE. I will restrict my remarks to the education of scientists in fields which are not secret.

Mr. HOLIFIELD. Yes.

Dr. DuBRIDGE. To place restrictions on the choice of fellows in those fields, restrictions which would adversely affect the research-fellowship program I think would be a very bad thing for the country and a very bad thing for science.

To answer your question specifically, I think that the initiation of an FBI investigation for all of these youngsters, students, who are being considered for fellowships would be a very bad thing for the country. To extend secret investigations by the FBI to students, undergraduate and graduate, throughout the country, inquiring among their young friends and relatives about their political beliefs, associations, and affiliations would be a very disrupting influence.

It would bring the basic ideas of a police state into American youth. I think this would be a very unfortunate thing, not only to the fellowship program itself, but for the country as a whole.

Mr. HOLIFIELD. You think that the calculated risk that we would be taking in educating an individual who might eventually be disloyal to the country would be justified in relation to the amount of good that would be accomplished by the hundreds of young men who could enter the field of basic research and receive assistance, that the good which would be accomplished would far outweigh the small percentage of bad that would occur in isolated cases such as the Freistadt case?

Dr. DuBRIDGE. I firmly believe that. If it is Government money you are worried about, it would cost thousands of times as much to investigate everybody as to pay a few hundreds to a few Communists, even if they did get in. But it is not the matter of money so much, I

think, as the principle of the thing; and to extend political investigations to young students working in nonsecret fields where there is no question of national security involved at all I think is contrary to American principles of democracy, and we should not enter into it. We should take this small calculated risk.

Mr. HOLIFIELD. You have no objection to the loyalty oaths that are required, do you?

Dr. DuBRIDGE. I have no objection to it, except insofar as it might be a first step toward going further. I think the loyalty oath is a piece of paper which has very little meaning. It will eliminate an occasional naive youngster who is quite willing to admit he is a Communist and still think he can be loyal to this country.

It will not eliminate the really dangerous, subversive Communists, who are quite willing to perjure themselves if they think it to their advantage to do so.

Therefore, we will soon find the loyalty oath is not eliminating the possibility, at least, of having subversive Communists apply and possibly receive these fellowships. So it will be reasonable to say: Shall we not go a step further? And a step further will be made and that, in turn, will be found to be inadequate, and pretty soon we will have the whole FBI machinery investigating these youngsters again.

So what I am afraid of—while I oppose communism and do not like to see Communists in the fellowship program, I am still more afraid of the methods which would have to be adopted to prevent this. There will only be occasional ones, and I think the methods which would have to be adopted in order to prevent this are far more dangerous than the small risk of having an occasional Communist on the fellowship rolls.

Mr. HOLIFIELD. You know that the public is somewhat confused as to the differentiation between the nonsecret and the really vital secret work, and it is hard, I think, to get to the people the real differentiation between those two programs of study. Therefore, it seems to me that this field of nonsecret research, while I am heartily in favor of it and I believe it could be carried on personally in the manner in which it has been carried on, but it seems like because of the explosive public opinion, which is attached to anything having to do with the atomic energy program, it might be necessary to disassociate that field of research from the Atomic Energy Commission and place it, for instance, in a National Science Foundation, which we hope to establish.

Strictly from the standpoint of yielding with the gale of misunderstanding, which is abroad in the land, and the hysteria which is abroad in the land, not from really a logical standpoint, that is.

Dr. DuBRIDGE. I certainly hope that the National Science Foundation will be promptly established. When there is such a foundation to provide fellowships and to provide support for the basic research in all fields of science, that will relieve some of our problems. However, I think for us to retreat in the face of a public misunderstanding from a most valuable program, which is most appropriate and indeed very important for the Atomic Energy Commission to pursue, I think to retreat from that program in the face of public misunderstanding would be unwise. I would rather try to correct the public misunderstanding and make it clear to the public, if we can, that 99 percent of the so-called field of atomic science is just as nonsecret as biology

or medicine or agriculture or metallurgy or seismology or what have you, and there are no more reasons for extending into this vast non-secret area of atomic physics secrecy and security regulations than there is to extend them into the field of biology, medicine, agriculture, and these other fields.

I think it is worth while to make an effort to make the public understand that and to bring this point out sharply in our discussions, so that when the Commission is operating in these nonsecret fields, it has the same policies that are always adopted in the encouragement of science in nonsecret fields. When it is operating in secret fields, it adopts the policies appropriate to secret work.

Mr. HOLIFIELD. Notwithstanding the technical approval which the Commission exercises and must exercise in the approving of these fellows, it is true that the real responsibility lies among the Board of the National Research Council, and it is true that they are following practices and procedures which they have followed for years in selecting these brilliant young men for special training.

Dr. DuBRIDGE. That is right. And that set of policies and procedures which the National Research Council has followed for nearly 30 years now has proven its value by its results. As I have said, a large share of our scientific strength at this moment in this country has been built up through these National Research Council fellowships. I think it is wise to continue and expand them because we need them even more today than we did in 1925.

Mr. HOLIFIELD. It is perfectly possible that if some of these brilliant men that have been educated in these fellowships, if their political and economic views should have been questioned in the days when they were immature, struggling young scholars, that they may have been eliminated by a rigid loyalty questionnaire program.

Dr. DuBRIDGE. It is perfectly possible, and it is very fortunate that such inquiries were not made at that time. You never can tell where brains will arise. They may arise in association with very curious political ideas, but brains are a national asset, and we should encourage them and support them wherever they are found.

I do not like also, as I think a previous witness indicated, the idea that we are doing a favor to these fellowship candidates by giving them a fellowship. We are doing a favor to the country by developing their skills and their brains in the field of science. The country needs those brains and the country is getting a good bargain in spending money to train these men who will be important in the future leadership of science.

Mr. HOLIFIELD. One relatively small scientific discovery by one of these young men in actual monetary value would far outweigh the cost of the program?

Dr. DuBRIDGE. Precisely.

Senator MILLIKIN. I would like to suggest to the doctor that as to whether or not the investment is well made depends on how the young men turns out and how he turns out may have some relationship to his viewpoint.

I would like to suggest also that there is no right in any citizen of the United States to have a fellowship. I wish to take sharp issue with you on that. There is no right in anyone to have a fellowship.

The United States, which spends the money, has the right to set the standards by which those men will be chosen. The people of the

United States may be very wrong and they may be misinformed, as has been suggested, but they have the notion, for which considerable support can be developed, that the United States should not be spending the taxpayers' money to educate anyone who joins a conspiracy against the United States. Now, that is a sort of grass-roots notion, it may not appeal to straight logicians, it may have some defects under some sophisticated philosophy, but the average fellow in the United States has the notion that the taxpayers' money should not be spent to educate people who are in a conspiracy against the United States.

Now, then, in spending that money—and since that is the basic feeling, and I share that feeling—since that is the feeling, we are entitled to take those steps which are necessary to eliminate the youthful, the middle-aged, or the aged conspirators. It is just that simple.

Now, maybe the Communist oath will not do it. I am inclined to agree with you that if a man is a Communist, a real Communist, he does not pay any attention to the oath; but certain people are finding that the crime of perjury has certain perils to it, and it may act as a deterrent, which is a useful thing when you are trying to keep bad people out of any service. It builds up some of the odds against the ease with which people can join these services for conspiracy purposes.

Now, I am curious about the FBI business. I have no opinion on whether there should be an FBI investigation, but let me ask you bluntly: What is wrong with an FBI investigation so far as this particular purpose is concerned? That is, of determining who we want to have in the fellowships.

And in that connection, Doctor, I remind you we are not engaged in a shotgun educational process; we are giving these fellowships to men who work in nonsecret fields preparatory to the secret field. We are not just educating scientists on a shotgun basis. We are educating these fellows to prepare them for secret work.

Of course, we all hope by the time they are educated we will no longer have the menace of war and that there will be no occasion for secrecy, but until we get rid of that, we have to govern ourselves accordingly.

What do you have to say about that?

Dr. DuBRIDGE. You brought up two or three points.

Senator MILLIKIN. Take them one at a time.

Dr. DuBRIDGE. You say that the purpose of this program is to educate scientists for secret work. That was not my understanding of the purpose of the program.

Senator MILLIKIN. I suggest to you, Doctor, that it follows just from a statement of the matter that the Atomic Energy Commission has no authority to engage in general educational campaigns for the aid of science.

Dr. DuBRIDGE. But it is charged with the encouragement and support of basic science, and with the stimulation of training of scientists in fields related to the field of atomic energy.

Now, as I have just said—

Senator MILLIKIN. If I may interrupt, I would suggest that is a pretty big tent. I suggest any part of the general field of science has some relation to the field of atomic energy. The business of the Atomic Energy Commission is to concern itself with atomic energy.

We cannot sophisticate that off into thirty-second-cousin activities. The purpose is to educate men who will be useful in the field of atomic energy, not other fields, not too distantly related fields.

Keeping that in mind, the purpose obviously is to educate men in nonsecret work with the ultimate idea that if secrecy is then necessary, that they will be available for secret work.

What is the use, then, if that be true, of being careless about the kind of fellows that you bring into nonsecret work?

Dr. DuBRIDGE. I think the basic purpose of the fellowship program probably is the real question that is before us. As I said, I did not understand that the sole purpose was to educate men for secret work, but a part of the purpose was to educate men to strengthen those fields of science which have some relation to atomic energy and which are not now and may never be secret fields.

One can never predict in what field of science a result of very great importance to atomic energy may arise.

Senator MILLIKIN. And one cannot predict, Doctor, which one of these fellows you might want to put into secret work.

Dr. DuBRIDGE. That is right. When he goes into secret work, obviously, you must then clear him. There is no question, I think, about that.

But it seems to me that carrying out the clearance during his student days is unnecessary and undesirable.

Senator MILLIKIN. Let me get it down to brass tacks. Why spend the money on someone who might not be cleared when the day of clearance comes?

Dr. DuBRIDGE. Would you rather spend a hundred thousand dollars in clearing everybody than spend \$1,000 in a stipend to one?

Senator MILLIKIN. I would rather spend a hundred thousand dollars or several times a hundred thousand dollars to keep any conspirator against the United States Government out of the field of atomic energy. Put your own dollar sign on it. Write your own check on that.

Dr. DuBRIDGE. I would agree if you are talking about the secret fields of atomic energy, that we should spend any amount of money to keep subversive influences and disloyal influences out of those fields, but I think it is very difficult to initiate a program which is guaranteed to keep them out of any field, nonsecret field, which is within the scope of the Atomic Energy Commission's activities as set forth in the law.

Senator MILLIKIN. Now, let us take the FBI investigation. Those who object to the FBI investigation in most instances do not object to the oaths. There is a certain inconsistency there, but we will pass that.

Now, you tell me what is wrong with the FBI investigation. I would like to have someone make an intelligent comment on it. You said awhile ago that it introduces the police state into the life of the young men. Doctor, it might be better to introduce a police state into the life of some of these young men than to have a police state introduced to the whole United States.

Dr. DuBRIDGE. The FBI investigation, as you know, involves a secret inquiry among friends, relatives, associates, about an individual's political beliefs, his political activities, all of this must be done on a secret basis. The men and women who make statements about the candidate remain anonymous. They can make statements without being under oath, without being known to the candidate, and while

all of this may be necessary in clearing people for secret work, I just do not think that this is a part of the American democracy in non-secret fields in education or in any other activities that have nothing to do with national security as such.

Senator MILLIKIN. If the secret fields were not connected with the nonsecret fields, I would gladly and quickly agree with you.

Dr. DuBRIDGE. Then the question boils down to how you are going to separate the nonsecret fields from the secret fields. I judge what you mean, therefore, is that the areas which the Commission is charged under the law with supporting must be connected with the secret field. But there is an enormous amount of work in areas related to biology and medicine and nuclear physics, to chemistry, and so on, which the Commission is charged with supporting under the law, which has either immediate or remote connection to a secret area.

Furthermore, there are other areas of science whose connection to atomic energy we may not even know about. As soon as you start getting outside the secret fields at all and say that because there is a connection, we must extend the FBI clearance, pretty soon you have the whole field of science and education under it.

Senator MILLIKIN. Let us assume that the student is not preparing himself for a secret field. Let us assume we could tell in advance that this particular fellow will not be in a secret field. I still suggest to you that the American people might not want to give a fellowship to a fellow who joins a conspiracy against his country to work in a nonsecret field. They might not want him to have a fellowship.

As long as they are spending their own money, they have the choice of the kind of fellows they want to educate.

Dr. DuBRIDGE. I realize there is this feeling. I think it is an unfortunate feeling, not because I do not share in a sense the distaste for giving money to a man who is a member of the Communist Party, but I think that the methods that must be adopted to be sure we prevent that are far more dangerous and more distasteful than having an occasional Communist receive a Government stipend.

Do you know how many Communists receive Government stipends through the GI scholarship program? I do not, and we did not inquire. Mr. Freistadt did receive a GI scholarship. As far as I know, nobody complained at that time or even complains now about that fact.

Senator HICKENLOOPER. That is a different philosophy entirely.

Dr. DuBRIDGE. That is giving Government money to a Communist, which is what we are talking about.

Senator HICKENLOOPER. The GI educational bill is based on the theory of an earned stipend. It is the payment for something that has been earned prior to that time.

Dr. DuBRIDGE. I would think a national research fellowship is also an earned stipend, based upon the fact that the man has brains and ability of value to this country and it is to this country's interest to educate him. He has earned this education by his ability, as proven in his previous work, and he is doing a service to the country by training himself.

Senator MILLIKIN. There, Doctor, we have a clean-cut issue.

Dr. DuBRIDGE. I think that is where the issue arises.

Senator MILLIKIN. He has not earned it until he has earned it, and it depends on what kind of a bird this fledgling becomes after he gets

over the pinfeather stage and develops his wings and starts to fly. Then we can say he has earned it. We cannot say it before, I suggest.

Dr. DuBRIDGE. It is a question of the definition of "earning." When we find bright young fellows in the country and educate them for the national welfare, it seems they are on the same basis as the GI scholarship.

Senator MILLIKIN. I think Senator Hickenlooper has demonstrated the fallacy of that distinction. But, in addition to that, there is still another fallacy, and that is the inescapable part of this discussion—that we are dealing in the field of atomic energy and that we were not giving GI scholarships to deal necessarily in the field of atomic energy.

Now, what is wrong, what is this harmful thing resulting from the FBI investigation, which becomes all right when the man starts to enter secret work but is not all right when he is in nonsecret work preparing possibly for secret work?

Dr. DuBRIDGE. Simply that the secret areas of science are very small, a tiny fraction of the whole area of science; and if the blanket of clearances and security regulations and secrecy, which need to be imposed on the secret areas, are extended to the whole area of science, you are going to have a very big blanket, indeed.

Senator MILLIKIN. The whole area of science will not be covered by those who get fellowships.

Dr. DuBRIDGE. You have already suggested that the National Science Foundation fellowships, for example, would be giving Government money to Communists unless there is an FBI investigation.

Senator MILLIKIN. I did not suggest that.

Dr. DuBRIDGE. It was suggested in a previous discussion. As soon as you say that even in nonsecret fields FBI clearance must be essential if it is a Government fellowship, then you find that Public Health scholarships, National Science Foundation scholarships, Agriculture Department scholarships, would have to come under the same regulation, and I do not like to see that blanket extended beyond the secret field.

Senator MILLIKIN. I do not like to see it, either. I do not like to see it in this field. I hope the day will come when we do not need secrecy at all; whereupon we will all be more happy. But in this field of atomic energy, where we are training men for nonsecret work to start with and possibly secret work thereafter or in ramified related subjects, I would like to have your reason why there should not be an FBI investigation in terms of the damage that such an investigation does, if you please, to science, or, if you please, to the young man.

Dr. DuBRIDGE. The damage which it does is the damage not only to the individual, but to the country in extending FBI secret investigations to a large area of American life and, particularly, to American youth.

Senator MILLIKIN. How large would that area be?

Dr. DuBRIDGE. There are now 500 National Research Council fellows, I think, in actual residence at universities.

Senator MILLIKIN. Do you call that a large segment of American life?

Dr. DuBRIDGE. There have been hundreds of others who have applied.

Senator MILLIKIN. Would it be a large segment of American life?

Dr. DuBRIDGE. Yes; a very large segment.

Senator MILLIKIN. What is the figure? You are a mathematician, and I want to get your idea of mathematics. Put your top figure on the number that would be involved.

Dr. DuBRIDGE. You are speaking now of only those who would be involved in the Atomic Energy Commission activities?

Senator MILLIKIN. That is right.

Dr. DuBRIDGE. I assume that there would be possibly a thousand a year.

Senator MILLIKIN. Call it a thousand a year. We have almost 150,000,000 people in the United States. Do you call that a large segment of American life?

Dr. DuBRIDGE. It is a fairly large segment, since it includes many universities throughout the country, in all parts of the country; it includes not only the applicants, but their friends and their associates who will be interviewed by the FBI.

Senator MILLIKIN. Multiply it, Doctor, by five and you still would not have a large segment of American life. There is a considerable segment of American life that is not involved in scientific matters.

Dr. DuBRIDGE. That is true.

Senator MILLIKIN. And they are the producers who produce the money that enables us to carry on this scientific program. They are interested in this business. You had better give some attention to them.

Dr. DuBRIDGE. I have given very careful attention, and I think the investigation and the interviewing of thousands of American students at universities throughout the country—I think it is a large enough segment of the youth of this country to give us cause for worry.

I would not like to see secret investigations extended so widely when it is dealing with nonsecret work, because that opens the door to extending it still more widely.

Senator MILLIKIN. Doctor, you have extended it argumentatively. I have not extended it. I am talking about atomic energy.

Dr. DuBRIDGE. That is true, but the same arguments you give would then later be used for further extension, and I am trying to dig a trench right here.

Senator MILLIKIN. Let me suggest, Doctor, you let us worry about that when the first extension develops. We are talking here, this inquiry concerns itself with atomic energy. I think all of us are aware of the implications of secret investigations. We do not want any more of it than is considered to be necessary.

I am trying to develop from you: How is this young man harmed by an investigation that will determine whether or not he has joined up with something that represents a conspiracy against this country?

Dr. DuBRIDGE. The harm comes from the very considerable number of perfectly honest and loyal men who will be disqualified on evidence which is quite inconclusive and possibly even wrong.

Now, during the war I saw many people, honest and loyal men, disqualified for employment in war programs on misunderstandings, on incomplete information, on misunderstood information, on all sorts and kinds of information, some of which might be true and some of which the truth could not be verified. There will be a large number

of perfectly loyal and able young Americans who will be disqualified. That will be a very serious matter to them.

Senator MILLIKIN. This inquiry indicates that the Commission is not harsh in judging these FBI files. The Commission will evaluate the FBI files. Therefore, the responsibility will be in the Commission's hands, and one of the criticisms—and I am not passing on it at all—in this hearing is that the Commission has not been harsh, that it has been excessively liberal in this clearance.

So when you have considered that fact, together with the very small number of those who might be subjected to suspicion, you are dealing with a very small segment of American life. That does not mean that that small segment should be persecuted, that it should be denied any rights it has. I am quite a crank on that subject. But it is a small problem in relation to an enormously important subject.

Dr. DuBRIDGE. But all big things have small beginnings. I am afraid of the results.

Senator MILLIKIN. Let Congress worry about the ramifications.

Dr. DuBRIDGE. I hope they will.

Senator MILLIKIN. I suggest we keep our minds on the purpose of this inquiry.

Dr. DuBRIDGE. Yes. I think there is a clear difference in point of view here, and I do not know whether I can say anything more to clear it up.

Senator MILLIKIN. I hoped that you would convert me, Doctor.

Mr. HOLIFIELD. Dr. DuBridge, the part with which I am concerned, along the line of your reasoning, is that there is a great area of science which is nonsecret, in which discoveries can be made without any danger at all to the Nation in any way, but those discoveries that are made in the nonsecret field might become very valuable in application in the secret field.

Dr. DuBRIDGE. That is right.

Mr. HOLIFIELD. And if you stultify the nonsecret field, then you preclude to a certain extent the possibility of making tremendously important scientific discoveries, say, in the field of chemistry or metallurgy, which are in the nonsecret field as far as those two sciences are concerned, but the application of that discovery in the construction of machinery, in the construction of the mechanism of the bomb later on might prove of inestimable benefit in the secret field.

I think that is the part that is unclear in the minds of the people, that there is this tremendous area where important discoveries can be made for the benefit of the 150,000,000 people, but also which might have a very direct application in the science of atomic energy for weapons.

Is that not true?

Dr. DuBRIDGE. I agree with you completely. I think that is one reason why it is the Commission's responsibility to encourage the development of these nonsecret fields. You cannot tell where an important discovery will arise.

Furthermore, the Commission's own strength for the future will be undermined when these FBI investigations come in, if they do, because an individual, a bright individual, who might have an interest in nuclear physics, when he finds that as soon as he gets into that

field, he is going to be investigated by the FBI, he is going to be regarded as a dangerous character, he will simply say, "Why should I bother to go into that field? There are other fields of science."

So that the field of nuclear physics might be weakened by diverting the best brains of the country to other fields which might not be so critical to national welfare. As a matter of purely self-concern for the national welfare, we ought to encourage the best brains to go into this.

Mr. HOLIFIELD. On the mathematics, the relation of the thousand students to the 150,000,000 people, I submit that is a clear misapplication of logistics. The application, it seems to me, should be the thousand young men to the number of people engaged in scientific research.

Dr. DuBRIDGE. Right.

Mr. HOLIFIELD. That is the comparison, the legitimate comparison. Now, if the figure of the thousand young men is 10 percent or 5 percent of those engaged in basic research, then that is your comparison with which we are concerned.

Dr. DuBRIDGE. That is right.

Mr. HOLIFIELD. It might be interesting to bring up at this point that already this thing is spreading and in the House an attempt is being made now to write this thing into the National Science Foundation bill. How far it will go on the floor of the House by some hysterical Member, I do not know. He may demand a complete FBI investigation of every individual who participates in the National Science Foundation, a complete FBI clearance.

The danger of the spread, as you have pointed out, is the thing with which we are concerned.

Dr. DuBRIDGE. I think that is cause for very deep concern. This would be an opening wedge. Every disaster has started in a small way.

If you look at the early days of the Nazi regime in Germany, some of their earliest activities seemed relatively harmless at the time, but they were the opening wedge.

Mr. HOLIFIELD. They eliminated the Society of Masons in Germany and then the labor unions. They went from one thing to another and finally liquidated everyone who opposed nazism.

Dr. DuBRIDGE. That is right.

Senator HICKENLOOPER. I might suggest to Dr. DuBridge that what he has just said is extremely significant. They do start in a little way, and it is the infiltration of those who conspire against the United States who start in a small way and who are brushed off with an indifference and the statement that their belief in communism is not inimical to the general broad picture of the United States—it is that very thing of infiltration that lays the basis for the success of the conspiracy later.

Dr. DuBRIDGE. That is perfectly right, Senator Hickenlooper, and I did not suggest that the FBI should reduce in any way its activities for getting after subversive Communists wherever they are found. It should trace down Communist organizations; it should bring to the light those who are engaged in subversive activities. That is a job which the FBI should be continually pursuing.

Senator HICKENLOOPER. When they do, there is a very vocal segment in this country which begins to pooh-pooh and belittle the FBI's

investigation, that begins to resist them, that begins to defend these subversives who are uncovered, and, unfortunately, we are too apathetic about it, in my judgment.

Dr. DuBRIDGE. I do not defend that point of view.

Senator HICKENLOOPER. I am not suggesting that to you as an individual at all. I want to make that clear.

Dr. DuBRIDGE. When proof is brought out by the FBI about subversive activities, I think all normal legal channels for punishment or elimination of such dangerous individuals should be found, but I am saying, to find such individuals in the student field, the field of fellowships, involves the bringing in of an FBI investigation in a sweeping way, which I think is dangerous to American democracy.

Senator HICKENLOOPER. I may say this, Doctor, as I have repeatedly said: I have favored the fellowship program, and I still favor the fellowship program, of the Atomic Energy Commission. It is the administration and the methods of selectivity that I oppose; and, also, I was surprised to learn that they were going into all fields of basic science, which was not my understanding of the justification for the fellowship program.

It was my early understanding that the justification for the fellowship program of the Commission was to educate likely young scientists who would form a reservoir which eventually can be dipped into from time to time as the need arose to further the vital things of atomic energy.

There I have disagreed—that is my understanding—from what apparently now is the policy. But I shall not support the elimination of the fellowship program from the Atomic Energy Commission's activities. I believe in it, and I think it should be operated. It is the selectivity and perhaps the scope that I have been somewhat confused about.

Now, I would like to ask you this: There are various types of science. We have laid great emphasis on the physical and the exact sciences here, but I am wondering if there is not a greater science.

Dr. DuBRIDGE. If there is not what?

Senator HICKENLOOPER. I am wondering if there is not a greater science from the standpoint of immediate importance than all of the rest of them, and if that is not the science of government.

In other words, government can close every laboratory in the United States or in the world. It has closed the laboratories to free thought and free investigation in other places. Government can close the doors of every church and religious and moral institution in this land if it gets out of hand.

The science of government, while it may go wobbling down the road, first to the right and then to the left in various ways, nevertheless, the science of government is the thing that keeps the laboratories open and free and keeps research available for the advancement of people.

Now, in our Government we do not believe in nurturing people in the Government activities who conspire to destroy the very system that we want to keep alive. It would seem to me that in science there would be a similar resistance among the scientific people themselves to the nurturing of people whose conspiratorial attitude is to destroy the very free system which keeps their laboratories open.

Dr. DuBRIDGE. That is right, and there is.

Senator HICKENLOOPER. I believe there is. I have said repeatedly that scientists have done perhaps as patriotic and grand a job as has ever been done by any group so far as their contribution is concerned, but I cannot defend any philosophy that opposes the greatest reasonable selectivity of people who go into science in order to keep out of that field—that is, at Government expense—people who, as Senator Millikin said, are members of a conspiracy, which will not necessarily destroy science as such, but will destroy the system that keeps science free.

It would seem to me that that is a very important thing in our attitude toward beliefs of this kind.

Dr. DuBRIDGE. I hope you do not feel that any statements which have been made by scientists or by myself on the question in regard to this FBI clearance is in any way an attempt to defend Communists or defend communism as such or defend subversive activities of any sort. None of us wish to defend those things.

We believe there are mechanisms in our Government for hunting out offenders and taking proper methods of punishment or elimination of them from this country, the elimination of such offenders, but we feel hysteria caused by a fear of Communists in this country can introduce into our own democracy some of the very things we do fear in communism, namely, the police-state methods, the review of political opinions, the purge of scientists and the purge of other people, too, on the basis of political ideas.

How many of these people who are said to be Communists or fellow travelers—and incidentally, the terms are not very clearly defined—simply have a sort of political feeling usually on the basis of youthful naivete that here is something new they wish to explore because it has some attractive features?

They will get into it and get sick of it in a couple of years and be out of it and be better and more loyal American citizens perhaps as a result of their practical introduction to communism and the Communist conspiracy. It is not as though these people are permanently tied up and are forever subversive citizens. They may not be. If they are, they should be investigated by the FBI, and they should be brought through the normal legal procedures for necessary punishment for any illegal or subversive action. But let's not extend police-state methods to a large section of American life in the hysterical fear that one or two such fellows are going to overthrow the country. I do not think they will.

Senator HICKENLOOPER. I think that minimizes the problem considerably, and probably minimizes the entire pattern of Communist infiltration.

But there is another matter that I want to mention. I think the chairman has to leave very shortly, and I want to hurry along.

There is the suggestion that the only people who will make discoveries—I do not mean to say it has been made flatly that way, but the idea that the only people who will make great discoveries in this field are those against whom some background information is bad. It seems to me that out of the 500 young men—and that is infinitely more than the Rockefeller Foundation and all of the rest of the foundations put together have been able to place in the last few years, anyway—it seems to me that in those there is a comparatively small hand-

ful of people, I would say a very, very small number, indeed, who might be questionable.

But I also suggest this to you: That every time some person with a questionable background is given a fellowship some other young American against whom there is nothing is precluded from having a fellowship.

So far as the investigations we have had on the background, let us say of the Freistadt case which has been mentioned here, we find that he was not an exceptional student. He was a brilliant man, but he was not at the top of his class. He was down somewhat. One professor rated him among the top 10 percent; another said in the top 25 percent of this group, indicating that he was not an exceptional or a unique student at all.

But it would seem to me that the occasional elimination of some person, even with the chance that he might at some later date develop an unforeseen brilliance and stumble across some magnificent new law of nature, even at that risk, we could well afford to look into his background pretty carefully.

Now, whether that would take an FBI investigation or not, I do not know. So far as I am concerned, I would have no objection to the FBI investigation, and I would think that the overwhelming number would have none if their backgrounds are clear on their general over-all political beliefs. But I do think that the science of government, which is always in danger of infiltration, the science of government has to be kept as clean as possible, as well as the liberality and the freedom of the more exact sciences.

Dr. DuBRIDGE. I certainly believe that, and I believe one way the science of government can maintain the kind of government and the kind of life that we have is to keep its fingers as much as possible out of nonsecret areas when national security is not involved.

The purpose of our Government is to maintain a free society, and one of the important aspects of the science of government is the ways by which that free society can best be maintained.

Senator HICKENLOOPER. But one of the obligations, I think, is to not support a growing infiltration of people who would destroy the very free systems that keep our laboratories and other activities open.

Dr. DuBRIDGE. I agree, and the FBI is set up for the purpose of hunting down such people and taking such action as is necessary against them when they are found, and one should not interrupt normal action of the FBI in hunting down such people and taking action against them.

I did not mean to imply that the only brilliant brains are those of Communists—far from it. There will only be an occasional Communist who is found in the fellowship program, and it is for that reason, because it is only on occasion, that to extend to everybody these FBI investigations is so dangerous. The point is that there is only an occasional brilliant mind, too. The great discoveries of science have been made by a small handful of people throughout the past few generations. We never know where those brilliant brains are going to be found.

It seems it to me it is logical to do the best we can to judge the most suitable candidates for fellowships on the basis of their intellectual capacities, intellectual promise, normal honesty and integrity,

and not on the basis of their political beliefs, and then we will have the best chance of supporting the best brains and not of eliminating some of the best ones.

The CHAIRMAN. Doctor, it is true that under the act we insist on investigating all employees of the AEC, whether they are engaged in secret or nonsecret work. It is because legally these students in nonsecret research have been interpreted as not coming within that provision, because they got a stipend instead of a salary that the question arises.

Of course, a pragmatism sometimes will drive you to very great error, but pragmatically speaking, if I may, I just want to raise the thought that if we consider the students as employees of the Commission, then they would come within the operation of the act.

You see, it is a legal interpretation of the word "salary" instead of "stipend," which is pretty thin.

I would like to raise that, because it would seem to me that it would provide a powerful argument against extending this in the National Science Foundation.

Also I think it provides a good argument for getting nonsecret research out of the Atomic Energy Commission just as fast as we can and getting it into the National Science Foundation.

Dr. DuBRIDGE. On that first point, I would agree, that any barrier which we can erect which would prevent the extension of these so-called security regulations into the Science Foundation we should erect.

The CHAIRMAN. If that is the eventual determination of the Congress, that a full FBI investigation shall accompany the oath, I think the scientists ought to take cognizance of the fact that the students are being placed in the category of employees of the Commission, bearing the same burdens that the stenographer or janitor would who is working in nonsecret work.

I personally am desperately concerned that the scientists of the country do not get the idea that we are marking them out for special loyalty treatment. I think that would be very unfortunate. However, if that is the determination of the Congress, if they would look at the fact that we do require, even of the janitor or stenographer who is an employee of the Commission, full investigation, then at least they can take some solace and comfort in the fact that they become employees of the Commission and are not being treated any differently from the other people employed by the Commission in nonsecret work.

Dr. DuBRIDGE. As I tried to bring out in my statement, it is perfectly true the AEC will have to adopt very different policies for its own employees working in its own establishments in contact with secret work than it adopts in supporting any work outside of those secret establishments.

Now, the confusion, of course, is just this: That up until the fellowship program and some of these university contracts started the activities of the AEC were pretty largely confined to laboratories, production centers, and so on, in which secret work was going on and in which everyone from the director to the janitor had to be cleared.

The act, however, authorizes the Commission to extend its activities into these fields of basic science. If it is going to extend its activities

into the fields of basic science, into the universities, then it must, I believe, set up different policies for treating either employees or fellows or anyone else, including those on contract, than it does for employees or contractors within its own laboratories where secret work is involved.

It is just that confusion in the minds of the public about these two areas in which the AEC is authorized and charged to carry on activities: One, the nonsecret university and industrial field and, second, the secret activities of its own installations.

I think it might clarify the situation if the AEC was told it was to carry on nonsecret work, but this would be very damaging to the country and to the AEC because, as has already been pointed out, a lot of these nonsecret fields are of very great importance or potential importance to our activities in nuclear science and atomic energy itself, and it is quite important, I think, that the AEC for its own future good be in contact with those nonsecret areas being looked into by the scientists of the country. As a scientific body it must have an interest in and the support of science. It must have the friendship of scientists in nonsecret fields, for if another emergency were to come along, the AEC would suddenly have to recruit a large additional group of scientists. If it has contact with them, knows them, has their friendship, this task will be enormously eased.

I think it would be unfortunate to say that we must eliminate from AEC activities all nonsecret work, but if we do allow the AEC to continue with its nonsecret work, which I hope we do, then we must also, I believe, allow them to adopt different policies in hiring people, in awarding contracts, and in extending its regulations into those areas.

The CHAIRMAN. I thought you were going to remind me that the employees of the contractors who are not engaged in secret work and do not have access to restricted data under the law do not have to be investigated by the FBI. That is an inconsistency, there is no question about it.

In other words, General Electric at Hanford, assuming there is a man who does not have access to restricted data, although he is working in the reservation—that is, in the town there—does not under the law have to be investigated by the FBI.

Dr. DuBRIDGE. As a matter of fact, this question of being an employee of the Commission is a little difficult to define also because, except for the Commission's direct employees in the Washington office and in their branch offices, nearly all of the men who work on Commission enterprises are not employees of the Commission directly, but of contractors.

The CHAIRMAN. You are a contractor?

Dr. DuBRIDGE. Yes.

The CHAIRMAN. Of a university—

Dr. DuBRIDGE. You mean my institution?

The CHAIRMAN. Yes.

Dr. DuBRIDGE. I believe we do not have as an institution any Atomic Energy Commission contracts, although we have some Office of Naval Research contracts into which some AEC money comes in.

The CHAIRMAN. In the nonsecret work connected with those contracts there are no FBI investigations.

Dr. DuBRIDGE. None; that is right. In fact, as an educational institution we avoid having any secret contracts on our campus whatsoever. Therefore, none of our students—

The CHAIRMAN. You have no secret work?

Dr. DuBRIDGE. We keep any secret work off the campus.

The CHAIRMAN. You are not faced with that problem. G. E. would be and Carbide & Carbon would be.

Dr. DuBRIDGE. Yes.

The CHAIRMAN. Any other questions?

Dr. DuBRIDGE. May I add just one word to a question which came up earlier about the scope of the areas of science in which fellowships have been awarded? I believe this is partly a matter for legal interpretation of the act, but I believe, Senator McMahon, in formulating the act, you and your colleagues purposely made it a fairly broad authorization, recognizing that there were many fields related to nuclear science and whose strength was important to the strength of nuclear science.

The General Advisory Committee has been asked from time to time by the Atomic Energy Commission to advise it on these areas of science, and it has been our policy to interpret the act broadly because broad areas of science need support, and AEC needs the support of broad areas of science.

Therefore, we have recommended rather strongly that activities in the field of biology and medicine and metallurgy and so on be supported and that fellowships be given in those fields. Those are fields of critical shortages of people, and the AEC is always looking for metallurgists, chemists, biologists, radiophysicists, et cetera.

The CHAIRMAN. All those things are made of atoms, are they not?

Dr. DuBRIDGE. They are made of atoms. We felt it was wise for the Commission to extend its activities on a broad basis. We also recognize that when and if a science foundation is created, the activities of the AEC could then possibly be somewhat narrowed because there would be another agency which would take care of these other fields. But there is not any science foundation and for 4 years there has not been any, and we have always said when it is created, things will be different, but it is not created yet and, therefore, offices like the Office of Naval Research and like the Atomic Energy Commission have, I think, been very wise to extend a broad base of support to science.

I think even with a science foundation, a broad interpretation of the act in the fields of science which the Atomic Energy Commission takes an interest in would still be wise.

Senator HICKENLOOPER. Have you finished?

Dr. DuBRIDGE. Yes.

Senator HICKENLOOPER. I just want to make a suggestion here with reference to the field of isotopes and their distribution, beginning with the program of the Manhattan District.

Distribution of isotopes, as I understand it, was not only discussed but authorized in the Manhattan District before we had as many or so great a capacity for production as we have now.

Dr. DuBRIDGE. Yes.

Senator HICKENLOOPER. And that distribution was within the United States.

Dr. DuBRIDGE. Yes, sir.

Senator HICKENLOOPER. That is, at that time. There has been some discussion, which I will not go into at this time, I do not care to anyway, about the international distribution of isotopes.

Dr. DuBRIDGE. I am familiar with some of that discussion.

Senator HICKENLOOPER. I merely suggest to you, Doctor, that since the program of distribution of isotopes was begun in the Manhattan District some time ago, a statute has been passed which has some bearing on the legality of the distribution of isotopes, that the McMahon Act was passed after the program of isotope distribution had been set up and that it does have something to say about the matter of distribution of information and things of that kind.

So that the statute operates now where only Executive order controlled in 1945 and most of 1946.

Dr. DuBRIDGE. That is perfectly true. In fact, I think General Groves was very doubtful as to whether he really had authority to distribute these isotopes. He was very concerned about it. That is one reason he called in this rather large committee of scientists to advise him.

When the Atomic Energy Act was passed, however, that seemed to give the Commission a broader field of operation than the Manhattan District had, and it seemed to make it quite clearly legal for the Commission to undertake activities such as the distribution of isotopes that the Manhattan District only—

Senator HICKENLOOPER. Within the United States.

Dr. DuBRIDGE. Does the Atomic Energy Act forbid the distribution of isotopes abroad?

Senator HICKENLOOPER. That is a legal argument about which we could talk for a long time, but it is my opinion that the Atomic Energy Act does not give any authority for the distribution of isotopes outside of the jurisdictional limits of the United States.

Dr. DuBRIDGE. That is a legal question upon which I could have no opinion. I think it would be very unfortunate, however, if that were the interpretation of the act.

Senator HICKENLOOPER. I am not discussing the merits of the distribution of isotopes to universities any place in the world—that is, from a moral standpoint for humanitarian purposes—but from a purely legal standpoint I think there is a very important legal question growing out of the language of the McMahon Act which will merit some examination.

Dr. DuBRIDGE. I hope this is examined, and I hope the result is that the act is clarified so that the foreign distribution of isotopes is specifically provided for, because I think this is an advantage to this country to strengthen science all over the world.

Senator HICKENLOOPER. The act always could be clarified by a simple amendment to the act making no question about the matter, if it is considered to be highly desirable.

Dr. DuBRIDGE. I imagine you and I would differ on the wording of that amendment.

Senator HICKENLOOPER. No; I think not necessarily; if we were in agreement that the humanitarian distribution of isotopes was justified in various places of the world, I do not think we would have any difficulty in writing the language.

Dr. DuBRIDGE. Fine.

Senator HICKENLOOPER. My difficulty is with the present language contained in the act, and I am quite strongly of the opinion that we and our public institutions should operate within the law and not outside the law.

Dr. DuBRIDGE. I take it there has been a difference of legal opinion on the wording of the law, as to whether this is or is not authorized, and I assume the AEC got legal advice before they entered into this matter and felt they were on sound legal grounds, but on this, of course, I have no expert opinion.

The CHAIRMAN. Doctor, this has indeed not been a boring session, and I want to thank you very much.

Dr. Fermi, we will reserve you for a matinee. I am going to see if we cannot have a meeting, if it is agreeable, at 3 o'clock this afternoon. I think we ought to try to hear you today because I know you are anxious to get back to your work.

So, if that is agreeable, we will meet at 3 o'clock.

(Whereupon, at 12:50 p. m., the joint committee adjourned, to reconvene at 3:00 p. m. of the same day.)

#### AFTERNOON SESSION

The CHAIRMAN. The meeting will come to order.

We have with us this afternoon Dr. Enrico Fermi, who is no stranger to this committee.

I remember with a good deal of pleasure, Doctor, your appearance back in the early days and the help that you were to us. I am glad that you could come back today.

Now, Doctor, you can proceed in your own way to make such observations which you think are pertinent to our inquiry.

#### STATEMENT OF DR. ENRICO FERMI, INSTITUTE FOR NUCLEAR STUDIES, UNIVERSITY OF CHICAGO

Dr. FERMI. I have had a long association with the atomic activities in this country, first with the Manhattan project, later on with the Atomic Energy Commission, as a member of the General Advisory Committee.

Concerning that last phase, I believe it is pertinent to state that when the Commission took over at the beginning of 1947 the situation was not very bright. By that, no criticism whatsoever is implied of the policies of the Manhattan District which were very fine and, in fact, extremely courageous in wartime.

The whole enterprise suffered the natural drop to be expected when the war ended—when the reconversion from a wartime enterprise to a peacetime enterprise had to be accomplished. It suffered from the considerable uncertainty as to what would be the national policy in atomic matters. So that when the Commission took over, they were confronted with a staggering task.

I would like to stress that it was not clear at that time which of the two basic objectives of atomic energy, the war aspect, or the peacetime aspect, would for the next few years be the most important. The emphasis was shifting while the policies were being worked out.

The problem that faced the Commission when they took over their job was to set the work going in a vigorous way. Weapons had been

designed during the wartime. There had been some rather vague and informal ideas for improvement of weapons but there is nothing that could even approximately be called an improved design.

The laboratory responsible for carrying through this aspect of the work, the Los Alamos Laboratory, at that time was suffering somewhat from the general paralysis that was pervading the whole enterprise. We can consider it one of the great achievements of the Commission to have started the Los Alamos program on a vigorous basis. You know that the new weapons that have been produced are satisfactory. This is, perhaps, the best and most material proof that in this line progress has been made.

Since I am mentioning the Los Alamos Laboratory, I would like to state that the place is now in full swing and activity.

A problem that cannot be separated from the problem of weapons is that of the production of fissionable materials. There, too, at the beginning of 1947 the situation was somewhat confused. The situation now is much better. Materials production is rapidly improving. I would not be entirely truthful if I did not mention that there are very serious problems with which this committee doubtlessly is familiar, with which the Commission is struggling at present. They are problems of recovery, problems which will have to be solved.

I believe that the steps are being taken and have been taken that will lead to such a solution. I believe, in other words, that although the situation now is better, much better than it was at the beginning of 1947, it is steadily improving, and I expect still further progress.

Also, the problem of raw materials has been tackled with extreme energy by the Commission. Subject to the limitations of nature, very nice progress is being made, and I do not see any reason for immediate concern in this field.

These three are the angles that most directly concern the activities of the Commission in the military line. There are, then, the peacetime activities and of those the one that has received the greatest attention is the problem of reactors for power production.

At the end of 1946 one thing was clear, and it is clear now, that energy could be produced—after all energy had been produced. It was not clear to anybody how energy could be produced in an economical way except for the fact that it was the general consensus of opinion that the problems would be solvable.

The problems are to a large extent of a technical nature. One needs materials that can stand very high temperatures and still operate satisfactorily in a nuclear reactor.

I have the impression that the general opinion at that time was somewhat underestimating the difficulties. These difficulties are not of a theoretical nature. But in any major industrial development, like the atomic development is, problems which are not theoretical but are practical are of paramount importance.

There also had been a certain overemphasis built up in public opinion as to the immediateness of this program, through statements of people who thought they were informed and, perhaps, were not extremely well-informed.

The reactor problems indeed were more difficult than had been estimated and, unfortunately, complete solutions are not yet available. In spite of that, I would want to go on record with the statement

that very substantial progress has been made, in ironing out that great mass of detail which, in a technical problem of this magnitude, constitutes the core of the development.

At present, work is going on which, I hope, will lead to some results. I would not want by any means to be misinterpreted. I do not expect extremely startling industrial results for at least very, very many years to come, but I am reasonably confident that progress will come and that there will be in the not too distant future something more concrete to point to than general technical progress.

Among the peaceful applications of atomic energy, is the production and use of isotopes. I can only applaud the policy of the Commission in this line. I do not know at all what are the legal aspects of the question since in this field I have an extremely limited competence, but I believe that the generous distribution of isotopes, both within the United States and to foreign countries is exceedingly right, and has done much good to this country.

As I say, I do not want thereby to enter into a dispute of what is the exact wording of the law on which I feel myself somewhat out of my depth.

Finally, I would like to mention one more extremely important aspect of the activities of the Commission that has been stressed by Dr. DuBridge this morning: the promotion of science.

If I read correctly the law, promotion of science is one of the duties of the Atomic Energy Commission and, I believe, that the Commission has recognized this duty and has acted quite courageously and effectively in this direction.

I share the view of the previous witness that promotion of science should be taken in a not too strictly utilitarian meaning. If we think of the recent history it appears very clearly that results of science have such unexpected and unforeseeable connections with important human events and important industrial achievement, that to attempt to foresee and to catalog what is the science that will be "useful" and what is the science that will not be "useful" would be a task that would require much more knowledge of the future than any of us can expect to have.

For this reason, I have been very much in favor of the actions of the Commission in supporting general science in connection and in collaboration with the Office of Naval Research, in supporting a considerable amount of basic science in the laboratories of the Commission; and finally in supporting education in the field of science.

In this respect I am afraid that I shall have to repeat some of the arguments of Dr. DuBridge as to the present controversy on clearances of applicants for fellowships.

It has been alleged that a person who is loyal should not be opposed or distressed if such loyalty is checked. This indeed is probably true from a somewhat theoretical standpoint, but not from a practical point of view. I have seen very many cases of loyalty investigations. It is my duty to state that such investigations are usually carried out in a very considerate manner. I have seen very few cases of hardships arising from such investigations that could reasonably have been avoided.

The questions that are asked are fair. FBI agents come to see me every once in a while to ask me, "Do you know anything about Mr.

So and So?" There is never, in my experience at least, any attempt to cause me to make any damaging admissions.

But I know a great number of students and young men in science and I notice a general preoccupation. After all, science is a matter of investigation into mysteries, and scientists are people who have a natural curiosity, who think that way professionally. They are considered good scientists if they are very prone not to take anything for granted.

Senator HICKENLOOPER. Well, Doctor, may I interrupt?

Dr. FERMI. Absolutely.

Senator HICKENLOOPER. Is there any criticism, then, on those who have the responsibility for Government to not take anything for granted and to be very sure in investigating the mysteries of people's subversive beliefs?

Dr. FERMI. That is a very good question. I am afraid I have no answer. [Laughter.]

Well, the point is this: Think of a young man—a man say of 20—he has seen very little of life; he has a certain natural curiosity. Supposing he says "They tell me the Communists are so bad. All right, let's see what they are; let's take the Daily Worker"—or whatever is their official publication—"and I shall just see what they say for themselves."

An attitude of this kind is something that I would view with some sympathy. After all, why not? Why should not a young man get enough information to be disgusted by himself as to what he may read?

Now, the landlady sees the Daily Worker lying around; comes the FBI agents; the landlady says, "Well, yes; he is a nice chap, but" and there the man goes on record as a very dangerous character who had better be kept out of the ranks of the loyal American scientists.

I understand the philosophy of the inquiry is not to spot an offender but to detect a risk—well, to be considered a poor risk is no irrelevant matter for a young man who has not had a chance to be established. A young man who is trying to acquire that competence that may eventually lead him into establishing himself may properly object to the danger of being so branded. I believe that the percentage of those who would be properly weeded out by a loyalty investigation is extremely small, but I believe that a widespread investigation of students not engaged in secret work would have a very depressing influence.

There are also false rumors as to how much police methods are adopted in such inquiries, but after all people react to things for what they believe them to be and not necessarily for what they are.

The impression is abroad that on the slightest hint of the janitor or the landlady or whoever may have the occasion to look into your wastepaper basket you may be branded, and you may find it very difficult, and, at least, very unpleasant to clear yourself.

Now, that makes for a very unhealthy feeling. I sense that sometimes young people in the schools are not quite frank. They do not talk with that complete carelessness which I believe would be a privilege of their age.

For this reason I want to endorse most strongly the views that were mentioned this morning by Dr. DuBridge, that loyalty investigations should be looked upon as necessary evils wherever they are neces-

sary. To expand them into a field in which they are not clearly necessary is, in my opinion, a grave mistake. It would save a ridiculously small amount of money that might go to an undeserving person but make all the fellowship program less effective and less generous and less appreciated. I believe the price is just too high.

This is all that I would want to say in the way of general comments.

The CHAIRMAN. Senator Hickenlooper.

Senator HICKENLOOPER. I think it is very fine of you to come down here, Dr. Fermi. I want to take this occasion to publicly say—well, I am not sure whether I want to say that for your great accomplishments in nuclear physics, whether we owe you a debt of gratitude, because I am not certain that I am happy that we ever invented the atomic bomb.

Dr. FERMI. It is certainly a questionable point.

Senator HICKENLOOPER. But for your invaluable contribution to this science, as a scientific contribution to the world of science, you have a debt of gratitude, I think, of people everywhere, that cannot be repaid.

Dr. FERMI. Thank you, Senator.

Senator HICKENLOOPER. I believe that with respect to your contribution, it was some of your bold and rather revolutionary predictions that enabled people to have confidence in building the first pile under the stadium in Chicago and you did not know whether it would blow up or not.

Dr. FERMI. It did not. [Laughter.]

Senator HICKENLOOPER. For which we can either be grateful or perhaps take some other attitude, but I do want to have you know that so far as I am concerned, the appreciation of your unique contributions to science—your contributions are appreciated, and I know that your contributions now in the future will be equally as far-sighted and as startling.

Now, I may find myself in some little disagreement on philosophy. I could not discuss science with you, and certainly I am willing to bow to your judgment, of course, in any matters scientific.

I have just one question that I would like to put to you: Do you believe that economical power development, that is, in any kind of a competitive way with fuels that we have now, economic power development is anywhere in the reasonably foreseeable future out of this thing, or would it be experimental, the establishment of new laws and other things?

Dr. FERMI. It is a difficult question. I may try to answer it to the best of my ability.

Senator HICKENLOOPER. Well, the reason I ask that is that I noticed in the papers yesterday or this morning statements that power was just around the corner. I mean that was the understanding apparently taken from the testimony yesterday. That is not my understanding of the situation, and while we produce power or heat in these piles now, yet I am talking about economic, competitive power that could be used in industry.

Dr. FERMI. Well, I certainly agree with you. The thing is not around the corner. Some limited experimental applications may be possibly not far in the future. Perhaps some naval applications may come forth in the not too distant future, but if by "competitive"

power, you mean something that could be comparable to coal or oil, I believe that production of such huge amounts of power, if they ever will be produced are certainly very, very far in the future.

On the other hand, perhaps, one should not take necessarily a too pessimistic view about this situation either. There are basic possibilities; I find it really extremely difficult to strike the right note between optimism and pessimism.

You see, we talk of a matter certainly of 15 or 20 years. Now, who is the prophet who can see things at that distance? Atomic power may ultimately develop not into a competition but, rather, in supplementation of conventional fuels.

I believe that it would be a great disservice to engender unjustifiable hopes—I believe that it is very desirable that the public should stop thinking that atomic power is around the corner, because if they do so they are in for a disillusionment, and the public has a right to know and certainly should get a reasonable perspective of the program.

If atomic power will develop at all into a very important industrial fact, it will do so only in a very many years. That is very clear to me.

There might be some interesting spotty applications to this or that field to which the special features of this form of power are particularly suited. But before atomic power becomes a really large-scale affair it will take a long time.

Senator HICKENLOOPER. Well, the only purpose of my question was that periodically things appear in the public print, statements of people, and maybe some know what they are talking about, and are misinterpreted, and others may not know what they are talking about, but statements appear periodically which give recurrent hope to people that we are just on the verge of substituting atomic power for other methods of the production of power, and it is only in the hope that it can be put into its proper perspective, and that delusions are not engaged in, that I bring this up.

I, for one, if we could have atomic power tomorrow, would be very happy, and I think a great many people would. It would cause us some great readjustments, but I think I would be glad to see it arrive as a progressive scientific development at any time that it could.

But there are many people who write to me and say, "I saw in the paper that maybe next year we are going to be running engines on locomotives with atomic power." Or they say, "When are we going to have experimental atomic engines in our automobiles?" Or they write about things of that kind. I write back to them and tell them in my judgment it would be a very, very long time before we even approach that, but I also qualify by saying that I am not qualified to give a scientific opinion on it.

Dr. FERMI. I do not know whether I am qualified, but certainly I agree with your opinion.

Senator HICKENLOOPER. If you are not, I do not know who is, because if there is anybody who is qualified, I think you would be in that class.

Dr. FERMI. And I believe it is certainly a public service to try to present the chances into a good perspective because, as you say, occasionally misinformed statements are interpreted correctly, or informed statements are misinterpreted and a great confusion arises in the public opinion.

Senator HICKENLOOPER. Well, thank you, Doctor. It is very nice of you to take your time to come down here. Good luck to you.

Dr. FERMI. Thank you.

Senator HICKENLOOPER. I have no further questions.

The CHAIRMAN. Doctor, of course, if we had been successful in our efforts to get an international control agreement, would you say that that would have speeded up the accomplishment of the peacetime achievements in atomic energy?

Dr. FERMI. I think very probably yes, and for the following reasons: I believe that the atomic development suffers under the necessity of a tight secrecy policy. Unfortunately, the peacetime applications are all wrapped up in the same package with the wartime applications.

As long as the scare of the destructive potentialities is there, there is no alternative but to keep secret all that can lead in the direction of the military applications.

But this secrecy acts as a tremendous brake on progress. If I may give you an example. I am teaching a course in nuclear physics at the University of Chicago, and I would have liked to give my students a certain background to the work in atomic energy.

I have a fair notion of what is classified and what is not classified, but still the feeling that I would have had to weigh my words very carefully—I could have been asked embarrassing questions, and I would have been faced with the choice of either telling a student in the open classroom, “I am sorry, my boy, but this is something that I am not allowed to answer.” And just this uneasiness drove me to stay off the subject.

Now, I do not think my lectures would have been extremely effective, but there you have some 50 boys or so who have lost that chance to acquire a training in atomic energy problems.

Also at present in many foreign countries, so far as I know, people just do not even think along the direction of atomic energy problems since they say, “There is this American monopoly, and they keep everything wrapped up in secrecy.”

Perhaps the belief is that in basic science much more is kept under wraps than actually is. But just the feeling of this blank wall—the fact that nobody knows exactly where the wall begins, how far one can go without overstepping the limits—acts as an extremely serious psychological block against what would be a very natural and very appropriate field for free investigation.

For this reason, I believe that, if there were any conceivable way to overcome the international difficulties, an extremely valuable speeding up of progress would result. It might be that something would be found; perhaps, not power and not bombs, but just something else; who knows.

The CHAIRMAN. Well, I think it is important—just as Senator Hickenlooper does—that we do not get any misapprehensions about it being right around the corner, but, as I say, it is very difficult to prophesy for the next 15 to 20 years.

You know, Doctor, 20 years, 15 years, seem to be a long time, but really it is not very long, is it? It is  $3\frac{1}{2}$  years ago now that we began to talk about it in Congress, and it seems to me as though it were yesterday.

Dr. FERMI. It is very true that 15 years pass—perhaps, one should make the following remark: That unless a vigorous program is kept up, the 15 years will become 30. I would not want my words to be interpreted as discouraging for the reactor program. The way is long, but a long way cannot be traveled unless one starts to move along it.

Senator HICKENLOOPER. I think the Chinese say that the journey of a thousand miles begins with the first step.

Dr. FERMI. That is very true.

The CHAIRMAN. I think Henry Ford began the manufacture of his car in quantity around about 1906 or 1907. Of course, he made individual cars before that, and in that period of about 40 years, we have had a total transformation in American industrial life and the whole economy due to the mass production of automobiles.

I reflect on the fact that I was born in 1903, and it seems——

Senator HICKENLOOPER. Just a kid. [Laughter.]

The CHAIRMAN. Yes; just a kid. It seems like a very short time ago.

While I think it is true that we must not lead people to believe it is rather around the corner, we still have to remind people when we are thinking about something that may change the whole pattern of life, that may do so many things, through this atomic energy; we must also remind them that 15 years is not a century or two.

Dr. FERMI. I think I cannot agree more with what you say. I believe that is what should be done, and it is perhaps just difficult to do it right. I believe it would be irresponsible to make rashly optimistic statements.

On the other hand, I am convinced that it would be a wrong policy to say, "Let us drop it and save the money."

The CHAIRMAN. Doctor, it is now  $21\frac{1}{2}$  years since the Commission took over, almost; where are they now, in your opinion with respect to where you expected them to be after  $21\frac{1}{2}$  years?

Dr. FERMI. I believe, as I said before, that the progress has been very considerable. I do not want thereby to give the impression that the progress has been just the very maximum possible. Naturally there have been things that, after the fact, could have been started in a better way but I believe that it is fair to say that the progress has been greater than what I would have expected.

I was at that time really somewhat discouraged. I saw things drifting so hopelessly that if you asked me the specific question of what I thought at that time, I do not think I would have overestimated what the achievements could have been in that period.

The CHAIRMAN. Well, thank you very much indeed, Doctor. It is good to see you again. I hope we will have a chance to see you again in the time to come.

Dr. FERMI. I hope so. Thank you.

The CHAIRMAN. Now, I understand from the Commission that they have two, possibly three, more witnesses, and I also believe this will conclude the Commission's presentation?

Mr. VOLPE. Yes, sir.

The CHAIRMAN. So, we will meet then—plan to meet—on Monday at 10:30.

Mr. VOLPE. Mr. Chairman, to conclude Monday morning, which is our aim, and not to burden the committee with many witnesses, we have endeavored to prepare some statements on various aspects of the program, more important aspects of the program, which we would ask permission to insert in the record. This might be done Monday or perhaps even later.

(The data referred to above are marked "Exhibit 32" and will be found in the appendix.)

The CHAIRMAN. All right.

We will recess then until Monday at 10:30.

(Whereupon, at 3:40 p. m., the joint committee adjourned to reconvene at 10:30 a. m., Monday, July 11, 1949.)

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# INVESTIGATION INTO THE UNITED STATES ATOMIC ENERGY PROJECT

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## HEARING

BEFORE THE

## JOINT COMMITTEE ON ATOMIC ENERGY CONGRESS OF THE UNITED STATES

EIGHTY-FIRST CONGRESS

FIRST SESSION

ON

## INVESTIGATION INTO THE UNITED STATES ATOMIC ENERGY PROJECT

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PART 22

JULY 11, 1949

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# INVESTIGATION INTO THE UNITED STATES ATOMIC ENERGY PROJECT

MONDAY, JULY 11, 1949

CONGRESS OF THE UNITED STATES,  
JOINT COMMITTEE ON ATOMIC ENERGY,  
*Washington, D. C.*

The joint committee met, pursuant to adjournment, at 10:40 a. m., in the Caucus Room, Senate Office Building, Washington, D. C., Senator Brien McMahon (chairman) presiding.

Present: Senator McMahon (chairman); Representative Durham (vice chairman); Senators Vandenberg, Knowland, and Hickenlooper; and Representatives Price, Elston, and Van Zandt.

Also present: David E. Lilienthal, Chairman; Sumner T. Pike, Commissioner; Lewis L. Strauss, Commissioner; Gordon E. Dean, Commissioner; Henry D. Smyth, Commissioner; Carroll L. Wilson, General Manager; Frances Henderson, Assistant to the Chairman; Joseph Volpe, Jr., General Counsel; Bennett Boskey and Everett L. Hollis, Deputies General Counsel; Morse Salisbury, Director, Rodney L. Southwick, and Charter Heslep, Division of Public and Technical Information Service; Dr. Shields Warren, Director, and Dr. John Bowers, Deputy Director, Division of Biology and Medicine, all of the United States Atomic Energy Commission.

Dr. Alan Gregg, Director, Medical Research, Rockefeller Foundation.

The CHAIRMAN. The meeting will come to order.

I have here this morning a telegram, which I wish to read into the record, signed by W. W. Waymack. Mr. Waymack, as we know, was a member of the Commission until a few months ago. It reads:

DEAR SENATOR MCMAHON: I wish to say that the sole reason for my nonappearance in Washington to make this brief statement is that it has seemed needless and that I am too worn down physically to undertake any needless things.

I ask the privilege of acknowledging on the record of the current hearings my one-fifth share of responsibility for everything that happened or didn't happen under the authority of the United States Atomic Energy Commission during my membership or as a later consequence.

This especially applies to all that may eventually prove to have been instances of human fallibility or lack of clairvoyance.

As to credit for important accomplishments in the Nation's interest I'd settle for a very much smaller fraction; but in that I have not the slightest interest. It is enough that the accomplishments were brought about.

As a member of the Commission for the first 2 years and 2 months I am well content to let the total record speak. Fortunately, part of it has now been presented and will be available to the public.

With the possible advantage of a few months of detachment, I believe the overall record is one of very substantial improvement in the country's atomic energy position—much greater improvement than on any particular day of at least the first year and a half seemed in the range of the achievable.

Respectfully,

W. W. WAYMACK.

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We also had hoped to hear a witness for the Commission today, Mr. William W. Webster, who is chairman of the Military Liaison Committee of the Commission. Unfortunately, Mr. Webster will not be able to appear. He is detained in his home State as the result of a very critical illness in the family. I am informed by the executive director of the committee that he is going to furnish a statement for the record.

Now, gentlemen, as I understand it, this is the last day of your presentation.

Mr. LILIENTHAL. That is correct, sir.

The CHAIRMAN. Let us be about it.

Mr. LILIENTHAL. Mr. Chairman and members of the committee, the Commission has in mind three witnesses for this morning, these to be the last witnesses, as far as the Commission is concerned, in these public hearings.

They are Dr. Shields Warren, pathologist on the staff of the Deaconess Hospital in Washington, and the Director of the Commission's Division of Biology and Medicine; Dr. Alan Gregg, director of medical research for the Rockefeller Foundation, who is the Chairman of the Advisory Committee on Biology and Medicine of the Commission; and Mr. Joseph Volpe, Jr., the Commission General Counsel.

Dr. Warren will be the first witness.

#### **STATEMENT OF DR. SHIELDS WARREN, DIRECTOR, DIVISION OF BIOLOGY AND MEDICINE, UNITED STATES ATOMIC ENERGY COMMISSION**

The CHAIRMAN. Good morning, Doctor.

Dr. WARREN. It is the primary task of those of us in the Division of Biology and Medicine concerned with the work in the field of atomic energy to present and to establish and see that there are maintained standards for health and safety of the employees of the Commission and its contractors. It is our duty to see that research pertinent to the field is developed. It is our duty to see that the health and safety of the people as a whole, so far as atomic energy bears on it, is taken care of.

Now, in our continuing work to maintain safety and to fight against disease, we have rather more than the normal incentive in this field, because this is an entirely new field, a field which comes close to every person in this country in the normal course of events, and which may come even closer in the event there should be at any time an outbreak of hostilities.

Radiation is a hazard which is implicit in working in the field of atomic energy. We have been alert to the problems of controlling radiation from the very first.

The Manhattan Engineering District had a splendid record in maintaining safety in this regard, and the work that they did was based on fragments of knowledge and fragments of experience that had been gained from the treatment of patients in the past.

It is necessary for us to round out those fragments of knowledge to get an actual and complete whole.

Now, at the present time there are several places where we need more accurate information than is currently generally available. One of these is how best to protect the people of the country in the event

of an atomic disaster of any type and, secondly, to appraise such a problem.

At the joint congressional committee's hearing on Thursday, July 7, 1949, the chairman of the committee, at the suggestion of Congressman Price, requested that the Atomic Energy Commission prepare and present at a later hearing a summary of what may be publicly stated about the medical effects of atomic bomb explosions.

Several agencies and numerous medical men and biologists have, of course, studied this problem. The medical effects of the explosions over Hiroshima and Nagasaki were first studied by the joint commission made up of medical officers of the Army, Navy, and Manhattan District, and later by the United States Strategic Bombing Survey. Now, and for some time past, the Atomic Bomb Casualty Commission of the National Research Council, whose work is financed by the AEC, is carrying on these studies.

Information has also been gathered on the effects of the Bikini explosions and the after-effects of the Alamogordo explosion, which was the first test in New Mexico, as you will recall.

The Commission is financing studies of these and related problems by the Los Alamos Scientific Laboratory, the Argonne and the Oak Ridge National Laboratories, the University of Rochester, the University of Chicago, the University of Tennessee, the University of Southern California, Western Reserve University, Harvard University, Cedars of Lebanon Hospital, the University of Kansas, the University of Virginia, the University of Denver, Washington University, Columbia University, the University of Oregon, the University of Michigan, the University of Washington, the College of Physicians and Surgeons of New York, and New York Post-Graduate Hospital.

The progress of these studies is carefully reviewed by the Advisory Committee for Biology and Medicine, as well as the staff of the Division of Biology and Medicine.

I would like to read excerpts from this following statement and enter the statement as a whole for the record, if I may.

(The data referred to above are marked "Exhibit 33" and will be found in the appendix.)

Of the results so far obtained in these studies, some are classified and cannot be publicly stated. There is, however, a considerable body of fact on medical effects of atomic bomb explosions which is unclassified or has been declassified. It has appeared piecemeal, in individual documents, which are listed at the conclusion of this statement.

Few, if any, of these have had wide circulation among the general public or even the professional public. My colleagues and I have compiled the salient points of the nonsecret literature on the subject into a summary which has been examined by the declassification branch of the Commission, found to contain no restricted data, and authorized for issuance by the Commission. It is as follows:

The effects of an atomic bomb vary with the method of explosion, but there are three basic types of injury produced; mechanical, from the blast effects; thermal, from the radiant heat of the burst and from the fires burning in the wreckage; and radiation, from the radioactivity released by the burst.

Hiroshima, Nagasaki, and the first Bikini test may be taken as typical of an explosion in air. At Hiroshima and Nagasaki a majority

of the deaths and injuries resulted from blast effects due to the collapse of buildings and to falling debris. Many additional casualties resulted from burns, flash or secondary, incurred in the fires that raged after the explosion. Fifty to sixty percent of the casualties were due to blast effects and flame burns, 20 to 30 percent to flash burns and 15 to 20 percent to ionizing radiation. However, had there been protection from blast and fire, nearly as many people would have died from radiation effects alone. This is explained by the fact that death was officially attributed to the most obvious cause, either blast or burns. For instance, an individual crushed by falling concrete after being seriously burned was classed as a blast casualty.

Perhaps the most readily understandable way of describing the effects of atomic explosions is to use zones bounded by concentric circles whose center is the point of explosion. The effects in these zones depend somewhat on local factors, and change gradually rather than abruptly.

Within a half-mile radius of the point on the ground directly under a bomb explosion similar to those used against Japan and detonated at a similar height in the air the following would occur. The explosion of the bomb creates blast pressure which will demolish all structures not of reinforced concrete or steel construction within this area. In well-constructed buildings of the latter type, structural damage of 70 percent or less will occur. Persons not sufficiently protected by shelter able to withstand this amount of blast would undoubtedly be killed by falling buildings or flying wreckage.

Intense thermal energy generated by the explosion would likewise cause fatal burns to unprotected persons and would start fire in the wreckage.

The explosion of an atomic bomb results from the sudden simultaneous rupture of the nuclei of the atoms of the element composing the bomb. This releases an enormous store of energy as invisible radioactive waves or particles which are highly destructive to living tissues. The various particles and rays differ in their ability to penetrate objects, such as lead or concrete, and in their ability to penetrate the body. However, the quality of their effect on the body is the same. From the standpoint of quality of effect they are similar to the X-rays used widely in the treatment of disease.

Because of the concentration of radiation within this area, nearly everyone not protected by earth, steel, or thick concrete would die. This does not mean instantaneous death, but the most serious cases would succumb from within a few hours to 4 or 5 days after exposure. A second group would develop susceptibility to infection due to the destruction of their white blood cells and would die from 4 days to 6 weeks after exposure. Another group would incur multiple hemorrhages and die within 2 to 8 weeks from this cause.

Among the things that radiation does is to destroy white blood cells and bone marrow and injure the intestines. These injuries cause decrease in white blood cells with attendant susceptibility to infection, progressive anemia, increased bleeding tendencies, nausea, vomiting, and bloody diarrhea. However, individuals vary in their sensitivity to radiation—thus, a dose fatal to one might only make another sick.

There were other observed effects. For example, with relation to male sterility, since the male testicle is more exposed to radiation be-

cause of its position and lack of covering than is the female ovary, its cells are more easily damaged. There was evidence of diminished reproductivity for a period of 3 months in males who were within 1 mile of the explosion point. That is, in Japan. In the male the sterilizing dose of radiation is very close to what the fatal dose is.

Hair loss is another feature that evidences damage done. It is not significant, but simply is evidence of the internal damage that has occurred.

There are further details, sir, that I will present for the record in this statement, if I may.

Dr. WARREN. Now, we are concerned with knowing the details of radiation and how radiation acts and details of bomb damage for several reasons. In the first place, we have to know how to protect our workers. In the second place, we have to know how to protect the general population. We have to have the available information for the organization of sound civilian defense planning subsequently to be developed.

Radiation is a daily hazard in most of our operations. I do not know whether any of you are wearing wrist watches with luminous dial. Have any of you a luminous dial wrist watch by any chance?

Senator HICKENLOOPER. I have one here.

Dr. WARREN. If I may borrow it, Senator, I would like to show briefly the sort of—

Senator HICKENLOOPER. It is just the numbers.

Dr. WARREN. This is one of the ordinary type of survey meters that we use in the plant to detect stray radiation and to be sure that it stays under control.

If you will watch this dial here, if there is a good measure of radioactivity on the Senator's watch, it will be indicated as I bring this up.

Mr. PRICE. I had that experience at Oak Ridge.

Mr. VAN ZANDT. It is a Geiger counter?

Dr. WARREN. Yes, a modified Geiger counter. You can see how the dial goes over as the wrist watch is brought near.

Now this amount of radiation which is present is not a type of radiation which is dangerous, but it is a type of radiation which is approximately the amount that we regard as safe for a workman to receive over the total surface of his body during the day.

This means, then, that we have to have a very high standard of control to be sure that our operations are safe. We know that this level of activity is safe.

Thank you very much, Senator.

We try to protect people in a number of ways. Some you have heard recounted in the very complex type of buildings and apparatus that has had to be used, and you will remember in discussion of the cost of some of the plants that the complexity of apparatus and the need of one or another type of remote-control apparatus was a very important factor in the cost.

Now here are the sort of things we use in the laboratory right along with men working with small amounts of radioactivity, and these sealed up can give you an idea of what thousands of times this activity will have to have in the way of protection.

This, for example, is a holder for a flask so that we can work over and behind a shield. The flask will be grasped automatically by this,

and then the stopper is removed in this fashion by this apparatus, or apparatus such as this, and then we have automatic taps, so that the workers can be kept safe all the time that there is a potential exposure.

Now, how much has been accomplished in this attempt to keep the workers safe? We are quite proud of the fact that we have as low a level of absenteeism from sickness and injury of any type in the plants as can be reasonably maintained. The percentage of absenteeism at the Hanford works, for example, is 1.37 percent, which is something that I think any manufacturing plant would be proud to have, in spite of the very hazardous nature of the work.

In addition, as evidence that it is safe to work near and live near an atomic plant, that we have fulfilled our responsibility to the environment, to the people who are living near our plants, we may take the situation at the town of Richland, which you will recall in where the workmen and their families at the Hanford works live.

In Richland the mortality rate, with an average age of 31 years, as against an average age of 33 years for the United States as a whole, is approximately one-third of the mortality rate for the country as a whole.

There has been some talk about waste disposal once or twice. It might be interesting to note that it is sufficiently safe to take water downstream from the Hanford plant, that one of the water supplies of Richland comes from the river downstream from the plant.

Now, since radiation is a problem that comes close to all of us, we have got to learn every aspect of it that we can. We cannot go simply on the basis of chance observations, as in the past, but we have got to have a sound research program which will enable us to know what the problems are and how we can meet them.

I would like to cite for you a few examples of the sort of things that we are trying to do at the present time. The driving motive in this research is not alone a desire for scientific distinction, or for making a living, but it is the fact that unless we keep the lead in this field our very survival is involved in it. This is not something that we can work at or not as we choose; but if we want to survive, we have to work at it and work at it hard.

Some of the things that we are applying these substances to in the field of biology I believe would be of interest to you. The food supply and the shelter and shade provided by plants and trees is, of course, of tremendous importance for all of us, and one of the important things is the control of diseases of importance from the agricultural standpoint.

You are all familiar with what chemotherapy—that is, the use of sulfur drugs, penicillin, things like that—can do for humans. It has only begun to be disclosed as to what they can do for plants, and at the Storrs Agricultural Station at Storrs, Conn., work is under way to determine what chemotherapy can do in the treatment of the Dutch elm disease, a recently introduced disease that is wiping out one of our most important shade trees in the East, and we hope from that to determine the most effective means of applying chemotherapy to these agricultural large-crop plants.

You have heard a good deal about mutations as the genetic effect of radiation. One has to remember that mutations have their good sides as well as bad sides, and we have under way between North Carolina and Oak Ridge the first large-scale attempt to work out the appli-

cation of good mutations to crop plants. We have got 5 acres that have been planted to peanuts whose seed have been irradiated, and are watching for the most productive plant and most disease-resistant plant, to be able to get the further seeds from them for producing a healthier and more productive variety of the peanuts as a crop plant.

There are all sorts of odd points I could touch on, such as the fact that if you put fertilizer on a pecan tree it does not do any good the year you put it on; it is only in subsequent years that it is taken up; that the various types of fertilizers which were widely publicized a while ago that had to do with alpha radiations, so-called alphanatron, have been tested out with the Department of Agriculture, final testings have not been completed, but preliminary results show there is no value in this, and it will save a considerable number of dollars to the American farmers knowing that they do not need to invest in this type of thing.

Out at the Michigan State College we have an experiment going on in regard to the control of leukemia in fowls. That is a disease of the white blood cells, and leukemia in fowls is one of the most serious things that attacks the hens and does great damage to the poultry industry.

It is also of interest because it is closely related to the same disease in humans, and we are hoping by the work here to be able to do work in the human field as well.

It has already been shown that one of the radioactive isotopes, phosphorous-32, is a sound method of controlling and producing remission—periods of freedom from the disease—in human leukemia. There are other ways of doing it, too.

There are still many ways in which various of the isotopes can be used in cancer research and in all types of research, isotopes, of course, are the most important tool that has been evolved in the field of medical and biological research within the last century. It is being explored in a great variety of ways.

In order to avoid duplication and overlapping with other experimental programs, we have tried to correlate very closely what the Public Health Service and other activities are carrying on, and we have taken as our role in the field of cancer research, particularly, the need of attacking the problem of what the short-lived isotopes can do—the ones that cannot be moved away from our atomic plants—that enable us to give what you might call flash irradiation to cancer sufferers, and we have established and are already having work in this field going on at Brookhaven and will shortly have it going at Oak Ridge, and next year hope to have it going at Argonne. We are supplying isotopes free for cancer research, and this has been a tremendously important stimulus to work in that field.

We have found that one radioactive substance, cobalt, which when irradiated in the atomic pile, becomes active. We found that this substance is just as good as radium, and it is somewhat better in some ways, because it is cheap and it is flexible. You can utilize it in a variety of forms instead of having to hold it to a certain type of applicator only.

Also if it accidentally gains access to the body through a breaking of an applicator, as sometimes happens in radium, we do not have a very dangerous situation of fatal poisoning because we have a relatively

harmless substance, which is excreted normally and not held in the body for long periods of time, as is radium.

I know most of you, probably all of you, have been through various of the plants, have seen the safety precautions that are taken there, have seen how the work goes on there. I think it is less easy to understand that in order for that work to be done intelligently, intelligently carried out, and for that work to be safely done, there has to be a tremendous amount of research done, and we have to turn not only to our own laboratories, but to the research workers in universities for this. We have been very fortunate in enlisting their cooperation.

In this general field, as things stand now, in this field of biology and medicine, as we see it, we are achieving a high degree of safety in the protection from irradiation. We have not got an adequate means of treating those who have been exposed to radiation. We do not know all the details of how irradiation acts. We need to know those for effective therapy, for effective diagnosis.

In addition, it is very important that some of the basic activities of the body be understood, how the various proteins, which are the building blocks of the body, are put together, how radiation affects them in the process of their being put together.

We feel that for a young enterprise, we have made worthwhile contributions, but being a young enterprise, much of our activity must lie in the future. We realize that we have a very heavy responsibility laid on us, to be in a position to protect the people of the country in the event of an atomic disaster of any sort, and to have the available knowledge, not available as a last minute effort, which is always too late, but worked out in time.

We feel a real urgency in this thing. We keep in mind that four years have gone by since 1945, and instead of international control and peace being nearer, it looks almost farther away than it was at that time.

We have certain concrete accomplishments, a few of which I have outlined for you. Others I could add, but I simply want to use these as samples of what we have tried to do and are carrying on.

The CHAIRMAN. Thank you very much, Doctor.

Senator Hickenlooper?

Senator HICKENLOOPER. Thank you, Dr. Warren. I understand that this is true, and if so, I think it is a remarkable thing: that beginning with the Manhattan District operations in atomic radiation, down to the present time, there is no instance of where any person has been injured by atomic radiation, except where there was a violation of the restrictions and anticipated dangers.

Dr. WARREN. Yes, that is quite correct, Senator Hickenlooper.

Senator HICKENLOOPER. In other words, this whole program from its inception has been operated with such a factor of safety that, except in cases of violation of known restrictions and anticipated dangers, there have been no injuries of any moment at all; is that correct?

Dr. WARREN. That is quite correct.

Senator HICKENLOOPER. I think it is a magnificent record of health safety that has existed throughout the entire operation of our atomic program.

Dr. WARREN. It is a very creditable record, and I think that full credit should be given to those who have worked in it from the first, and I am very proud to have had a part in it in latter years.

I think that you touched on a very important thing there when you mentioned factors of safety, Senator, because what we had to do initially was to take a fragmentary knowledge, what known facts have been picked up about the irradiation of people for cancer, the irradiation of people accidentally in the production of radium earlier, and apply a factor to that and say that by cutting this down to this point, we think we will be safe.

What we want to do, what we have got to learn through our research, is to make that factor of safety not a nebulous thing pulled out of the clouds, but make it a real thing so that we can say this is what we need to do and, perhaps, we can do certain operations much more economically if we can say that if such and such is done, the risk is thus and so.

As it is now, we say we are afraid the risk may be thus and so and, therefore, we will not take any chances in killing people, but we will spend a few more dollars and provide the safety that is required for it.

Senator HICKENLOOPER. And your constant effort is to narrow the limits within which safety is confined in this whole program?

Dr. WARREN. Yes, exactly.

Senator HICKENLOOPER. And that requires nothing but experience and time.

Dr. WARREN. Experience, time, constant research to understand the fundamental principles.

What we need to know most is what happens to living cells. For example, take the ordinary fruitfly, *Drosophila*, with which so much experimenting is carried on. The adult fruitfly can stand 155,000 "r" before half of a group of flies is killed. You and I can take only 400 "r." What is the difference between the fruitfly and us in that regard?

Senator HICKENLOOPER. I have a couple of dimes here, one of which I think was put in the atomic pile in Oak Ridge in 1946. I wonder if you would test it against your machine.

Dr. WARREN. I would be glad to and find out if it is still active.

Senator HICKENLOOPER. I want to find out which one is active.

The CHAIRMAN. Are there any questions? Mr. Durham?

Mr. DURHAM. Just one question.

Doctor, as Director of this research program at the present time, in this year's official budget it was cut some million and a half dollars or more in the program. I would like to have your reaction also in regard to the contract authorization, which is important, and which was cut some \$3,000,000. I would like to have your comment on that.

At the present time have you personnel which is able to carry out your program entirely as you desire it to be carried out? Are you short or long, or what is your position?

Dr. WARREN. At the present time our position is a position that I regard as a short position. We had asked for this initial sum in order to utilize as many available people as were competent in the field.

You will note, if you look back over our appropriations in biology and medicine, that they have gone up rather sharply in the 3 years of operation. That is due to the fact that this was a brand new field in which we did not have many competent people to work.

For example, when I got interested in this thing in 1925, the effect of radiation on normal tissue, there were only two other people in this

country who had any real interest in what happened to normal tissue, and there was only a handful throughout the world.

That situation, fortunately, has been changed. I had outlined what I had hoped to be a sound, conservative program for the utilization of the best brains that we could find and obtain. I am going to do the very best I can with the appropriation that is apparently going to be made available to us. It will not be as productive in the way of results as the full program would have been, but you can rest assured that we will do everything we possibly can with the facilities that we have available.

Mr. DURHAM. I feel personally that this is a very important program for our own defense as well as for research and protection, and that is why I asked you the question whether or not you would be able to carry out your program as you wished.

Dr. WARREN. I will not be able to carry it out completely as I wished. It means having to hold back on certain aspects of it.

Mr. DURHAM. It is highly important. Thank you very much.

The CHAIRMAN. In line with what Mr. Durham has been talking about, Mr. Borden calls my attention to this line in the Senate committee report:

Curtailement of activity is thus recommended to be made in other fields of Commission operation such as administration, community programs, biology, and medicine—

that is you——

Dr. WARREN. That is right.

The CHAIRMAN (continuing):

physical research, and such aspects of reactor development as are not immediately necessary for national security.

That is a joke line if ever I saw one.

Are there any other questions, gentlemen?

Senator VANDENBERG. Dr. Warren, for personal reasons I have a very keen interest in the fundamental subject to which you are directing your very way great labors. May I ask if the inquiries which you are making with respect to the radiation hazard in connection with atomic energy would not also have a bearing on the yet unanswered question of measuring human resistance to X-ray radiation in normal medical practice?

Dr. WARREN. That is exactly right, Senator, and we have felt that any information we can gain in this general field of radiation, not only helps in the atomic energy programs, but it helps every individual who needs X-ray or radium radiation from the standpoint of medical treatment, it enables us to understand more about the relative safety or the relative risks of those forms of treatment.

It might interest you to know that we are expecting from this work with radiation at the national laboratories that I mentioned—on clinical investigation of cancer—we are expecting a twofold result:

We are hoping to learn more about what we can do for cancer, and we are hoping to learn more, while we are helping the people with cancer, about what happens in normal people or in the noncancerous tissues of people with cancer.

Senator VANDENBERG. It seems to be one of the blank spots in the evolution of medical and surgical protection.

Dr. WARREN. It is, unfortunately, a very blank spot, and because I happen to have been one of the very few interested in it, I have perhaps seen more of the sour effects from radiation, if one might term it that, than the average physician would.

I think it is awfully important in any research project, in any approach to research, to bear in mind that you cannot get results right off. One of the things that impressed me most when I was in Japan in 1945 was to be told by the chairman of their national research council that when it was announced that an atomic bomb had been dropped on Hiroshima, they were asked: "Can you produce an atomic bomb within 6 months?"

Well, you just cannot do that sort of thing. We have got to do now in a slow, painstaking, careful way, starting at the present time or, preferably, starting years ago, to build up the type of knowledge that we will have to utilize in an emergency. When the emergency comes, it is far too late. You do not order your fire apparatus after your fire breaks out.

Mr. DURHAM. Doctor, could you at the present time break down your research facilities in a general way as to what part of your effort at the present time is being used in diagnostic work, treatment, and so on?

Dr. WARREN. Yes; I could give a very rough gage of that.

Mr. DURHAM. That is what I want.

Dr. WARREN. I would say that perhaps one-sixth of our effort is concentrated on protection, the working out of instruments on protection such as the more rugged and simple types of instruments that can be used in the field, and so on, for the protection in the plants.

Mr. DURHAM. That is primarily military.

Dr. WARREN. Military and operational. Then I would say that about one-third is in the basic medical sciences, things that we hope to go into, one or another fact which will fit into the general structure that we have to build.

Then about one-third in biology and one-sixth, somewhat less than one-sixth, into a continuing study—rather, about one-twelfth—into a continuing study of the survivors in Japan. The approximately 100,000 people still alive at Nagasaki and Hiroshima represent the largest body of humans ever subjected to radiation, and they are the only body of humans that have ever been subjected to radiation of this type. Consequently, the cooperation of the Japanese medical profession, the Japanese Government in this has been a great help to us, and we feel that we must learn everything we can from this group.

Then there is about one-twelfth of our activity that goes into the fellowship training program, where we will be able to get people particularly interested to help us work in this brand new field.

Mr. DURHAM. Which one of those fields are you the shortest in at the present time in scientific personnel?

Dr. WARREN. I would say we would probably be shortest in the medical field, but it is very hard to draw a line because you can have a man who is not an M. D., trained in the field of biology, but an excellent chemist whose contributions from the standpoint of biochemistry will be of very real importance in the application to the medical side. Unfortunately, the field is one that you cannot cut into segments very readily. It has to go along more or less as a whole.

It would be a good deal like asking General Patton, when he was driving into Germany, whether he would rather have food for his men, gasoline for his tanks, or ammunition to fire from his tank guns.

Mr. PRICE. Mr. Chairman, I would like to say this: Doctor, you made an interesting statement a moment ago when you said that the chairman of the National Research Council, of Japan, I imagine you meant——

Dr. WARREN. Yes.

Mr. PRICE. Stated to you that he was asked if they could produce an atomic bomb in 6 months. Who asked him that? The military authorities?

Dr. WARREN. That was asked by the military authorities.

Mr. PRICE. That would seem to indicate, then, that the Japanese were not ready to give up at the time the bomb fell. They thought if they could produce a bomb within 6 months, they might have continued. Do you gather that impression?

Dr. WARREN. I think they felt they did not care about loss of life very much. They have different standards, apparently, as to the value of life from ours. They felt if there were any hope of an effective counterattack, that they would want to explore that hope.

Mr. PRICE. In other words, it is pretty conclusive proof that the dropping of those two atomic bombs was the thing that ended the war in Japan?

Dr. WARREN. From the studies I made there in 1945 and 1947, I have absolutely no question that that was the decisive factor in ending the war.

The CHAIRMAN. Doctor, the first time you appeared before our Senate special committee, you were in uniform, were you not?

Dr. WARREN. I was; yes, sir.

The CHAIRMAN. I thought I remembered that.

Dr. WARREN. I served in the Medical Corps of the Navy during the war.

The CHAIRMAN. Doctor, the Senate report of the Appropriations Committee says that in allocating the reductions the Commission is directed to make no change provided in the budget estimate for these programs. By "these programs" they mean processing source and fissionable material and producing weapons. Then they go on to give this line I read before——

Do not curtail your weapons, do not curtail your fissionable or source material, but cut down on administration, community programs, biology and medicine, physical research, and to such aspects of the reactor development as are not immediately necessary for national security.

Of course, that last one is the one that I think really is the pay-off. Do you agree with me that that is a silly statement to lay off or to stop such reactor development as is not immediately necessary for national security?

Dr. WARREN. I do not think, Senator, I would be in a very good position——

The CHAIRMAN. Perhaps I can criticize the thing more vigorously than you can, but do you know of any kind of reactor development that is not related to military security?

Dr. WARREN. I certainly do not, sir.

The CHAIRMAN. Neither do I.

Are there any other questions?

Senator HICKENLOOPER. Doctor, I am still worried about my dimes.

Dr. WARREN. I will take care of that. I thought I would make 20 cents.

Senator HICKENLOOPER. If they are too hot, I may give them to you.

Dr. WARREN. That one is absolutely O. K.

Senator HICKENLOOPER. All right.

Dr. WARREN. The activity has gone out of this one, too. I think you can spend either of them.

Senator HICKENLOOPER. You might try that one.

Senator VANDENBERG. Have you got a British pound you can try that on? [Laughter.]

Dr. WARREN. This one here is the real thing, as you can see. You can see that.

Senator HICKENLOOPER. That was irradiated for a minute.

Dr. WARREN. That is really it.

Senator HICKENLOOPER. If one of these dimes was in it, I think it was only there for about 2 seconds.

Dr. WARREN. On this one you got your full money's worth.

Senator HICKENLOOPER. Thank you.

Mr. DURHAM. Are there any further questions?

Dr. WARREN. I have asked Dr. Alan Gregg, who is the chairman of our Advisory Committee on Biology and Medicine, whose job is to "ride herd" on my division and see that it is doing its job properly, to give to you his views as to how the work of the Commission has been carried out in this field.

I felt it would be helpful, rather than having a witness who might be somewhat prejudiced because of being very deeply engaged in the work, if you could get also the viewpoint of someone who is seeing it from the outside.

Mr. DURHAM. Your statement, Doctor, is that the cooperation of the Commission has been satisfactory?

Dr. WARREN. Absolutely, sir. I could not ask for finer.

Mr. DURHAM. Dr. Gregg.

**STATEMENT OF DR. ALAN GREGG, CHAIRMAN, ADVISORY COMMITTEE ON BIOLOGY AND MEDICINE, UNITED STATES ATOMIC ENERGY COMMISSION, AND DIRECTOR FOR MEDICAL SCIENCES, ROCKEFELLER FOUNDATION**

Dr. GREGG. Gentlemen, I will begin by simply mentioning the other members of the Advisory Committee on Biology and Medicine: There is Dr. Goodpasture, who represents the field of pathology, and who is dean of the school of medicine and professor of pathology at Vanderbilt University; Dr. Baird Hastings, who represents the field of biochemistry; he is professor of biochemistry at the Harvard Medical School; Dr. Joseph T. Wearn, who is professor of medicine at Western Reserve University, Cleveland, Ohio; and Dr. Stakman, who is a professor of plant pathology, the University of Minnesota; Dr. D. W. Bronk, who, before he became president of Johns Hopkins, was a physicist at the University of Pennsylvania; and Dr. Beadle, who is a geneticist at California Institute of Technology. That represents the Committee or the Advisory Council.

Dr. Warren is our executive agent. We have been running a little less than 2 years now.

For the first year we had meetings about every month, most of them in Washington; but very sensibly, as I thought, the Commission arranged for all of us to go to the different installations and see the work on the spot. That has meant two visits to Los Alamos, two visits to Brookhaven, one visit to Berkeley, Hanford, Argonne—that is, Chicago—and Oak Ridge. Is that the lot?

Dr. WARREN. Yes.

Dr. GREGG. Those visits have been awfully helpful because in a sense they have given us pegs to hang our hats on.

We have been at the places. The usual technique is to arrive there, spend all day Friday going over the installation, and being shown what is there, and meeting the persons who are stationed there, and then, Saturday, beginning at 9, we have a meeting which could be held in Washington, but which is held there for convenience, which takes up the various matters on the basis of an agenda provided and supplied by Dr. Warren, and we discuss the various projects that he has, and he gives us reports on things going on in different places.

Now, I want to make some rather broad comments about this whole undertaking in medicine and biology. First of all, I think it is wise for you to realize that this is a peacetime undertaking, and I would underscore both "peace" and "time," and by that I mean it is not subject to wartime stresses and strains, and in a tremendous hurry. Certain things can be done now in the era of peace that would have been, and were, out of the range of the Manhattan project.

Now, the other item is the word "time." I think it is perfectly self-evident, if you will stop for a moment to realize, that when you are talking about long-term results of radiation you have got to have time elapsed in order to find out what the long-term results are.

Now, at the very early stages of the Manhattan project, time was not something you could reach and take off the shelf. You have to wait for time, and some of the studies that the Committee on Biology and Medicine have initiated and is supervising depend in considerable measure on the passage of time, and that is a fact, and it is a very valuable aspect to the work that the committee is supervising.

A good definition of "research work" is that it is a guerrilla warfare on the unknown—it cannot always be what the Germans call "plan-mässig" and GHQ plans.

You suddenly find a lead in research work, and the thing to do is to follow that right up, and you cannot tell exactly where your leads are going to come, and you have to be as alert as possible to meet any opportunity that comes along.

You get as much staff work as you can into it, and then you are very smart if you leave both a certain amount of time and a certain amount of your attention for noticing things which are right in front of your hands and face, but which have not been seen by anybody else.

I will give you an example of that in a minute. One of the significant things of the subject matter of this Commission's work is that it is dangerous stuff, and I would like to point out one rather simple and interesting fact. Many of our best medicines, when taken in too large quantities or large quantities, are poisonous. You can kill a man with digitalis, and in very small quantities it is one of the loveliest drugs that there are.

You can kill a man with morphine or opium, but it is certainly God's own grace to the human race that we can control pain with morphine.

Arsenic is considered universally to be a poison, but in small doses—so-called Fowler solution that is given, and it is used—at one time it was taken more largely than it is taken now to improve the complexion and general tone. And the old English-story about the marvelous complexion of the rat catcher's daughter probably derived from the fact that she was getting just enough arsenic at home to give her the very lovely complexion.

Now, the thing that I was going to refer to was this amazing ability to see what is in front of your hands and face; there is a lovely example of that. Ether, which is used in surgery, in surgical operations, and which has made possible probably more headway for surgeons than any other one which has been discovered, was discovered in 1540, and for 300 years it was considered to be a thing to get drunk on, and a very serious poison if used in large quantities, until some intelligent people noticing that in very small and carefully graduated amounts, ether could remove pain.

Now, what have we got in this field of radiation? I suspect that, first of all, we have got an obligation to look at these products and watch what they are producing. This is in very small quantities, because we know that in very large quantities they are killing; but what will they do in very small quantities?

It is an obligation in a sense because no university can expect at the present time to develop all of the machinery, all of the equipment, and all of the young men able to do this kind of investigative work.

We do know that in small quantities radiation has one effect, which is a word, but the Lord knows how many implications there are to that word. Radiation affects cells that are rapidly producing themselves. There are cells that are very slow in production; there are cells that keep dividing all the time, and rapidly.

Well, we find that this radiation affects these cells that produce that, and you can move off from that directly and say, "Oh, there is a lead for cancer because that is what cancer cells will do," or you can say, "Yes, it is also something which relates to reproductive cells, and there may be an effect from slight amounts of radiation," and we know that there are slight amounts of radiation that cause slight changes in the primary cells; namely, produce mutations or changes in what amounts to the heredity of all succeeding organisms.

Now, I have described those two fields, but this is not all a matter of "perhaps," because already we have got at least three first-rate leads in the application of substances that carry or have been radiated or themselves produce radioactive effects.

Radiocobalt is probably the best substitute for radium itself. Radiophosphorus is an excellent material for treating one of the blood diseases called polycythemia. Radioiodine is a first-rate method of treating one of the forms of cancer; namely, the cancer of the thyroid.

Now, I simply want to point out in general that research work is a little bit comparable, can be compared a little bit to the bank at Monte Carlo. The bank, in the long run, is going to win because it has one number out of every 36 in its favor. Sometimes it loses quite a lot, but not in the long run, because in the long run it wins.

Research is that way. You have a lot of shots that do not come out to your advantage, but if you will keep playing research in biology and medicine you will have winnings that do compare quite favorably, so to speak, or quite directly with what goes on in a gambling institution where one number is always set in your favor; and one of the reasons why that is true is that if a man has the really rather remarkable ability of seeing what is in front of his hands and face, which is really research work in part, and thinking about it productively, if he can do that, and if you set him free to work, I cannot tell you where his work will find application, but it is almost certain to find application, and it is an extraordinarily multiple application. Aid comes from the most unexpected quarters to finish off and cap some other effort.

Really, the contemplation of science at the present time gives one the feeling that it is a mass reaction; that one discovery kicks over something somewhere else, and that in turn kicks over something somewhere, and I think it would be wise for you to regard this proceeding in biology and medicine, first, in competent hands, in the person of Dr. Warren—he has had an excellent training for the job. He has got a real and deep interest, and he has a lovely capacity for handling people without making them mad and getting their enthusiasm and their loyal support.

I think that the committee that you have, with the exception of myself, is pretty well chosen. I do not have a comparable competence in any one of these fields to those of the other men, but you have got a good representation in having someone from medicine, someone from biochemistry, two men, really, from pathology, because that is Dr. Warren's long suit, as well as Dr. Goodpasture's, someone to represent the plant field, someone to represent physics itself, and someone to represent genetics.

Now, we are working on, roughly, a basis of having meetings now every 1 to 2 months—usually now it is nearer every 2 months.

Dr. Warren puts up an agenda to us. We criticize, inquire, inform ourselves. The initiative is his; the responsibility for fitting that into what is going on and for commenting on policy is ours.

I think you have got in the work in biology and medicine the kind of work that could hardly have been done as effectively in wartime as it can be now. It is not primarily concerned with weapon production, but I tell you, gentlemen, it is extremely important because it supplies a protection for the people who are producing the bombs, and I might say that I have never seen any industrial hygiene that was in the same class with it from the point of thoroughness and orderly organization, and it also offers you—what, I cannot promise—but it certainly offers you an extraordinary opportunity to work with substances and forces which we have never known before, to perfectly unpredictable advantages.

They have been unpredictable, but already, in three instances, at least, they have realized satisfactory results.

Senator VANDENBERG. To what extent, Doctor, is private research in X-ray radiation dependent upon the continuation of your operations?

Dr. GREGG. I do not think it is dependent in the sense that without our operation no work in the study of X-ray would take or could take place. I just think very little work would take place.

I think, in other words, that the AEC's work is a constant stimulus and standard for further work in the general field of radiation.

Senator VANDENBERG. And an essential complement of it?

Dr. GREGG. And a very valuable complement, yes.

Senator VANDENBERG. It has been a field in which too much progress has not been made heretofore, is that true?

Dr. GREGG. That is right.

The CHAIRMAN. Any other questions?

Senator HICKENLOOPER. I have none.

Mr. DURHAM. Doctor, I do not accept your apology for your incompetence. I think anyone who has listened here to your lecture this morning—and I so regard it as a lecture, would qualify you.

Dr. GREGG. Thank you. I would rather leave that for you to say than me. [Laughter.]

The CHAIRMAN. Thank you very much indeed, Doctor.

Now, we are going to hear from you, Mr. Volpe?

# **STATEMENT OF JOSEPH VOLPE, JR., GENERAL COUNSEL, UNITED STATES ATOMIC ENERGY COMMISSION**

Mr. VOLPE. Yes, sir.

Mr. Chairman, the purpose of my appearance this morning is to make just brief reference to a few things that have been discussed in the past few weeks, as to which we felt some further comment might be necessary.

Before doing that, I would like to read for the record the correspondence to which Mr. Lilienthal made reference last week in connection with the Eniwetok test.

You may recall that he mentioned an exchange of letters following the test between the Commission and the National Military Establishment, and the President of the United States.

Before reading the correspondence I would like to read an excerpt from the first report of the Secretary of Defense, which report was submitted in 1948.

On page 16 of the report by Secretary Forrestal, the heading is "Summary, Scientific Research, and Development." The excerpt reads as follows:

The Military Liaison Committee, established by the Atomic Energy Act of 1946 to provide a working partnership between the armed forces and the Atomic Energy Commission in connection with utilization of nuclear energy for military purposes was reorganized in April 1948 to provide a civilian chairman. Dr. Donald F. Carpenter became the first chairman of the reorganized committee and when later made Chairman of the Munitions Board was succeeded by Mr. William Webster. The Committee, augmented by civilians prominent in science and industry, also serves as a committee of the Research and Development Board with broad authority delegated to it by that Board in the field of research and development.

I want to record my personal satisfaction with the existing statute governing matters in the field of atomic energy, and to express my pleasure, also, at the way in which relationships between the National Military Establishment and the Atomic Energy Commission are being conducted.

This is from a report by the late Secretary of Defense, Mr. Forrestal.

Following the Eniwetok tests, Mr. Lilienthal wrote General Hull as follows:

No formal expression of admiration for your noteworthy achievement as Chief of Joint Task Force 7 will suffice to tell you how proud and deeply gratified I am to have been associated with a man who has served humanity as ably as you have in the operations now concluded. Your poise, generosity, and great human understanding have impressed us all, and your leadership put us all in your debt.

With esteem, I remain,  
Faithfully,

DAVID E. LILIENTHAL.

That was on May 17, 1948.

On May 28, 1948, General Hull wrote Mr. Lilienthal as follows:

MY DEAR MR. LILIENTHAL: Your nice note of May 17 has just reached me, and I find it difficult to express in words my appreciation for it. I am indeed happy to feel that our efforts at Eniwetok have met with your approval.

The success of Operation Sandstone was due to the individual efforts of all concerned. I have never been associated with a finer group of people than those connected with this operation. The support we received from everyone in this operation, and particularly the Atomic Energy Commission, left nothing to be desired. You leaned over backward to meet our every request and I want you to know that, along with everyone else in the task force, I deeply appreciate your support.

With kindest personal regards,  
Sincerely,

J. E. HULL,  
*Lieutenant General, USA, Commanding, Task Force.*

On May 18, 1948, there was a communication from the Secretary of Defense to the Commanding General of the Task Force at Eniwetok.

The following message has been received today from the President of the United States:

"The Atomic Energy Commission has reported to me on the results of the tests of atomic weapons at the Commission's Eniwetok Proving Ground. The Chairman and members of the Commission join me in congratulations to you on the work of Joint Task Force 7 which carried out the tests for the Commission. The successful completion of this mission is an outstanding example of an integrated operation by the agencies responsible for the military defense of the Nation and those responsible for the scientific and technical development of the means and defense. Please convey to the Commander of Joint Task Force 7 and to all of the members of the National Military Establishment who contributed to the success of the undertaking my commendation for a job well done. I know you share my feelings of gratification for the accomplishments of the Commission's Los Alamos Scientific Laboratory as indicated by the results of the test program. I have asked the Commission to convey my commendation to all of the civilian personnel involved both in the development work leading up to these tests and in the actual conduct of the proof-test program."

That is the end of the quotation from the message of the President. Mr. Forrestal went on:

My congratulations to all who contributed to the successful execution of this difficult operation.

On June 18, 1948, the Secretary of Defense wrote Mr. Lilienthal, as follows:

DEAR MR. LILIENTHAL: I am forwarding to you herewith a list by name of certain members of the scientific group participating in Operation Sandstone who did outstanding work in the view of the Task Force Commander. In the case of personnel of the military services there are standard and easily applied methods of recognition including decorations, if warranted, for those individuals who perform especially outstanding services in operations of the nature of Sandstone. However, there appears to be no method available to the military in peacetime of

providing comparable recognition to the civilian scientists who served in the task force under the auspices of the Atomic Energy Commission.

The Task Force Commander has recommended that I forward this list of names to you for whatever action the Atomic Energy Commission may wish to take in recognizing the services they have performed. I am happy to do this and I feel that it is especially fitting that the outstanding work performed by these individuals during the atomic bomb tests at Eniwetok be recognized.

These gentlemen have performed in an outstanding manner an important service to our Nation. The military services have been privileged to be associated with them and on behalf of the Department of Defense I wish to extend to each of them a "well done."

Sincerely,

(Signed) JAMES FORRESTAL.

There was attached to this letter a list of 26 personnel from the Los Alamos Laboratory and other laboratories who participated in the tests.

On June 28, 1948, Mr. Lilienthal wrote Secretary Forrestal:

DEAR MR. SECRETARY: It is particularly pleasing to note the recognition accorded certain members of the scientific group of Joint Task Force 7 in your letter of the 18th of June.

The outstanding manner in which these individuals contributed to the success of the 1948 atomic weapon test program at Eniwetok Atoll has now been recognized by commendatory letters from the Atomic Energy Commission to each of the individuals.

Please accept again the Commission's grateful appreciation for the superb task done in the national interest by the Commander of Joint Task Force 7, Lt. Gen. John E. Hull, USA. His broad understanding, his wisdom, patience, ability, and energy made the operation a success. To conduct an operation of the magnitude of Sandstone on such short notice, yet with such thorough planning and such painstaking execution, was indeed a monumental task.

Sincerely yours,

UNITED STATES ATOMIC ENERGY COMMISSION,  
DAVID E. LILIENTHAL, *Chairman*.

The final letter was written by Mr. Lilienthal on July 2, 1948:

DEAR MR. SECRETARY: The United States Atomic Energy Commission wishes to express its great appreciation for the major role of the National Military Establishment in the construction of the proving ground at Eniwetok Atoll and in the execution of the 1948 atomic weapon proof tests.

The support of the Military Establishment was effective and complete. The success of the test program was in large part due to the unselfish devotion to duty of the officers, civilian technicians, and enlisted men of the armed forces.

The Commission is particularly grateful to the Commander of Joint Task Force 7, Lt. Gen. John E. Hull. General Hull's sound judgment, patience and understanding have done much to bring closer together the scientific and military interests of the Nation.

While the magnitude and complexity of Operation Sandstone prevent mentioning all the units and agencies of the armed forces which contributed to the noteworthy success of the tests, the Commission desires to cite certain organizations which worked particularly closely with the scientific group in the performance of experiments.

The United States Army, in addition to the significant contribution of its construction forces, assisted the scientific group from the Los Alamos Laboratory in experimentation by providing highly qualified technical personnel from the Ballistics Research Laboratory at Aberdeen. The Aberdeen Proving Ground also assisted by designing, building, and operating drone tank equipment.

The United States Navy provided well-equipped laboratory ships. A particularly helpful contribution to the scientific group was the loan of scientific and technical personnel from the Naval Research Laboratory, the Naval Ordnance Laboratory, and the David Taylor Model Basin. The operations of the Naval Research Laboratory group were particularly outstanding and are deserving of special mention.

The United States Air Force performed, with outstanding success, a valuable function for the scientific group in the collection of samples. The first experimental guided missiles group established new records of efficiency in the accomplishment of a difficult operation.

The armed forces "Special Weapons" project provided technicians who rendered valuable assistance in the experimentation and command, staff, and technical personnel for the important and highly successful organization responsible for radiological safety.

The success of this joint venture is a reassurance that our two agencies have established the basis for greater mutual assistance and cooperation in the advancement of our national security.

Sincerely yours,

UNITED STATES ATOMIC ENERGY COMMISSION,  
DAVID E. LILIENTHAL, *Chairman*.

Mr. Chairman, we took time to read these letters this morning because the joint operation of the United States Atomic Energy Commission and the National Military Establishment in carrying out the 1948 atomic weapons' test is an outstanding example of how a civilian agency may work closely and in cooperation with the National Military Establishment.

Last Friday, I asked permission of the committee to insert for the record certain statements by members of the Commission's organization. I explained at that time that the purpose of the statements was to save the time of having witnesses appear to read them and discuss them at length.

With the committee's permission, I would like to insert at the close of the record this morning a statement by Walter J. Williams, Director of Production entitled "The Atomic Energy Commission Production Program, 1947-1949"; a statement on the research program by Kenneth S. Pitzer, the Commission's Director of Research; and a statement by Paul M. Green, the Commission's Controller, on financial management; and, finally, two statements by Mr. Carroll L. Wilson, General Manager, one on the Commission policy and organization, and the other on meetings of the Atomic Energy Commission and the means by which the Commission keeps informed of activities and maintains effective direction of the program.

There may be, in addition to these statements, one or two more which were not ready this morning. I would ask permission that these be inserted at some appropriate place in the record, perhaps tomorrow or the day after.

(The data referred to above are marked "Exhibit 32" and will be found in the appendix.)

MR. PRICE. Mr. Chairman?

THE CHAIRMAN. Mr. Price.

MR. PRICE. Right at this point I would like to ask permission to include in the record sections of the first report of the Secretary of Defense, one headed "Military Liaison Committee" from page 51 to page 54; and the section headed "Special weapons" on page 54 to the middle of page 56.

THE CHAIRMAN. So ordered.

(The data referred to above are marked "Exhibit 34" and will be found in the appendix.)

THE CHAIRMAN. Does that conclude your remarks?

MR. VOLPE. It does not, sir; I have just a few more items.

In the course of these hearings questions have been raised about the Commission's legal authority to grant emergency clearances. These questions have been raised frequently at times when it seemed not appropriate to take up the question at that time.

In August of 1947, during a Commission visit to Hanford—I was present with the Commission—the General Electric Co. took up with

the Commission what was then a very urgent and serious problem. That was the necessity for getting certain projects under way immediately. They were troubled at the time by what seemed to them provisions of the law which might delay their undertaking this work.

At that time they wanted to bring in immediately—as a matter of fact, they indicated that these people should have been brought in weeks before—some 23 people for the purpose of discussing with them very urgent work that needed to be done at Hanford.

We went over with them at the time the provisions of the law which, it seemed to us, would make it possible for the General Electric Co. to do everything that needed to be done in order to carry on these urgent projects.

Before discussing the provisions of the law, I might say just a word about the nature of the emergency clearance. I cannot emphasize too strongly that by “emergency clearance” we do not mean that we bring into the atomic energy program an individual about whom we know nothing, an individual about whom we have to accept, perhaps, only on his own word. These individuals are brought in on emergency clearance only after submission of a detailed personnel security questionnaire, and only after submission of a fingerprint card, and then only after the questionnaire is thoroughly scrutinized and a check is made in the FBI files.

I think it is relevant in that regard to point out that although approximately 4,000 emergency clearances were given, in only one case did information turn up after a full FBI investigation which involved what we might term substantial evidence of membership or close association in the Communist Party.

The provisions of the act, of course, are well known to this committee, but I believe that a few sections need to be read and discussed.

Section 10 (b) (5) (B) (ii) read as follows:

Except as authorized by the Commission in case of emergency, no individual shall be employed by the Commission until the Federal Bureau of Investigation shall have made an investigation and report to the Commission on the character, associations, and loyalty of such individual.

Section 10 (b) (5) (B) (i) reads as follows:

No arrangement shall be made under section 3, no contract shall be made or continued in effect under section 4, and no license shall be issued under section 4 (e) or 7 unless the person with whom such arrangement is made, the contractor or prospective contractor, or the prospective licensee agrees in writing not to permit any individual to have access to restricted data until the Federal Bureau of Investigation shall have made an investigation and report to the Commission on the character, associations, and loyalty of such individual and the Commission shall have determined that permitting such person to have access to restricted data will not endanger the common defense or security.

Then, section 10 (b) (5) (B) (iii), provides:

Notwithstanding the provisions of subparagraphs (i) and (ii), during such period of time after the enactment of this act as may be necessary to make the investigation, report, and determination required by such paragraphs, (a) any individual who was permitted access to restricted data by the Manhattan Engineer District may be permitted access to restricted data and (b) the Commission may employ any individual who was employed by the Manhattan Engineer District.

Section 1 (a) of the act, in part, reads as follows:

Findings and declaration:

It is hereby declared to be the policy of the people of the United States that, subject at all times to the paramount objective of assuring the common defense and security, the development and utilization of atomic energy shall, so far as

practicable, be directed toward improving the public welfare, increasing the standard of living, strengthening free competition in private enterprise, and promoting world peace.

Section 10 (a) of the act, reads as follows:

Control of information. Section 10 (a) policy:

It shall be the policy of the Commission to control the dissemination of restricted data in such a manner as to assure the common defense and security.

When faced with the questions raised by the General Electric Co. at Hanford, and having in mind also the problems of contractors and the Commission at, perhaps, all of the Commission's installations at that time, we sought to interpret the provisions of section 10 to determine whether they constituted a flat prohibition for the granting of emergency clearances for contractor personnel.

Section 10 (b) (5) (B) (i) does not provide that the Commission shall not give a clearance or permit an individual to go to work prior to an FBI report, but prohibits a contractor from giving access to restricted data unless certain things are done.

As a matter of fact, in section 10 there is a very clear recognition on the part of the Congress that considering the nature of the program, the urgency of the job to be done, that it would probably, under certain circumstances, not be possible to first have a full FBI investigation and clearance of all individuals before they might be permitted to go to work.

It was our view that in the absence of a flat prohibition, and considering all of the other relevant and pertinent provisions of the act, that the overriding consideration—again in the absence of the flat prohibition—the overriding consideration was the declared policy of the Congress that the Commission should conduct its affairs in such a way as to assure the common defense and security.

On September 19, we discussed this matter with the Attorney General of the United States. We canvassed very carefully with the Attorney General and his assistants the various provisions of the law which might be relevant to a solution of this question. We also discussed with him the problems which the Commission faced.

Mr. Lilienthal, the Chairman of the Commission, attended that meeting. The Attorney General agreed immediately that from his reading of the law, the Congress did not intend that everyone be investigated by the FBI and cleared by the Commission before work could be undertaken. He recognized immediately that the problem which faced us was one whether we should jeopardize by delay the common defense and security of the United States by providing for a full FBI investigation and clearance of all individuals.

As a matter of fact, one assistant remarked, that the Congress could not possibly have thought that the Commission should direct its attention at FBI investigations and clearance of all individuals and forget about the need for getting jobs done.

Thereafter, I discussed the question of interpretation of the act with Senator Hickenlooper, the then chairman of the Joint Committee on Atomic Energy. In our discussion I set forth all of the reasons why the Commission had interpreted the law as it did, and also explained the views of the Attorney General of the United States.

At the time, I must say, I left with the impression that there was not any serious disagreement on the question of legal interpretation of section 10. This, we must recall, was in 1947, and I would say for

my own part, that if there had been any serious disagreement or if a serious question had been raised about the Commission's authority to grant emergency clearances, I am certain that the staff would not have advised, and I am sure the Commission would not have seen fit, to proceed without a very careful examination and discussion of the matter with the Joint Committee on Atomic Energy.

This, Mr. Chairman, concludes my point on emergency clearances.

Mr. Hinshaw raised a few weeks ago three questions regarding the Commission's contract for natural gas. The first question he raised was the applicability or relevancy of the Panhandle case recently decided by the United States Supreme Court, the relevancy of that case to the Commission's contract for natural gas at Oak Ridge.

The second question he raised was a matter of the availability of gas and what, if anything, the Commission did to satisfy itself that an adequate supply of gas would be available for Oak Ridge.

The third point he raised, was with respect to the rights of the Commission in the event of breach of contract by the supplier.

The Natural Gas case, or the so-called Panhandle case, which was recently decided by the Supreme Court—

The CHAIRMAN. Can you cover these by way of a memorandum?

Mr. VOLPE. I would be very happy to do so.

(The data referred to above are marked "Exhibit 35" and will be found in the appendix.)

The CHAIRMAN. I would appreciate it if you would.

Is there anything else?

Mr. VOLPE. That is all.

The CHAIRMAN. Are there any questions?

Senator HICKENLOOPER. I would just like to discuss with Mr. Volpe for a moment the question of emergency clearances.

I remember the discussion in 1947, but my recollection of the discussion was that it went entirely to cases of emergency, where some emergent situation came up, and the Commission would find it necessary to get in some noted scientist or some noted specialist to discuss that particular situation, see if a solution would come up for it, and I was in agreement that under the provision of section 10, which starts out "except as authorized by the Commission in the case of emergency"—I was of the opinion, and I think I so agreed at that time, that there were situations where that would arise, where the law had recognized that emergent situations would arise, where the Commission would be authorized to do that, and where 90 days could not possibly be allowed to elapse before the benefit of this specialized judgment could be brought to a certain problem.

There was no discussion or contemplation at that time, as I recall it, about the wholesale policy of just hiring anybody and everything under the so-called emergency clearances.

I think there was a problem discussed at that time involving some technical things of which I knew nothing—I mean I was not capable of discussing any technical things—but there were some immediate technical problems. As I recall it you said, Mr. Volpe, "Now, what about a situation like this? Here is a situation."

I said, "I think the Commission has a right, under the law in such a situation, to clear as an emergency an outstanding authority on this particular thing to meet the problem."

I think that is what the problem was, but there was no discussion, as I recall it, about the idea of clearing over 4,000 in 2 years, ranging all the way through the operational activities of the Commission; and, certainly, it is my opinion—I do not care to argue the legal points of it at the moment—that the law is completely prohibitive except in the cases of actual emergent situations which arise and which must have immediate answers and immediate consultation with able people.

Now, there are letters in the files on this matter, in which I wrote to Mr. Lilienthal, as Chairman of the Commission, on two or three occasions. I cannot just recall the number of times; I would have to get into the joint committee's files to get those copies, in which I have said:

Is there anything burdensome or unworkable about this law and about the clearances? Because if the clearance situation is an unworkable situation, then let's change the law; let's don't violate the law.

That was the connotation of the letter, "let's don't take the law into our own hands; let's change the statute if there is a burdensome or difficult situation."

Each time I received a letter back saying, "No, there are some delays but we don't advocate any change in the law. We don't want any change in the policy."

Therefore, I assumed that if it were burdensome in some cases, nevertheless the Commission would elect to live under it.

It was only sometime last year when I began to check into what policies had been followed in emergency clearances that I found this consistent, month-by-month pattern of what I sincerely believed to be a complete avoidance of the law, and an operation without regard to, what I think, are the very stringent limitations of the statute, and I believe the debates on the floor of the House and Senate will indicate that that was one of the important, basically important, things: it was the most tight inspection and examination and investigation of people who were to have access to restricted data, and that that was the intent of the Members as expressed in the debates on the floor of the Congress as well as of the special committee, at least in the Senate, which wrote the law.

Now, that is my philosophy on that, and I do not disagree with you. I agree with you that we discussed certain vital emergent situations, and we discussed this particular provision of the law, and I said, "Yes, in these particular situations I think the Commission is justified in bringing in the best possible expert in that field who can be brought in here, and I think that is exactly what that provision of law was meant to do."

Mr. VOLPE. Well, Senator Hickenlooper, I think this has served to clarify the point. You are absolutely right about the discussion we had. I think it is evident now, as it was to both of us then, that the question here is not the question of legal authority, but rather the question of the application of that authority, and the question of administration. However, I do not intend this morning to deal with the question of whether or not 4,000 or approximately 4,000 emergency clearances were necessary. I would merely mention that out of 136,000 investigations which were conducted, 4,000 appears to be a fairly reasonable number.

The reasons for the rather sizable number, as you believe it to be, of emergency clearances were advanced by the Chairman of the Commission; they were discussed the other day by General McCormack and Captain Russell. I am gratified, however, that we have clarified the question which has been raised. I had feared that the question which had been raised was the question of legal authority.

Senator HICKENLOOPER. It is; it is utterly. It is a question of legal authority. I take the position that you have no legal authority for the wholesale clearances of various, what we might call, run-of-the-mill technicians, as well as highly trained scientists who were just going to work on a job, as a job, in the Commission.

I think that the only legal authority that is contained in the act is where a situation of genuine emergency has occurred.

Mr. VOLPE. Yes.

Senator HICKENLOOPER. Where there is some vital immediate thing that needs attention.

Mr. VOLPE. Yes, sir.

Senator HICKENLOOPER. I have always contended that the law specifically recognized that in that particular language, but it not only does not recognize the right for continuous month-by-month-by-month operation, as the pattern shows, from 112 to 180 people each month being given emergency clearance with access to restricted data—personally, it is my belief that that is in violation, not only of the spirit but of the letter of the law.

Now, if that is an unworkable situation in the law, I again say, as I have said before in writing, and I think you said you recalled the letters to this effect—

Mr. VOLPE. That is right.

Senator HICKENLOOPER. I again say that the law ought to be changed, and the method ought to be worked out whereby a satisfactory employment policy should be and could be adopted rather than have the Commission under the guise of its secrecy and its autonomy undertake to take the law into its own hands and interpret it as it pleases to fit its own convenience.

Now, that is just my philosophy.

Mr. VOLPE. Senator Hickenlooper, all I meant to say was that my recollection is that at the time of our discussion we were agreed that in cases of emergency, in cases where things needed to be urgently done, authority existed for granting emergency clearance.

I believe your quarrel with the Commission is on the question of what is an emergency, and that is a point which I have already said I believe has been covered.

Senator HICKENLOOPER. I again want to point out that the language of the statute is not in cases of emergency. It is in case of emergency, which, I believe, has a different connotation than if we had used the language "in cases of emergency." That may be a highly technical discussion, but probably it would have some influence on a legal decision in the matter.

The CHAIRMAN. Are you through, Mr. Volpe?

Mr. VOLPE. Yes, sir.

The CHAIRMAN. At this point in the record we will insert the records referred to previously by Mr. Volpe.

(The data referred to above are marked "Exhibit 32" and will be found in the appendix.)

The CHAIRMAN. Now, we have had 22 open hearings; we have had 14 hearings in executive session, for a total of 36.

This, unfortunately, does not conclude the investigation. I say "unfortunately," because it would be well if we could be through with it, but it does not conclude the investigation. However, we do hope to conclude it as speedily as possible.

I have advised the other members of the committee that I wish to hear as speedily as possible from them as to any witnesses that they think ought to be called in in either open or closed hearings, and to date I have received no response.

We have the personnel security cases, and I have scheduled an executive meeting for tomorrow afternoon to begin discussion, at least, of how they are to be handled.

So, if there is nothing further, we will recess this hearing at the call of the Chair.

(Whereupon, at 12:35 p. m., the joint committee adjourned, subject to the call of the Chair.)

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# INVESTIGATION INTO THE UNITED STATES ATOMIC ENERGY PROJECT

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## APPENDIXES TO HEARING BEFORE THE JOINT COMMITTEE ON ATOMIC ENERGY CONGRESS OF THE UNITED STATES EIGHTY-FIRST CONGRESS FIRST SESSION ON

### INVESTIGATION INTO THE UNITED STATES ATOMIC ENERGY PROJECT

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#### PART 23

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## APPENDIX 1

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## EXHIBIT 1

(Referred to on p. 91, pt. 2, June 1, 1949, and p. 137, pt. 3, June 2, 1949)

*Summary of Atomic Energy Commission Federal personnel separations—Calendar years 1947 and 1948<sup>1</sup>*

Month	AEC Federal personnel							Federal Government separation rate	Manufacturing Industries separation rate	
	Full-time strength end of month	Separations during month					Separation rate			
		Total	Voluntary separation	Reduction in force	Removal for cause	Extended LWOP				Other reasons
1947—										
January.....	4,103	110	95	3	2	5	5	2.6	3.9	4.9
February.....	4,249	158	101	31	3	8	13	3.8	3.5	4.5
March.....	4,115	456	99	293	3	31	30	10.9	4.0	4.9
April.....	4,182	148	123	3	8	8	12	3.6	4.2	5.2
May.....	4,132	205	165	9	9	4	19	4.9	4.3	5.4
June.....	4,178	284	104	96	1	7	106	6.8	6.9	4.7
July.....	4,063	290	108	157	6	5	14	7.0	4.9	4.6
August.....	3,922	301	127	125	5	6	38	7.5	4.0	5.3
September.....	4,151	164	112	15	3	2	22	3.8	4.6	5.0
October.....	4,333	158	106	11	1	1	39	3.7	3.7	3.9
November.....	4,604	153	95	32	2	4	20	3.4	2.6	4.0
December.....	4,715	164	97	16	5	1	45	3.5	2.8	3.7
Total.....	(A)4,229	2(T)2,581	(T)1,332	(T)761	(T)43	(T)82	(T)363	(AR)61.0	(AR)49.7	(AR)58.1
1948—										
January.....	4,824	210	94	11	1	4	100	4.4	2.6	4.3
February.....	4,890	126	87	16	1	4	18	2.6	2.3	4.7
March.....	4,902	178	91	44	0	4	39	3.6	2.9	4.5
April.....	4,839	127	75	15	1	2	34	2.6	2.8	4.7
May.....	4,970	130	89	9	1	5	26	2.6	2.6	4.3
June.....	4,975	152	85	25	0	2	40	3.1	3.3	4.5
July.....	5,002	125	65	9	0	5	46	2.5	2.9	4.4
August.....	5,010	113	67	13	3	1	29	2.3	3.0	5.1
September.....	4,981	122	84	12	0	4	22	2.4	3.7	5.4
October.....	4,904	226	123	75	0	4	27	4.6	2.8	4.5
November.....	4,855	155	58	47	0	3	47	3.2	2.2	4.1
December.....	4,791	148	69	43	1	8	27	3.1	2.3	4.3
Total.....	(A)4,920	2(T)1,812	(T)987	(T)319	(T)8	(T)43	(T)455	(AR)36.9	(AR)33.3	(AR)54.8

<sup>1</sup> Revised.<sup>2</sup> Includes 893 persons transferred to AEC contractors.<sup>3</sup> Includes 164 persons transferred to AEC contractors.

NOTE.—Symbol (A) indicates average; (T) indicates total; (AR) indicates annual rate.

NOTE.—These figures do not include consultants retained on a personal service contract basis. The figures may include a certain number of temporary employees, but the number is not significant.

## EXHIBIT 2

(See also Exhibits 8 and 11)

(Referred to on p. 92, pt. 2, June 1, 1949)

UNITED STATES ATOMIC ENERGY COMMISSION,  
Washington 25, D. C., June 8, 1949.

Mr. WILLIAM L. BORDEN,  
*Executive Director, Joint Committee on Atomic Energy,  
United States Capitol, Washington 25, D. C.*

DEAR MR. BORDEN: There is forwarded herewith materials in further response to Senator Knowland's request during the June 1 hearing on the subject of the regulations and handling of fissionable materials at Argonne National Laboratory. Those materials classified secret are forwarded by separate letter.

1. GM Bulletin 76 issued March 10, 1948, governing the allocation and transfer of fissionable materials outside of routine production channels and GM Bulletin 95 issued July 23, 1948 governing accounting for source and fissionable material.

2. A report dated December 7, 1948, pursuant to GM Bulletin 76 on the accounting, safety, security, and health measures then in existence. These measures had been in effect for some time, including the period of September 1948, and had gradually evolved from the period of the Manhattan District.

3. Brief explanation of Argonne National Laboratory documents and forms used in handling this particular shipment of material.

The following material is submitted as indicating the documents supposedly covering the particular material in question. Subsequent investigation, however, has disclosed that the bottle in question was erroneously thought to be contained in the carton covered by these documents. It actually remained at Site B as investigation has since disclosed.

1. Special Materials Pass showing material leaving Site B at 2:35 P. M. September 16, 1948.<sup>1</sup>

2. Special Materials Pass showing material arriving at New Chemistry at 2:45 P. M., September 16, 1948.<sup>1</sup>

3. Special Materials Pass showing material leaving New Chemistry at 2:50 P. M., September 16, 1948.<sup>1</sup>

4. Special Materials Pass showing material arriving at Site A at 3:45 P. M., September 16, 1948.<sup>1</sup>

Sincerely yours,

CARROLL L. WILSON,  
*General Manager.*

ARGONNE NATIONAL LABORATORY, November 17, 1948.

To: File.

Subject: Meeting of November 12, 1948—Security Responsibilities for the Temporary Site.

On November 12, 1948, a meeting was held at the DuPage Site to discuss the security responsibilities and to clarify the relationship between the AEC, the University of Chicago, and Argonne National Laboratory in the security program for the temporary site. Present were A. Tammaro and J. R. Yore, AEC; C. K. Weidner and B. Evans, University of Chicago; W. H. Zinn and R. A. Hessler, Argonne National Laboratory.

The following agreements were reached:

1. ANL will continue to assume security responsibility for facilities released to them for occupancy.

2. University of Chicago and construction contractors will assume responsibility for security of facilities under construction and construction materials.

3. ANL will take over guarded entrance posts to the site from the University of Chicago construction contractor as soon as adequate guard personnel are available.

4. Identification of personnel entering the site:

(a) ANL employees assigned to DuPage Site will be identified by—

(1) ANL Bus.

(2) ANL Station Wagon.

(3) AEC Car or private vehicle with ANL registered windshield sticker. These stickers will be issued only for AEC or private vehicles being used by DuPage Site assigned employees.

<sup>1</sup> Passes illustrated on pp. 924-927.

(b) ANL employees not regularly assigned to DuPage Site and ANL visitors will be identified by badge or other authorized pass and will also be registered at site entrance posts between 6 p. m. and 6 a. m.

(c) Construction personnel. (Details to be worked out with Mr. B. Evans.)

5. All personnel entering or leaving site will be subject to spot checking and spot car inspection by post guards.

6. All written security orders or procedures mutually affecting operations of ANL, U of C, and its subcontractors and the AEC will be exchanged by said parties to prevent misunderstandings and to keep all affected parties informed.

7. The AEC Security Office will be kept informed of all security procedures and opinions will be requested from this office when pertinent to AEC Security regulations or interests,

R. A. HESSLER,  
Security Officer.

RAH:mao

Copy to—B. Evans.

J. H. McKinley.

C. A. McNeill.

L. M. Newman.

A. Tammaro.

D. L. Underhill.

C. K. Weidner.

D. F. Wood.

J. R. Yore.

W. H. Zinn.

# REQUEST FOR AUTOMOBILE STICKER

Date Issued \_\_\_\_\_  
No \_\_\_\_\_

To: Security Department

From \_\_\_\_\_ Division \_\_\_\_\_

Please issue an ANL auto sticker for identification of car owner by \_\_\_\_\_

Address \_\_\_\_\_

Make car \_\_\_\_\_ Model \_\_\_\_\_ Year \_\_\_\_\_

License No. \_\_\_\_\_ State \_\_\_\_\_

Employee \_\_\_\_\_ Approved \_\_\_\_\_

(Signature)

(Supervisor)



ARGONNE NATIONAL LABORATORY,  
Chicago 80, Ill., November 18, 1948.

Effective November 22, 1948, Argonne National Laboratory guards will take over the security posts at the entrance to Temporary Site "D".

The following instructions have been issued to the guards regarding access:

1. Post at Old Bailey Road south of Site has been designated as an ANL entrance. ANL station wagons, and busses, and AEC or private cars identified by an ANL windshield sticker will be admitted at any time without challenge. (Stickers will be issued by request through the Site Administrator's Office, to DuPage Site employees only.)

2. Post at Main gate will be maintained as an entrance for construction personnel. ANL employees may encounter traffic congestion here.

3. Post at Old Bailey Road north of Site will be maintained as a truck entrance for construction contractor.

Routine spot checks for personnel identification and car inspection will be made at all posts.

R. A. HESSLER,  
Security Officer.

**BULLETIN GM-76, ISSUED MARCH 10, 1948, GOVERNING ALLOCATION AND TRANSFER  
OF FISSIONABLE MATERIALS OUTSIDE OF ROUTINE PRODUCTION CHANNELS**

**ATOMIC ENERGY COMMISSION**

Bulletin  
GM-76

Research  
Fissionable Materials

**ALLOCATION AND TRANSFER OF FISSIONABLE MATERIALS OUTSIDE OF ROUTINE  
PRODUCTION CHANNELS**

Ref.: Atomic Energy Act of 1946.

For: All AEC Offices.

1. *Purpose.*—This Bulletin establishes procedures for the allocation and transfer of fissionable materials outside of routine production channels but within Commission Laboratories. It does not apply to the transfer of fissionable materials to and from Los Alamos when such transfer is made in accordance with established production rules. This Bulletin is effective immediately, superseding present procedures for securing authorization by Commission Laboratories for the transfer of fissionable materials outside of routine production channels. This does not alter procedures established by Bulletin GM-2 and Atomic Energy Commission Regulations, Operations No. 1 and No. 2.

2. *Definitions.*—(a) Fissionable material, as used in this Bulletin, means U-233, Pu-239, and uranium enriched in U-235.

(b) Commission Laboratory means any research laboratory owned by the Commission or in which research is conducted pursuant to contract with the Commission.

(c) Laboratory program means any research program which required the use of any fissionable material and which is conducted in a Commission Laboratory by the Commission or pursuant to contract with the Commission.

3. *Basic quota.*—The Managers of Directed Operations will see that—

(a) All Commission Laboratories having inventories of fissionable material, or who expect to submit requests for any quantity of fissionable material, will submit copies of their standard operating procedures for handling these materials to the appropriate Manager of Operations, together with a request for the establishment of a Basic Quota of fissionable material for that laboratory. These procedures should include the detailed safety, security, health, and accounting measures which have been or will be established by the laboratory. The Manager of Operations will forward the procedures, with recommendations, to the General Manager for approval. The Basic Quota for each fissionable material should be commensurate with the requirements of laboratory programs approved by the Commission. Such Basic Quota shall not include any quantity of fissionable material with respect to any laboratory program for which the General Manager considers a Special Quota pursuant to paragraph 4 below to be appropriate, but shall include all other quantities of fissionable materials on hand at the first of each year and required by the laboratory during the next calendar year.

(b) All fissionable material possessed or obtained by a Commission Laboratory within its Basic Quota may be utilized by the laboratory in connection with such programs as the Director of the laboratory may deem necessary or desirable.

(c) Whenever the quantity of any fissionable material in the possession of a Commission Laboratory is less than the Basic Quota authorized for that Laboratory, the Laboratory Director may submit to the Manager of Directed Operations of his area a request for the transfer of additional fissionable material within the limits of such Basic Quota. Such transfers may be arranged between the Managers of Directed Operations concerned, except that the transfer of all quantities in excess of 100 grams of U-235 or in excess of 10 grams of either U-233 or Pu-239 shall be subject to the approval of the General Manager.

(d) Requests by Commission Laboratories for increases in their Basic Quota shall be referred to the General Manager by the appropriate Manager of Directed Operations. The request shall include justification for the increase and a statement of any changes contemplated in procedures approved by the General Manager pursuant to subparagraph 3a of these instructions.

4. *Special quotas.*—(a) Whenever a Commission Laboratory desires the allocation and transfer of a quantity of fissionable material that cannot be received as a part of its Basic Quota, the laboratory may request a Special Quota of fissionable material. When small quantities in excess of the Basic Quota of the Laboratory are required for use in connection with several programs, the laboratory should normally request an increase in its Basic Quota.

(b) The Manager of Directed Operations should submit the requests of the laboratories for special quotas to the General Manager for approval. The request should be in the form of a feasibility report describing the proposed use of the material, step by step, and presenting specific details of safety, security, and health measures to be taken, including procedures for accounting for the material and plans for the recovery of the material. The feasibility report should, in general, be prepared by collaboration between the staff of the Manager of Directed Operations and the requesting agency. Where applicable, the Standard Operating Procedures called for in paragraph 3a above may be cited. The Manager of Directed Operations concerned will forward the feasibility report to the General Manager with his recommendations. The Director of Research will coordinate and integrate all requests for Special Quotas for the General Manager as follows:

(1) Appoint, where he deems it desirable, a feasibility committee composed of qualified scientists, and arrange for the committee and representatives of other interested offices to review and evaluate the feasibility report, visiting the site if required.

(2) Ascertain from the Director of Security and Intelligence that the proposed security measures will be adequate.

(3) Ascertain from the Director of the Production Division that the material is available and that the proposed accountability procedures will be adequate.

(4) Ascertain from the Director, Division of Biology and Medicine that the proposed health measures will be adequate.

(5) Notify the Director of Military Application Division of the proposed action.

(6) Determine that the material requested is in accordance with the amounts allocated for research in general.

(7) Recommend to the General Manager that authorization be issued to use the material as proposed and to initiate such transfers as are necessary.

(c) Special quotas of fissionable material will be used only in connection with the program for which they have been authorized and will in general be returned to production channels promptly when no longer required.

5. *Return of fissionable material.*—The return of fissionable material to production channels will be arranged between the Managers of Directed Operations concerned. The Manager receiving the material will determine that the material is in proper condition for acceptance and will authorize the transfer after the necessary reviews have been made to provide for the safe and secure transfer to production channels.

6. *Accountability and transfers.*—All arrangements between Managers of Directed Operations for the transfer and accountability of fissionable material will be accomplished in accordance with the requirements of Bulletin GM-2 and AEC Regulations, Operations No. 1 and No. 2, regarding shipments and accountability.

7. *General.*—The various Managers of Directed Operations should see that each Commission Laboratory submits, by December of each year, to the Manager of

Directed Operations concerned an estimate of the total amount of each fissionable material which will be required during the next calendar year involving both Basic and Special Quotas. These estimates should be forwarded to the General Manager for approval along with the recommendations of the Manager of Directed Operations. All Basic and Special Quotas of fissionable materials will be subject to cancellation or reduction by the General Manager. Commission Laboratories should be made responsible for the security and conservation of all fissionable material in their possession. Material for which there are no foreseeable uses should be returned promptly to production channels.

8. *Transfers involving Commission facilities not authorized a basic quota.*—No Commission Laboratory will at any time remove any quantity of fissionable material from its own premises except by express authority of the appropriate Manager of Directed Operations or of the General Manager. When such removal is for the purpose of obtaining special outside assistance (for example, preparation of special shapes of enriched uranium in a Commission facility not having a Basic Quota) the request for authority to transfer the material will be submitted by the removing laboratory to the appropriate Manager of Directed Operations in the form of a feasibility report, showing the need for such outside assistance and describing details of safety, security, health, and accounting measures to be observed by the removing laboratory and the assisting organization. This report should be prepared by collaboration between the contractors concerned. Approval for such transfers will be granted by the Manager of Directed Operations concerned after such study as he shall deem necessary.

9. *Security.*—The field security offices will, by thorough and frequent inspections, insure that the security measures established prior to the approval of a Basic or Special Quota of fissionable material are effectively and conscientiously carried out by the Commission Laboratory. In all AEC security areas, for the purpose of storage, handling, use, and transporting fissionable materials in accordance with these instructions, all quantities of plutonium and U-233 in excess of 10 grams and all quantities of U-235 in excess of 100 grams shall be given appropriate TOP SECRET security protection. All other quantities of U-233, U-235, and plutonium shall be afforded appropriate Secret security protection. Outside of AEC security areas, all quantities of U-233, U-235, and enriched uranium or plutonium in excess of one milligram shall be given TOP SECRET security protection.

CARROLL L. WILSON,  
General Manager

Issuance date: March 10, 1948.

Received, April 5, 1948, 10:12 a. m., United States Atomic Energy Commission, Mail and Records Branch, Chicago, Ill.

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BULLETIN GM-95, ISSUED JULY 23, 1948, GOVERNING ACCOUNTING FOR SOURCE AND FISSIONABLE MATERIALS

#### ATOMIC ENERGY COMMISSION

Bulletin  
GM-95

Production  
SF Accountability

#### ACCOUNTING FOR SOURCE AND FISSIONABLE MATERIALS

Ref.: Section 5, Atomic Energy Act of 1946. This Bulletin supersedes AEC Regulations, Operations No. 1 and No. 2, and Instruction OR-2 (Supp. 6).  
For: Managers of Operations.

1. *Scope.*—(a) The provisions of this Bulletin shall apply to all source and fissionable materials in the possession of or in use by the Atomic Energy Commission, its contractors, or other Government agencies. This shall include source and fissionable materials involved in research activities as well as production or storage operations. However, there shall be excluded from the scope of this Bulletin the following:

- (1) Source material not owned by the Atomic Energy Commission.
- (2) Source material prior to removal from its place of deposit in nature.

2. *Purpose.*—(a) The value and strategic importance of source and fissionable materials require accurate accounting control over these materials, hereinafter referred to as SF materials.

(b) The purpose of this Bulletin is to establish—

(1) A measurement and record system for transfers and inventories which will protect both the Atomic Energy Commission and its contractors against undetected loss or diversion of SF materials, and, in addition, will promptly provide current and accurate information as to the disposition and availability of SF materials.

(2) A system of surveys to provide management with information as to the adequacy of SF material accounting procedures in effect.

(c) This Bulletin is arranged in 10 sections, as follows :

Section	Subject	Page <sup>1</sup>
1	Scope .....	1 (907)
2	Purpose .....	1 (908)
3	Program Development and Administration .....	2 (908)
4	Surveys .....	6 (909)
5	SF Accountability Stations .....	7 (910)
6	Accountability Representatives .....	8 (910)
7	Measurement Methods .....	8 (911)
8	Monthly Inventory and Material Balance Reports .....	10 (911)
9	Transfer Records .....	13 (913)
10	Interpretations and Procedural Instructions .....	18 (915)

<sup>1</sup> Numbers in parentheses refer to pages in this appendix.

(d) Since custody of SF materials entails responsibility for preventing diversion and for minimizing avoidable losses, each receiver shall independently measure SF materials received to determine the magnitude of the responsibility incurred, and each shipper shall measure SF materials shipped to determine the extent to which responsibility is relieved. (Measurement methods, exceptions, and practicability shall be governed by Section 7 of this Bulletin.)

(e) The comparison between independent measurements by shipper and receiver provides the Atomic Energy Commission an essential element of accounting control over delegated responsibilities for SF materials.

(f) Physical inventories shall be taken to verify the nature and quantities of SF materials. Material balance reports showing inventories, receipts, shipments, consumption, production, and losses of SF materials shall be submitted as soon as possible after the end of each month. (Inventory methods, exceptions, and practicability shall be governed by Section 7 of this Bulletin.)

3. *Program Development and Administration.*—(a) SF accountability stations: (1) SF Accountability Stations shall be established by each Manager of Operations to facilitate accounting for SF materials. For this purpose, the term "SF Accountability Station" shall mean one organization at one location having custody of and responsibility for SF materials independently of other organizations at the same or other locations. The Atomic Energy Commission and its several contractors are separate organizations. If both an AEC office and a contractor organization are located at the same place, and each handles or has custody of SF materials, the two organizations shall constitute separate Accountability Stations. (The term "SF Accountability Station" as used in this section refers to an entire plant. This does not preclude or concern the establishment of such internal material balance areas within a plant as may be deemed desirable by operating supervision.)

(2) Acceptance of SF materials by an Accountability Station entails the responsibility to properly account for the materials received.

(3) It shall be the responsibility of each Accountability Station to develop inventory and material balance procedures which will reflect as accurately as is reasonably possible the necessary information regarding all SF materials handled. This responsibility includes the development of adequate weighing, sampling, analytical and recording methods and the determination of the accuracy and precision of the measurements.

(4) It is recommended that each installation devise a single system of inventory and material balance records and reports which will provide information required for both accounting control and operating supervision rather than to employ two parallel systems.

(b) Managers of operations. (1) Responsibility for the administration of approved programs of SF material accounting control rests upon each Manager of Operations. He shall—

(a) Determine that all contractor and AEC organizations under his jurisdiction which handle or have custody of SF materials are acquainted with the material accounting objectives and requirements of the Atomic Energy Commission as outlined in this Bulletin.

(b) Insure that these organizations inventory, report, and transfer SF materials in accordance with the provisions of this Bulletin.

(c) Arrange for the establishment of SF Accountability Stations, with designated SF Accountability Representatives, prior to transfer of any SF material to AEC or contractor organizations.

(d) Maintain appropriate records of inventories, receipts, shipments, consumption, production and losses of SF materials at Accountability Stations under his jurisdiction, and submit monthly consolidated inventory and material balance reports covering SF materials at these Accountability Stations.

(e) Maintain a continuing study of quantities of SF material lost or unaccounted for at Accountability Stations under his jurisdiction.

(f) Institute procedures which will minimize the possibility of undetected loss or diversion of SF materials.

(g) Work with the Division of Production staff in the development of national programs, standards, and procedures based upon operating needs.

(h) Arrange surveys of each Accountability Station under his jurisdiction as frequently as conditions demand, but at intervals not greater than 3 months for each major Station and not greater than 6 months for each other Station.

(i) Arrange assistance and participation in surveys of Accountability Stations under his jurisdiction made by the Source and Fissionable Materials Accountability Branch, Division of Production.

(j) Insure that each AEC local office provides a continuing review of the adequacy of material accounting controls developed and maintained by Accountability Stations under its jurisdiction.

(2) Division of Raw Materials: For purposes of this Bulletin, the Division of Raw Materials shall be considered an Office of Directed Operations. Provisions concerning Managers of Operations and Offices of Directed Operations shall apply equally to the Director of Raw Materials and the Division of Raw Materials.

(c) Division of production: (1) A source and Fissionable Materials Accountability Branch has been established in the Division of Production. The Branch shall coordinate and give staff supervision to the development and administration of physical unit accounting control over source and fissionable materials of the Atomic Energy Commission. To determine the adequacy of the national system of source and fissionable physical unit material accounting control and to provide the Atomic Energy Commission with information as to the effectiveness and reliability of this control; the Branch shall also survey SF Accountability Stations handling or having custody of SF materials. Specifically the Source and Fissionable Materials Accountability Branch shall—

(a) Establish, within the policies prescribed by the General Manager, physical SF material accounting and reporting procedures necessary to provide over-all physical control for source and fissionable materials of the Atomic Energy Commission.

(b) Develop and recommend to the Director of Production improved physical accounting safeguards against diversion of materials.

(c) Prepare consolidated reports in units of inventories, transfers, and losses of source and fissionable materials.

(d) Determine the reliability of SF material physical accounting data reported by the various contractors and by AEC offices.

(e) Maintain a continual review of SF material physical accounting controls, including inventory procedures and measurement methods.

(f) Survey Accountability Stations to evaluate the status and effectiveness of material unit accounting control and as may be directed by the Director of Production.

(g) Consult with and advise the Offices of Directed Operations regarding SF material physical accounting problems.

4. *Surveys.*—(a) Definition: (1) For purposes of this Bulletin, a survey is a comprehensive examination, analysis and evaluation of all phases of SF material accounting control, including inventory procedures and measurement methods.

(2) The survey requirements established by this Bulletin are distinct and separate from the security inspection and survey requirements established by Bulletin GM-60.

(b) Objectives: SF material accounting surveys shall be made to determine and record the effectiveness of SF material records, inventory and measurement methods in use, and to provide management with information as to the adequacy of these procedures.

(c) Reports: Survey findings shall be summarized in short narrative reports, including—

(1) Description of the activity performed at the installations surveyed, sufficiently complete to permit proper evaluation of the report and recommendations.

(2) Quantities of SF materials handled, included shipment, receipts, and inventories.

(3) Quantities of SF material lost or unaccounted for, with explanations of processing losses and information as to the reliability of the inventory and material balance data reported.

(4) Adequacy of material accounting control, with explanation of desirable changes in records, inventory procedures, and measurement methods.

(5) Extent of action on previous survey report recommendations.

(6) Recommendations.

(d) Report distribution: The distribution of survey reports shall include one copy for the organization surveyed, one for the Manager of Operations having jurisdiction, and one copy for the Director of Production.

(e) Performance of surveys: (1) By Offices of Directed Operations: Personnel of each Office of Directed Operations shall make surveys of Accountability Stations under its jurisdiction as scheduled by the Manager of Directed Operations.

(2) By Source and Fissionable Materials Accountability Branch: Surveys shall also be made by the Source and Fissionable Materials Accountability Branch, Division of Production, as required by the Director of Production. Each Office of Directed Operations shall participate and assist in surveys of Accountability Stations under its jurisdiction when made by the Source and Fissionable Materials Accountability Branch.

(f) Scope and frequency: (1) Every SF Accountability Station shall be surveyed to determine the status and adequacy of material accounting control.

(2) Surveys of Accountability Stations under its jurisdiction shall be made by each Office of Directed Operations as frequently as conditions demand, but at intervals not greater than 3 months for each major Station and not greater than 6 months for each other Station.

(3) If an SF Accountability Station is surveyed by an Office of Directed Operations in conjunction with the Source and Fissionable Materials Accountability Branch, Division of Production, no separate survey by the Office of Directed Operations within the specified interval is required.

5. *SF accountability stations.*—(a) The SF Materials Accountability Branch shall assign a three-letter code symbol to each SF Accountability Station (AEC office or contractor's organization) which handles SF materials.

(b) Examples of codes for SF Accountability Stations are as follows:

CCC—Carbide and Carbon Chemicals Corp., K-25 Plant, Oak Ridge, Tenn.

CKA—USAEC, K-25 Operations Office, Oak Ridge, Tenn.

ANL—Argonne National Laboratory, Chicago, Ill.

CHA—USAEC, Chicago Directed Operations, Chicago, Ill.

CAB—USAEC, SF Materials Accountability Branch, Oak Ridge, Tenn.

CPA—USAEC, Oak Ridge Directed Operations, Oak Ridge, Tenn.

(c) It shall be the responsibility of Managers of Operations to notify the SF Materials Accountability Branch, Division of Production, Oak Ridge, Tenn., of any additional Accountability Stations necessitated by operations or research activities, so that appropriate code symbols can be assigned and revised Accountability Station Code sheets can be issued to keep the list current.

(d) Establishment of an Accountability Station does not imply authorization to ship source or fissionable materials from or to that station. Shipments from and receipts by Accountability Stations must first be authorized by the AEC offices having jurisdiction over those Stations.

6. *Accountability representatives.*—(a) Centralizing the responsibility of accounting for receipts and shipments of SF materials in a particular plant, laboratory, or AEC office is the most practicable method of preventing omissions, duplications, and confusion in accountability records.

(b) Each Accountability Station shall therefore designate an Accountability Representative, who shall be accountable for all source and fissionable materials located in that Accountability Station and who shall also be responsible for maintaining adequate records of receipts, shipments, and inventories of SF materials. Shipments to an Accountability Station shall be consigned to its Accountability Representative; shipments from an Accountability Station shall show its Accountability Representative as consignor.

(c) This does not mean that materials should be physically delivered to or handled by the Accountability Representative or his subordinates. It means only that (regardless of where or by whom SF materials chargeable to an Accountability Station are received or shipped) the pertinent receiving or shipping documents shall, in all instances, finally go to the Accountability Representative and become part of his records.

7. *Measurement methods.*—(a) Using the most reliable practicable methods, the shipper and the receiver of SF materials shall independently determine the quantities transferred. Quantities of SF materials on hand at the end of each month shall be physically inventoried as accurately as practicable.

(b) General: In general, the measurement method shall be—

(1) Weight (or measure) and sample each unit, batch, or container of material.

(2) By analysis of the sample, determine the weight percent SF content and calculate the weight of SF material in the unit, batch, or container.

(3) If the SF material is uranium, determine the weight percent U-235 in the sample and calculate the weight U-235 in the unit, batch, or container.

(4) If sampling is impracticable, such as for finished metal pieces, alpha counting, and fission counting may be useful for determining SF and U-235 content. These methods must be cautiously employed for absolute determinations because they are affected by surface smoothness, presence of other materials and so on.

(c) Exceptions: (1) Uranium which has undergone no processing altering the natural U-235 content shall be deemed to be 0.705 weight percent U-235 and no isotopic determination is required.

(2) Units, batches, or containers of material which have maintained unchanged identity, SF content, and relative isotopic composition since the last inventory need not be reweighed and resampled for the monthly inventory, but the inventory system should provide for a physical verification of the presence of such items and assurance that no change in content has occurred.

(d) Practicability: (1) Practicability of accurate measurement is affected by such diverse factors as type of material, its quantity, its strategic and financial value, the difficulties of measurement, the cost of measurement, the extent of analytical data on like material, the availability of personnel and facilities, the contribution of the measurement inaccuracy to the uncertainty of the over-all plant or laboratory material balance, etc. Such factors may render impracticable all or part of the sampling, weighing, and analytical routines outlined above as general measurement methods. Statistical analysis of these routines will aid correct judgment as to practicability and will help in finding practicable improvements to routine measurement procedures.

(2) Material transferred or inventoried may include relatively large amounts of some material as well as small samples assigned to research work on a semi-permanent basis. Under such circumstances it could be practicable to conduct a monthly physical inventory of materials present in quantity, including weighing, sampling, and analysis but not practicable to measure accurately the small research samples more often than quarterly, semiannually, or annually. For extremely small quantities it is, of course, impossible to sample and analyze the material without consuming the entire amount, and under such circumstances only a limited verification can be made.

(e) Reliability: Reliability of determination of net weight of SF material is influenced by adequacy of sampling procedures and by accuracy and precision of weighings and of chemical and physical analyses that together comprise the determination. Modern statistical methods will be useful in evaluating sampling plans, determining accuracy and precision, and recognizing possible improvements in sampling and measurement schemes. Statistical analysis of the over-all material balance will indicate the relative importance of the several sources of unreliability, enabling efficient allocation of effort to improve reliability.

8. *Monthly inventory and material balance reports.*—(a) Each SF Accountability Station which has SF materials on hand or which receives or ships SF materials as consignee or consignor shall report such materials monthly in accordance with this Bulletin.

(b) General arrangement: (1) Inventory and material balance reports shall be generally arranged in the form illustrated by Exhibit I. Different SF materials, e. g., uranium and thorium, shall be shown in separate columns or on separate sheets.

(2) Inventory and material balance reports shall contain two sections, one showing a material balance for the current month and one showing a year-to-date balance.

(3) Weights shall be reported in metric units. Weighing should be done in these units where practicable. If pound scales are used, weight totals should be converted for inventory and material balance report purposes on the basis of 0.45359 kilogram per pound. (The use of this conversion factor does not require any change in weighing, e. g., materials which are now weighed to the nearest pound may still be so weighed, but report totals shall be in metric units.)

(4) Inventory and material balance report terminology and material classifications shall conform to the explanatory notes appended to Exhibit I.

(c) Material type segregation: Material received or shipped and material inventoried as Feed Storage, Material in Process, etc., shall be subdivided to show separately major material types. For example, significant amounts of uranium metal and of uranium oxide shall be shown separately rather than as a combined item. Minor material types not involving significant quantities may be lumped together as miscellaneous.

(d) Isotopic content segregation: Uranium inventoried as Feed Storage, Material in Process, etc., shall be further subdivided to show separately materials significantly different in isotopic composition. Uranium receipts, removals, or unaccounted for amounts which are significantly different in isotopic makeup shall also be shown separately. For uranium reporting purposes "significant" ranges of depleted (less than 0.705 weight percent U-235) material shall be +0.025 weight percent. "Significant" ranges for enriched (more than 0.705 weight percent U-235) material shall be +2.5 weight percent; for example, uranium 6 percent U-235 and uranium 9 percent U-235 need not be separately shown on inventory and material balance reports, but uranium 6 percent U-235 should be segregated on the report from uranium 12 percent U-235 because the difference in range is more than 5 percent. In all instances, depleted uranium, natural uranium, and enriched uranium shall be shown in separate columns, or upon separate sheets.

(e) Receipts and shipments: Receipts and shipments shall also be subdivided to show separately different consignors or consignees. However, it is not necessary to list separately different shipments to or receipts from any one Accountability Station unless the material types or isotopic contents differ significantly.

(f) Adjustments: The nature and amount of each adjustment shall be clearly described by an explanatory note. Beginning inventories reported for the month and for the year should agree with corresponding quantities previously reported. If adjustments have been applied to either of these inventories, both the previously reported quantity and the adjusted quantity shall be shown.

(g) Inventory dates: An inventory of SF material should be taken on the last day of each calendar month. In the event that a physical inventory on the last day of the month is not feasible, an inventory taken within the week preceding or the week following the end of the month and adjusted for intervening receipts and shipments shall be used as a basis for the required month-end inventory.

(h) Inventory basis: The inventory and material balance report shall explain the measurement methods used to determine the various portions of the ending inventory. (Measurement methods are discussed in Section 7 of this Bulletin.) Portions of the inventory not measured shall be described, with an explanation of how these quantities were determined and why measurements were not practicable.

(i) Reliability of data: The inventory and material balance report shall indicate the reliability of the various items by showing the probable limits of error.

(j) Report transmittal: Inventory and material balance reports shall be signed by the person responsible for preparation and issuance of the report, and shall be classified in accordance with existing security regulations. The report shall be sent to the Manager of Operations having jurisdiction over the Accountability Station, with an information copy to the Source and Fissionable Materials Accountability Branch, Division of Production, Oak Ridge, Tenn. This information copy may be transmitted directly or through the Office of Directed Operations, at the discretion of the Manager of Operations concerned. Inventory reports through the end of each month shall be submitted as soon as possible after the inventory date.

(k) Consolidated reports: Each Office of Directed Operations shall prepare monthly a consolidated inventory and material balance report covering all SF materials located within its jurisdiction. One copy of the consolidated report shall be submitted as soon as possible after the inventory date to the Source and Fissionable Materials Accountability Branch, Division of Production, Oak Ridge, Tenn.

(2) The consolidated report shall show the total beginning inventory, total receipts from the jurisdiction of each other Office of Directed Operations, total shipments to the jurisdiction of each other Office of Directed Operations, total measured losses, the total ending inventory, and the total material lost or unaccounted for. The quantity of SF material at each Accountability Station and the shipments in transit shall be listed to indicate the location of the total ending inventory.

(3) The nature and amount of any adjustments shall be clearly described by an explanatory note. An explanation of material reported lost or unaccounted for shall be included in the report.

9. *Transfer records.*—(a) Exhibit II is a copy of the SF Shipping Form, AEC Form 101. This form shall be used to record all transfers of SF materials. Physical transfer of SF materials shall entail transfer of accountability to the SF Accountability Station receiving the materials. No transfer of accountability for SF material shall be effective without a physical transfer of that material or transfer of the physical custody of that material. The use of any other form to transfer accountability for SF materials is prohibited.

(b) Shipping form content: Transfer data shall be recorded on SF Shipping Forms as provided below:

(1) Transfer series: The code symbol of the shipping and receiving Accountability Stations shall be shown in the transfer series blanks; for example, material transferred from Carbide and Carbon Chemicals Corporation, K-25 Plant, Oak Ridge, Tenn., to Argonne National Laboratory, Chicago, Ill., would have the transfer series blanks filled in as from CCC to ANL.

(2) Shipping form number: Shipping Forms of each transfer series shall be consecutively numbered, so that any misplaced shipping form will be indicated by a break in the series of numbers.

(3) To (receiver): (a) As stated above, the name of the Accountability Representative of the receiving Accountability Station shall be shown as the receiver of the materials. The plant, laboratory, or AEC office which he represents will be shown in the organization blank.

(b) The "Deliver to" and address shown should be that to which the material is to be delivered, which frequently will not be the office address of the Accountability Representative. It is suggested that the name of the person (or section) to physically receive the material be shown in these blanks, e. g.—

To: (Receiver).

Organization: Amalgamated Laboratories, Inc.

Attention: Mr. John Brown.

Deliver to: Dr. Richard Roe, Building 4F.

Address: 1947 Main Street, St. Louis, Mo.

(c) In this example Mr. Brown is Accountability Representative and Dr. Roe is the person who will receive the materials.

(4) From (shipper): The name of the Accountability Representative of the shipping Accountability Station shall be shown in this space.

(5) Distribution of copies: (a) Copy distribution shall be indicated by use of SF Accountability Station code symbols. If a copy goes to one office for subsequent transmittal to another office, both the intermediate and ultimate receiver shall be shown in the "Distribution of Copies" space. For example, the copy distribution space on an SF Shipping Form covering a transfer of material from Carbide and Carbon Chemicals Corporation, K-25 plant, to Argonne National Laboratory would be marked as follows:

Number	Distribution of copies
1.-----	ANL to CCC
2.-----	ANL
3.-----	CCC
4.-----	ANL to CAB
5.-----	CKA to CPA to CAB
6.-----	ANL to CHA
7.-----	ANL to CKA to CPA

(b) Provisions on the back of the SF Shipping Form which cover copy distribution specify that in certain instances copies 6 or 7 or both shall be omitted. Omitted copies shall be indicated in the "Distribution of Copies" space by the words "None Prepared." For example, the copy distribution space on an SF Shipping Form covering a transfer of material from the Carbide and Carbon Chemicals Corporation, K-25 Plant, to the Office of Chicago Directed Operations would be marked as follows:

<i>Number</i>	<i>Distribution of Copies</i>
1-----	CHA to CCC
2-----	CHA
3-----	CCC
4-----	CHA to CAB
5-----	CKA to CAB
6-----	None prepared
7-----	CHA to CKA to CPA

(c) There would be no copy 6 because the receiver is an AEC Office of Directed Operations. The other copies would be numbered 1 of 7, 2 of 7, 3 of 7, 4 of 7, 5 of 7 and 7 of 7; the notation "None prepared" is necessary to explain the absence of copy 6 of 7.

(6) Container Number: (a) In any shipment consisting of items separately measured by the shipper, the several containers must be clearly marked with number or symbol in order that the receiver may identify the respective items for purposes of check measurements.

(b) Either SF Shipping Forms or a packing slip identifying the materials shall be sent with each shipment.

(7) Shipper's data: (a) Material transferred shall be completely described in the space provided. The description shall include the physical state (e. g., metal, alloy, compound, solution) and the name of the source or fissionable material contained (e. g., uranium, thorium). For pure compounds the empirical formula shall also be given.

(b) In all instances, the shipper shall show the net weight of the material, and, wherever feasible, the gross and tare weights.

(c) Unless the material is 100% source or fissionable metal, the shipper shall also show in the appropriate column the net weight of each SF material.

(d) If the SF material is uranium depleted or enriched in the U-235 isotope, the weight U-235 shall be shown in the blank column to the right of the "SF Net" column. Uranium which has undergone no processing altering the natural U-235 content shall be deemed to be 0.705 weight percent U-235. For such uranium write "normal" instead of the weight U-235 in this blank column.

(e) Column totals for all weight columns (gross, tare, net, SF and U-235) shall be shown immediately following the listing of individual batches or containers.

(f) Shipper's comments on measurement methods used shall be shown in the "Measurement Methods" space. For examples, if the shipper weighed the material but determined net SF content by estimate rather than by analysis, this information shall be shown. If the shipper is relaying material received from another station without making any measurements, a note explaining the source of the measurements shall be shown. If more space is needed, supplemental sheets may be attached to the SF Shipping Form.

(g) Additional information copies of SF Shipping Forms may be authorized by the Managers of Operations concerned.

(8) Receiver's data: (a) Since the comparison between independent measurements by shipper and receiver provides the Atomic Energy Commission with an essential element of accounting control, it is required that the receiver independently measure material if practicable.

(b) The receiver's measurements with comments on the measurement methods shall be recorded in the "Receiver's Data" space in a manner corresponding to that outlined above for "Shipper's Data."

(c) If shipper's weights are shown on a basis different from the receiver's scales, e. g., if shipper's weights are in pounds and receiver weighs on metric scales, the receiver's weights shall be converted at 0.45359 kilogram per pound to the same units as the shipper's weights to facilitate comparison.

(d) If the receiver accepts the shipper's measurements without verification, the weight columns shall be left blank and the comment "Shipper's Measurements Accepted Without Verification" recorded in the "Measurement Methods" space. By accepting the shipper's measurements the receiver also accepts responsibility and accountability for the quantities shown by shipper.

(e) If receiver's measurements will materially delay distribution of SF Shipping Forms, the "Receiver's Data" section should be marked "To be furnished later" and copies of the SF Shipping Form distributed as soon as possible. The "Receiver's Data" shall be furnished as soon after receipt as practicable, using SF Supplemental Measurement Report AEC Form 102 (a copy of which is attached as Exhibit III) distributed to the Accountability Stations concerned. SF Supplemental Measurement Reports shall be distributed not later than the issuance date of the monthly inventory and material balance report covering the month in which the shipment was received.

(c) Classification and transmittal: (1) SF Shipping Forms and Supplemental Measurement Reports shall be classified in accordance with existing security regulations.

(2) The distribution of SF Shipping Form copies is indicated on the back of the form. Each Accountability Station shall maintain a record of the distribution of Shipping Forms (whether classified or unclassified).

(3) SF Shipping Forms shall be issued not later than the date of shipment.

(4) Whenever SF material is escorted from shipper to receiver, the escort should carry the appropriate copies of the Shipping Form recording the transfer.

(5) It is essential that copies of shipping documents be received and transmitted as promptly as possible.

(6) Shipment and receipt totals shown on monthly inventory and material balance reports shall agree with the transfer data shown on SF Shipping Forms and Supplemental Measurement Reports. If changes or adjustments in shipper's data are found to be necessary after SF Shipping Forms have been issued, revised copies (labeled "Correction") shall be distributed. Any changes or adjustments necessary in receiver's data shall be distributed to the Accountability Stations concerned on SF Supplemental Measurement Report, labeled "Measurement Revision."

(7) Prior to submission of monthly inventory and material balance reports, Accountability Stations shall ascertain that the amounts of SF material reported as received from or shipped to each station agree with material transfer data on SF Shipping Forms or Supplemental Measurement Reports.

(d) Notice of shipments: Advance notice of shipments shall be furnished to the Accountability Representative of the receiver.

(e) Measurement discrepancies: (1) Measurements by the receiver should agree, within reasonable limits, with measurements by the shipper.

(2) Establishment of allowable discrepancy limits, within which receiver's measurements must agree with shipper's measurements, is the responsibility of AEC Offices of Directed Operations. Consideration should be given to the adequacy of sampling procedures and to the accuracy and precision of the component weighings and chemical and physical analyses. Any discrepancy exceeding its established limit shall be investigated as prescribed by the AEC Offices of Directed Operations concerned.

(3) The shipper and receiver may maintain their respective accountability records on the basis of their own measurements, but will attempt to reconcile differences in measurements. If unable to do so, shipper and receiver shall each make a full report to the AEC offices concerned.

**10. Interpretations and Procedural Instructions.**—The Director of Production is authorized and directed to issue interpretations and procedural instructions under this directive.

CARROLL L. WILSON,  
*General Manager.*

**Attachments:**

1. Exhibit I.
2. Exhibit II. (Same as exhibit II attached to GM-95, dated April 4, 1947.)
3. Exhibit III.

Issuance date: July 23, 1948.

## Exhibit I

Material balance <sup>1</sup>	Material type <sup>2</sup>	SF Material weight <sup>3</sup>
Beginning inventory, _____, 19— <sup>4</sup>		XXX
Material received: <sup>5</sup>		
From _____	****	XXX
From _____	****	XXX
From _____	****	XXX
Total receipts .....		XXX
Beginning inventory plus receipts .....		XXX
Material removed: <sup>6</sup>		
Shipped to _____	****	XXX
Shipped to _____	****	XXX
Measured losses <sup>7</sup> .....	****	XXX
Total removals .....		XXX
Ending inventory, _____, 19— <sup>8</sup>		XXX
Ending inventory plus removals .....		XXX
Material unaccounted for <sup>9</sup> .....		XXX
YEAR-TO-DATE MATERIAL BALANCE		
Beginning inventory, Jan. 1, 19—		XXX
Material received: <sup>5</sup>		
From _____	****	XXX
From _____	****	XXX
From _____	****	XXX
Total receipts .....		XXX
Beginning inventory plus receipts .....		XXX
Material removed: <sup>6</sup>		
Shipped to _____	****	XXX
Shipped to _____	****	XXX
Measured losses <sup>7</sup> .....	****	XXX
Total removals .....		XXX
Ending inventory, _____, 19— <sup>8</sup>		XXX
Ending inventory plus removals .....		XX
Material unaccounted for <sup>9</sup> .....		XXX

<sup>1</sup> Name of the month reported.

<sup>2</sup> Show separately major material types, as explained in Sec. 8c, with chemical formulae for compounds. Smaller quantities may be labeled miscellaneous.

<sup>3</sup> Report in metric units, and specify units (kilograms, grams, or milligrams) used. For uranium depleted or enriched in the U-235 isotope, show in separate columns (a) weight uranium, (b) weight percent U-235, and (c) weight U-235, and show separately amounts which are of significantly different isotopic make-up, as explained in Sec. 8d. For all other SF materials only the net weight of contained SF material is required.

<sup>4</sup> First day of the month reported.

<sup>5</sup> Name consignors and show receipts from different consignors separately. SF material obtained or produced by transmutation (conversion of one element to another) of other SF material should be shown under receipts and labeled "Produced from \_\_\_\_\_."

<sup>6</sup> Name consignees and show shipments to different consignees separately. SF material consumed by conversion to energy or by transmutation to another element should be shown under removals and explained.

<sup>7</sup> This designation shall be applied only to losses (such as SF material contained in flue gases, sewerage solutions, and other normal processing losses), the amount of which has been determined either by continuing complete measurement or by occasional measurement of representative batches or flows. To be classified as a measured loss a recurrent minor loss need not be continually measured, but it shall be redetermined at intervals appropriate to its magnitude and whenever changes in the process are likely to cause it to change substantially. The designation shall also be used for such items as spills or leakage of measured quantities of SF material.

Measured losses shall be itemized and fully described in a footnote.

The designation "measured losses" shall not be used for quantities determined merely by difference between input and output. Such differences shall be reflected as material unaccounted for, note 9.

<sup>8</sup> Last day of the month reported.

<sup>9</sup> This is the amount by which the sum of the beginning inventory plus receipts exceeds the sum of the ending inventory plus removals. It is therefore a balancing figure which includes losses, equipment contamination which cannot be measured and inventoried, and any unexplained differences.

If the sum of ending inventory plus removals is greater than the sum of beginning inventory plus receipts—which may occur, for example, if quantities of material previously unaccounted for are found or recovered during the current period—the balancing figure shall be shown in parentheses.

Insofar as practicable, amounts reported as Material Unaccounted For shall be explained by footnote.

*Exhibit I—Continued*

Material balance <sup>1</sup>	Material type <sup>2</sup>	SF Material weight <sup>3</sup>
COMPOSITION OF ENDING INVENTORY		
Feed storage <sup>10</sup> .....	****	XXX
Material in process <sup>11</sup> .....	****	XXX
Material in research and development <sup>12</sup> .....	****	XXX
Inactive material <sup>13</sup> .....	****	XXX
Product <sup>14</sup> .....	****	XXX
Other <sup>15</sup> .....	****	XXX
Total ending inventory.....	-----	XXX

<sup>1</sup> Name of the month reported.

<sup>2</sup> Show separately major material types, as explained in Sec. 8c, with chemical formulae for compounds. Smaller quantities may be labeled miscellaneous.

<sup>3</sup> Report in metric units, and specify units (kilograms, grams, or milligrams) used. For uranium 'depleted or enriched in the U-235 isotope, show in separate columns (a) weight uranium, (b) weight percent U-235, and (c) weight U-235, and show separately amounts which are of significantly different isotopic make-up, as explained in Sec. 8d. For all other SF materials only the net weight of contained SF material is required.

<sup>10</sup> Feed storage shall include any material immediately available for processing, but on which processing has not begun. This will include unused material at a research laboratory.

<sup>11</sup> Material in process shall include all material in a production process (including routine analytical and assay samples incident to production control and accounting control over material in process) except material otherwise designated by explanatory notes (10), (12), (13), and (14).

<sup>12</sup> This includes that portion of material in production facilities which has been assigned to research and development or process improvement work as distinguished from production processing.

<sup>13</sup> Inactive material shall include production process material not immediately available for processing or not immediately intended for further processing. It will include all waste, scrap or depleted material. It will also include material in miscellaneous forms or compounds which may ultimately be recovered but which is not currently being processed.

<sup>14</sup> Material shall not be designated product until all processing has been completed. This designation shall be used for the product of the particular plant or process reported—what is "product" material at one plant or process may become "feed" material when transferred to another plant or another process. "Inactive" material at one plant or process may likewise become "feed" material when transferred to another plant or process. These designations as applied to particular types of material will therefore depend upon the location at which the materials are inventoried.

<sup>15</sup> Under this designation include only unusual categories of material for which none of the above designations are suitable.

EXHIBIT III

## THE ALLOCATION AND TRANSFER OF FISSIONABLE MATERIALS, DECEMBER 7, 1948

Report on the accounting, safety, security, and health measures within the Argonne National Laboratory:

ARGONNE NATIONAL LABORATORY,  
Chicago, Ill., December 7, 1948.

UNITED STATES ATOMIC ENERGY COMMISSION,  
Chicago Directed Operations, Chicago, Ill.

(Attention: Dr. S. M. Skinner.)

DEAR SIR: As required in Bulletin GM-76 there is attached a report on the accounting, safety, security, and health measures we currently practice in handling fissionable materials within the Argonne National Laboratory.

Yours truly,

T. S. CHAPMAN,  
Assistant Director.

LKH: mb  
attach  
enc (3)  
cc—M. Margoles w/enc.  
E. Rylander w/enc.  
File

## THE ALLOCATION AND TRANSFER OF FISSIONABLE MATERIALS

*I. Initiation of Request*

A. *Routing of the request form.*—1. The scientist with a requirement for fissionable materials submits to his division director five copies of the Special Materials Request form indicating, if possible, a source of supply.

2. Upon approval by the division director or his assistant, four copies of the request are sent to the Special Materials Department where it is checked as to availability of the material within the Laboratory. If the material is not available, a number is assigned to the request and three copies are sent to the Assistant Laboratory Director. After approval he forwards them to the AEC Office of Chicago Directed Operations. Upon approval by the latter, one copy is returned to the Special Materials Department, attached to the suspense copy, and placed in an open order file.

*II. Receipt of material*

A. *OCDO to Special Materials Department.*—1. Fissionable material is received by the Special Materials Department through the AEC Traffic Branch after the latter has executed a receiving report in quadruplicate indicating the Laboratory's request number for the materials. The receiving report is signed, one copy retained by the Special Materials Department and three copies returned to the Traffic Office.

2. After the material has been received, the Laboratory's request is removed from the open order file, delivery data entered, and placed in a closed order file. The receipt is noted in the receiving record book and a number is assigned to the Laboratory's receiving report which is made in quadruplicate. When the material is delivered to the requesting scientist, two copies of the receiving report are sent to his division's Special Materials Representative. One signed copy is returned to the Special Materials Department and filed under "Current Materials Received," the remaining copies of the receiving report are signed in the Special Materials Department and forwarded to the OCDO.

3. AEC form 101 is received from the shipper either by courier accompanying the shipment or by mail. The shippers' measurements are verified, if practicable, and so indicated. Upon arrival of the completed form by the Assistant Laboratory Director one copy is filed, the other distributed to the Accountability Stations listed on the form.

B. *Health.*—1. Before delivery to the recipient, the material is monitored by a member of the Health Physics Division. Radiation measurements are made on the periphery of the container and, when feasible, the material within the container is checked. A portable proportional counter is used to measure alpha activity; beta-gamma radiation is measured with a portable Geiger-Mueller Counter and the Zeus Survey Meter. A maximum level of 50 mr/hr is permitted at the surface of the container.

*C. Safety.*—1. Material improperly packed or shielded is not accepted. An electric crane facilitates the handling of heavy containers. The Laboratory maintains a Safety Department whose function it is to enforce proper safety methods.

*D. Security.*—1. In all movement of fissionable material outside guarded areas, an armed guard accompanies the material. All Laboratory reports are classified in accordance with directives issued under the SF Accountability Program.

### III. Storage

*A. Central Vault.*—1. Quantities of Pu-239, U-235, and U-233 not in immediate use are centrally stored at the Palos Park Site in combination safes within a fire-proof vault. Combinations are issued in sealed envelopes to the Laboratory Director and to those charged with the issuance of the material.

*B. Laboratory.*—1. In some instances where fissionable material must be stored at other installations for imminent use or processing, the material is confined within secondary containers and placed in a combination safe or kept under the permanent surveillance of an armed guard.

*C. Security.*—1. In all instances products are stored in guarded areas. Where combination locks are used, the combination within a sealed envelope is possessed by the Division Director and is known only to those he has assigned to issue material. Combinations are changed at six-month intervals unless an employee termination or transfer requires immediate action. All quantities of Pu-239 and U-233 in excess of 10 grams and all quantities of U-235 in excess of 100 grams is given Top Secret security protection. Smaller quantities of these materials are given Secret security protection.

*D. Health.*—1. Periodic air samples which are taken in storage locations are checked for alpha radiation. All glass containers are placed in more durable secondary containers. Rubber gloves, masks, coveralls, and shoe covers are utilized in handling quantities of Pu-239 solution.

*E. Accounting.*—1. Each item in storage is labeled, a card index is maintained in the office of each division's Special Materials Representative indicating material, amount, location, and other pertinent data. Vouchers are made for each receipt, shipment, transfer, discard, or loss and indicated on the respective cards.

### IV. Use

*A. Health Protection.*—1. Primary consideration is given for the health protection and safety of the workers during any operations with Pu-239 or other alpha-emitting substance. Constant monitoring of areas where such operation is involved is made by a member of the Health Physics Division by measurement of alpha activity from air samples.

2. No work involving these materials may be performed after working hours or on holidays without express permission of the Group Leader when the radioactivity exceeds the following limits:

(a) 100 mg of Pu-239.

(b)  $1.4 \times 10^{10}$  dis/min of any alpha activity.

3. The area where work involving any alpha-emitter is being done after working hours is known as a "red" area, such areas are indicated on a centrally located map when the guard is informed by the scientist that such work is to be done. A Health Physics representative is on duty at all times (24 hr. daily) in case of any emergency.

4. When fissionable material is being used in experiments and must be left after working hours (e. g., in apparatus from which it cannot be removed), an armed guard is informed and a danger sign stating the levels of activity and the hazard involved is posted at the area.

*B. Security.*—1. All work is done within AEC security areas and security protection is in conformance as to the type and quantity of material used as discussed in Part III.

*C. Accounting.*—1. Fissionable materials are received, stored, and released through the Special Materials Department. Vouchers are prepared for each transaction.

2. Since, from a scientist viewpoint, it is very necessary to know the amount, concentration, or activity of the material in use, many determinations are made in the course of a typical experiment. At the completion of the experiment, the product is recovered, purified, and returned to the Special Materials Department. If a loss has been sustained, it is reported at this time; weights are verified by

this Department and, if possible, the isotopic content is checked at the time of the physical inventory.

3. Elaborate precautions are taken to recover material injected into animals for metabolic studies. In instances involving only tracer amounts, however, recovery is impractical and a loss is recorded on the material upon injection into the animal.

#### **V. Internal Transfers**

*A. Health Protection and Safety.*—1. All fissionable material transferred within the Laboratory is monitored by a member of the Health Physics Division before leaving a guarded area. It may be transferred only through the Special Materials Department, whose men have been specially instructed as to the handling of the material. Only certain assigned vehicles are used in transfer, and all containers are securely strapped to avoid any possibility of a spill. The truck beds are monitored by a member of the Health Physics Division periodically.

*B. Security.*—1. No material may leave an area without a signed Special Materials Pass which is issued in duplicate by the authorized Special Materials Representative. One copy of this pass is collected by the exit guard. An armed guard is assigned to accompany the material until its delivery to the consignee site Special Materials Representative. Upon arrival at its destination the guard accompanying the material signs the reverse side of the duplicate pass, enters the time elapsed on the trip and presents it to the site guard. The passes are then sent to the Security Office where they are checked to see that all material leaving an area has arrived at its destination. The passes are then returned to the Special Materials Department where they are kept on file.

*C. Accounting.*—1. An Internal Transfer Form, signed by the Division Director, or by an individual authorized by him, must accompany each transfer of materials. The Internal Transfer Form is prepared in triplicate. All three copies accompany the material to its destination, where the Special Materials Representative of the recipient signs the three copies, retains one, returns one to the sender, and one to the Special Materials Department.

#### **VI. Treatment of Waste Material**

*A. Dry Waste.*—1. Dry waste containing fissionable material is discarded only after thoroughly considering the feasibility of recovery. Removal is requested on the Waste Removal Form which requires the signature of the division director. Each laboratory is supplied with a specifically marked, paper-lined, metal container which is used to receive dry radioactive waste. The cans are monitored daily and a request for removal is made when the cans are full or show a high level of activity. Trained men of the Safety Department equipped with coveralls, canvas and rubber gloves, safety shoes, and masks when necessary, carry out the task. The cans containing the waste are carefully loaded on the special truck and taken to the Palos Park Site where a specially fenced area (about 150 feet square) has been set aside for burial of this material. The material and paper lining are placed in pits which are about four feet square and six feet deep. The same pit is used until filled within eighteen inches from the surface. It is then covered with earth. If a container, used to transport active waste, shows any contamination of 10/mr/hr or more, when monitored by a member of the Health Physics Division, it is decontaminated before it is returned to the laboratory for use.

*B. Waste Solutions.*—1. The current practice is to transfer all waste solutions containing fissionable material to Oak Ridge National Laboratory for storage. Small, shielded stainless steel containers are being placed in each laboratory where waste solutions accumulate. At regular intervals these containers are collected and shipped via Government truck to Oak Ridge. The responsibility of keeping the record of material in a container rests with the scientists to whom it is charged. All shipments of solution are monitored by a member of the Health Physics Division prior to shipment, and a statement accompanies the material specifying the nature and activity level of the material. Before being returned, all containers are checked for external contamination.

#### **VII. Manufacture**

*A. General Practices.*—1. In the manufacturing of fissionable material, the same practices are followed as set forth under the subheading entitled "Use" (Section IV). The material is analyzed and the amount manufactured is recorded on a voucher and submitted to the Special Materials Department.

### VIII. Shipment

**A. Initiation and Processing of Shipments.**—1. A request for shipment of material, using the Special Materials Shipping Request Form, is originated in the office of the division director. The request shows the following information: the person requesting shipment, material to be shipped, amount, enrichment, measurement methods used, addressee, reference numbers, and special handling instructions. Of the five copies originated, one is retained on file in the division, the other four copies and the material are called for by a member of the Special Materials Department. In this office a record of the request is made and entered in a shipping record book, a shipping number assigned, and the material is prepared for shipment. One copy of the request is held in a suspense file and the three remaining copies, after approval by the Assistant Laboratory Director, are sent to the OCDO. The containers and materials are monitored by a member of the Health Physics Division and a statement certifying the activity level is signed by him. One copy of this statement is filed with the Special Materials Department and the other delivered to the Area Traffic Office with the material. The maximum activity level allowed at the surface of the container is 50 mr/hr. After shipment is made, the OCDO returns a copy of the shipping request to the Special Materials Department furnishing additional information such as actual date of shipment. This copy, with the suspense copy, is filed under "Current Material Shipped."

2. AEC Form 101 is executed by the Laboratory SF Accountability Representative and forwarded to the various accountability stations as set forth in the Bulletin GM-95.

**B. Security.**—1. Advance information regarding shipping is furnished the AEC so that couriers may be assigned to guard fissionable materials in transit from one accountability office to another. All papers are classified in accordance with directives issued under the SF Accountability Program.

**C. Safety and Health Protection.**—1. Fissionable materials are securely packed and sealed within boxed metal containers. A signed statement indicating the activity level is obtained from a member of the Health Physics Division prior to the shipment. All vehicles used in the transfer of material are monitored periodically.

### IX. Accounting and Inventory Methods

**A. The Physical Inventory.**—1. Physical inventories are completed for each division by its Special Materials Representative and submitted to the Special Materials Office by the last day of June and December of each year. A physical inventory consists of a personal survey by the Division Representative in which all material is verified by as many of the following means as its physical state and use will allow: It is seen, it is weighed, its dimensions are confirmed, samples in excess of one gram are checked chemically to verify the isotopic content, smaller samples may be checked as to their disintegrations per second.

**B. The Monthly Inventory.**—1. A monthly inventory, based and guided by the physical inventory, is also prepared by the Division Representative who keeps a card index indicating all transactions. Materials lost or discarded by the user are reported and a statement covering the reason for each loss or discard is given. This loss is ultimately reviewed by the Assistant Laboratory Director to determine whether or not it is reasonable.

2. The monthly inventory is submitted to the Special Materials Department where a Kardex file indicating the amount, material, location, concentration, and transfers of material is maintained. Fissionable material is reported to the nearest .01 mg with over-all quantities accurate to at least  $\pm 1\%$ .

**C. The SF Accountability Report.**—1. When the monthly report, which is classified secret, is received by the Special Materials Department, it is checked against the information on file. After all the inventories have been balanced the monthly SF Accountability Report consisting of the following five sections is prepared:

Section A consists of the year to date material balance. Shows the inventory at the beginning of the year, the total receipts, recovery, shipments, losses or discards, adjustments to the inventory since the beginning of the year, and the inventory to date.

Section B consists of the material balance for the month covered by the report. Shows the inventory as of the first of the month, receipts listed by number, material recovered, losses and discards, and the adjustment to the inventory (unaccounted for material).

Section C consists of a break-down of the losses listed in Section B. They are explained individually in as much detail as this type of report will allow.

Section D consists of the composition of the resultant inventory showing the amount of material in use and the amount in storage. It also indicates the physical state.

Section E consists of the composition of the U-235 inventory. The uranium weight, the U-235 weight, the program in which each sample of the material is being used is shown.

2. The report is prepared in triplicate, classified, and submitted to the Assistant Laboratory Director for approval. One copy of the approved form is returned to the Special Materials Department and the remaining copies are forwarded to the OCDO Accountability office.

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1. Brief explanation of ANL documents and forms used in handling shipments of special materials of the kind in question.

2. Four special materials passes covering shipment supposedly including material in question which, however, later was found to have been left at Site B.

JUNE 7, 1949.

#### IDENTIFICATION ANL DOCUMENTS AND FORMS

1. *Form No. MP-151 or ANL-151—Special materials pass.*—This pass is used to move special materials (as defined in CA-2686) between guarded areas. The ANL is located in a number of different isolated buildings (sites), each building having only certain designated entrances and exits through which personnel and material may enter or leave. At each one of those entrances and exits an armed guard is stationed to check identity of personnel and control flow of material. In order to move material between one guarded area and another it is necessary that a pass (MP-151) accompany each lot. The particular form noted above is used only for special material packages and can only be signed by authorized persons. The information contained on the pass is sufficient for the guard to identify the packages. The use of this pass usually requires that the material should be accompanied by an armed guard or courier between the sites, or satisfactory arrangements be made for its safety or the safety of the people handling it. This pass cannot be used for shipping material outside the laboratory. In conclusion, it is only used for the transfer of special materials between ANL sites under carefully regulated conditions. Form MP-151 does not constitute transfer of accountability of the material being transferred.

[NOTE.—The bottle was supposedly in the carton. The carton moved from Site B to New Chem.—on special materials pass Serial No. A-3681; and from New Chem. to Site A—on special materials pass Serial No. A-8974.]

2. *Form MP-95—Product request and transfer.*—This form is used to transfer accountability of the product (fissionable materials) between sections of the laboratory which are charged with accountability. In the past it has also been used as a record device to transfer accountability for material between the laboratory and the local AEC office. Thus, when properly executed, it serves as a credit for the releasing section and a debit for the receiving section. The form is signed by only authorized persons having the necessary authority to act in these matters. The form has recently been supplemented by a new one which is now coming into use. The letters MP indicate Metallurgical Project and were originally set up by the original organization in 1943 or 1944.

[NOTE.—In the attached forms, the particular shipment in question was described as a "cardboard box" in MP-151 and as a "carton" in ANL-151.]

3. *Report on chemical analysis.*—This is a form used by the Analytical Section of Chemistry C-2 for reporting the analytical results of samples submitted to them. Copies are furnished to the requestor. This form is primarily used for "wet" analysis chemistry.

4. *Spectro-chemical analysis report.*—This form is used for the spectro-chemical analysis group to report results of their analyses of materials submitted to them. (This work is usually done on an emission spectrograph.)

5. *Kardex form for product control.*—These cards are used by the Special Materials section of the laboratory to record the accountability status for all of special materials in the custody of the laboratory. The card indicates each transaction between accountability sections affecting the material, the section to which it is charged, and it should contain complete identification data.

METALLURGICAL LABORATORY  
THE UNIVERSITY OF CHICAGO

Form MP-12

Special Materials Pass

Date 9-16-48

No. **A** 3681

Please pass bearer

Badge 2178

From

Site B

To

New chem

Will

1- CAN

1- CARBON Dioxide

USE FOR SPECIAL MATERIALS ONLY

EACH ITEM SHOULD HAVE A SPECIFIC  
UNCLASSIFIED DESCRIPTION

White Copy: SURRENDER TO GUARD AT EXIT.

Blue: PRESENT TO GUARD AT DESTINATION.

9-13-48

James F. Schuman  
Approved  
Title Schuman  
Date 9-16-48 Time 2:30  
Checked P. T. 32

Arrived 9-16-48  
2:30 PM

METALLURGICAL LABORATORY THE UNIVERSITY OF CHICAGO Form MP-151 Special Materials Pass

Date 7-16-48 No. A 3681

Please pass bearer A. E. Myer Badge 2128

From Site B To New chem

With 1- CAN (Side) \_\_\_\_\_ (Date)

1- CARBON Box

X X X X

USE FOR SPECIAL MATERIALS ONLY  
EACH ITEM SHOULD HAVE A SPECIFIC  
UNCLASSIFIED DESCRIPTION

White Copy: SURRENDER TO GUARD AT EXIT.  
Blue: PRESENT TO GUARD AT DESTINATION.

9-22-44

Authorized \_\_\_\_\_  
Title \_\_\_\_\_  
Guard \_\_\_\_\_  
Checked \_\_\_\_\_

Time 2:43 PM  
POST 21

Amstrong 2808  
2:45 P.M.

ARGONNE NATIONAL LABORATORY Form ANL 181 *Special Materials Pass*  
CHCA ALMOH

Date Sept 16 - 1948 No. **A** 8974

Please pass below Mary W. ... Badge 217

From New Haven To Argonne

With 2 pole + one carton

USE FOR SPECIAL MATERIALS ONLY.  
EACH ITEM SHOULD HAVE A SPECIFIC  
UNCLASSIFIED DESCRIPTION

White Copy: SURRENDER TO GUARD AT EXIT.  
Blue: PRESENT TO GUARD AT DESTINATION.

Authorized \_\_\_\_\_  
Title as a ...  
Guard 2:50 PM  
Checked Post vi

ARGONNE NATIONAL LABORATORY

7k Stewart  
2917  
2917

ARGONNE NATIONAL LABORATORY Form ANL-118 Special Materials Pass

**DATE** Sept 16, 1948 **No.** A 8974

**FROM** Henry Meyer **TO** Argonne

**ITEM** 2 p.c. + one center

*[Handwritten signature across the middle of the form]*

**USE FOR SPECIAL MATERIALS ONLY.**  
 EACH ITEM SHOULD HAVE A SPECIFIC  
 UNCLASSIFIED DESCRIPTION

**While Copy: SURRENDER TO GUARD AT EXIT.**  
**Pass: PRESENT TO GUARD AT INSPECTION.**

**Checked** W. Mason **Date** 30-9-48  
**Post** 1 **Box** A

*[Vertical handwritten note on the left margin:]*  
 14 p.c. + one center  
 9-17-48

## EXHIBIT 3

(Referred to on p. 100, pt. 2, June 1, 1949)

*Summary of Manhattan Engineer District Federal personnel separations,  
calendar years 1945 and 1946*

Month	Full-time strength end of month	Total separations	Separation rate
1945-January.....	3,408	308	9.3
February.....	3,588	325	9.3
March.....	3,751	282	7.7
April.....	3,842	360	9.5
May.....	4,154	407	10.2
June.....	4,195	366	8.8
July.....	4,333	342	8.0
August.....	4,185	415	9.7
September.....	3,834	626	15.6
October.....	3,996	292	7.5
November.....	4,095	236	5.8
December.....	4,199	247	6.0
Total.....	(A)3,965	(T)4,206	(AR)107.7
1946-January.....	4,366	212	4.9
February.....	4,633	228	5.1
March.....	4,805	238	5.0
April.....	3,120	1,956	49.4
May.....	3,239	147	4.6
June.....	3,202	290	9.0
July.....	3,381	138	4.2
August.....	3,675	186	5.3
September.....	3,834	234	6.2
October.....	4,054	213	5.4
November.....	4,085	305	7.5
December.....	4,219	408	9.8
Total.....	(A)3,884	(T)4,555	(AR)116.6
Totals for 1945 and 1946.....	(A)3,925	(T)8,761	(BR)223.2

<sup>1</sup> Includes a mass transfer to an AEC contractor of approximately 1,700 persons.

NOTE.—Symbol (A) indicates Average; (T) indicates Total; (AR) indicates Annual Rate; (BR) indicates Biannual Rate.

## EXHIBIT 4

(Referred to on pp. 106 and 127, pt. 3, June 2, 1949)

UNITED STATES ATOMIC ENERGY COMMISSION,  
Washington 25, D. C., June 10, 1949.Mr. WILLIAM L. BORDEN,  
Executive Director, Joint Committee on Atomic Energy,  
Washington, D. C.

DEAR MR. BORDEN: Attached is a summary report of emergency clearances granted by AEC for 1947, 1948, and January to March, 1949. This information was requested by Senator Knowland at page 126 of the printed hearings of the current hearings, and referred to for insertion at page 127.

The figures are broken down by sites throughout, as well as between those clearances carrying access to restricted data and those that do not carry such access. From July 1948 to March 1949 an additional break-down is furnished between direct employees of AEC and employees of contractors.

\* \* \* \* \*  
Sincerely yours,C. SHUGG,  
For CARROLL L. WILSON,Enclosures:  
Reports of emergency clearances granted.

*U. S. Atomic Energy Commission—Summary report of emergency clearances granted, 1947*

Installation	January access		February access		March access		April access		May access	
	With	With-out	With	With-out	With	With-out	With	With-out	With	With-out
Chicago operations.....	0	0	1	0	4	2	5	3	0	5
Hanford operations.....	0	8	14	1	18	5	4	8	1	7
New York operations.....	0	0	0	0	0	0	0	1	0	3
Oak Ridge operations.....	0	0	2	0	20	34	11	28	8	18
Santa Fe operations.....	0	0	0	0	0	0	0	0	0	0
Washington area.....	17	12	11	14	8	13	4	15	7	16
Total.....	17	20	28	15	50	54	24	55	16	49

Installation	June access		July access		August access		September access	
	With	With-out	With	With-out	With	With-out	With	With-out
Chicago operations.....	0	3	0	3	0	2	4	2
Hanford operations.....	1	5	13	5	11	5	89	14
New York operations.....	0	0	4	0	6	0	3	0
Oak Ridge operations.....	5	20	1	12	0	0	1	0
Santa Fe operations.....	0	0	8	0	3	3	99	6
Washington area.....	16	17	10	13	21	2	54	6
Total.....	22	45	36	33	41	12	250	28

Installation	October access		November access		December access		Total access	
	With	With-out	With	With-out	With	With-out	With	With-out
Chicago operations.....	1	5	1	3	3	0	19	28
Hanford operations.....	51	20	14	19	4	19	220	116
New York operations.....	3	0	8	4	23	3	47	11
Oak Ridge operations.....	3	0	6	0	5	2	62	114
Santa Fe operations.....	4	6	4	7	2	9	120	31
Washington area.....	82	3	57	10	58	3	345	124
Total.....	144	34	90	43	95	36	813	424

NOTE.—For the purpose of this report an Emergency Clearance is defined as follows: (a) Any direct employee of AEC, either with or without access to "restricted data" who entered on duty prior to full FBI investigation; and (b) any consultant, contractor's employee, prospective contractor, or employee of other Government agencies who was granted access to "restricted data" prior to full FBI investigation.

*U. S. Atomic Energy Commission—Summary report of emergency clearances granted, 1948*

Installation	January access		February access		March access		April access		May access	
	With	With-out	With	With-out	With	With-out	With	With-out	With	With-out
Chicago operations:										
Ames.....	0	0	0	0	0	0	0	0	0	0
Berkeley.....	0	0	0	0	0	1	0	0	0	0
Chicago.....	1	2	0	1	0	3	0	1	2	0
Total.....	1	2	0	1	0	4	0	1	2	0
Hanford operations:										
Hanford.....	53	18	8	21	15	8	4	4	48	0
Schenectady.....	7	0	1	0	1	0	2	0	1	0
Total.....	60	18	9	21	16	8	6	4	49	0

*U. S. Atomic Energy Commission—Summary report of emergency clearances  
granted, 1948—Continued*

Installation	January access		February access		March access		April access		May access	
	With	With-out	With	With-out	With	With-out	With	With-out	With	With-out
New York operations:										
Brookhaven.....	0	0	1	1	0	0	2	0	3	0
New York.....	17	4	18	4	25	1	102	0	109	0
St. Louis.....	1	0	1	0	1	0	0	0	0	0
Total.....	18	4	20	5	26	1	104	0	112	0
Oak Ridge operations:										
Dayton.....	0	1	0	0	0	0	0	1	0	0
Oak Ridge.....	1	0	2	3	1	2	3	3	3	0
Total.....	1	1	2	3	1	2	3	4	3	0
Santa Fe operations:										
Los Angeles.....	4	0	14	0	53	0	26	1	20	0
Los Alamos.....	1	21	2	10	1	0	2	1	0	0
Sandia.....	0	1	0	0	12	0	8	0	8	0
Total.....	5	22	16	10	66	0	36	2	28	0
Washington area operations.....	28	4	17	4	40	9	16	1	26	0
Total.....	113	51	64	44	149	24	165	12	220	0

Installation	June access		July access		August access		September access	
	With	With-out	With	With-out	With	With-out	With	With-out
Chicago operations:								
Ames.....	1	0	0	0	0	0	0	0
Berkeley.....	1	0	6	0	0	0	0	0
Chicago.....	12	0	13	0	16	0	11	0
Total.....	14	0	19	0	16	0	11	0
Hanford operations:								
Hanford.....	218	0	32	0	29	0	14	0
Schenectady.....	8	0	1	0	3	0	1	0
Total.....	226	0	33	0	32	0	15	0
New York operations:								
Brookhaven.....	0	0	0	0	0	0	6	0
New York.....	133	0	141	0	96	0	59	0
St. Louis.....	0	0	0	0	0	0	1	0
Total.....	133	0	141	0	96	0	66	0
Oak Ridge operations:								
Dayton.....	1	0	2	0	2	0	4	0
Oak Ridge.....	29	0	29	0	44	0	8	0
Total.....	30	0	31	0	46	0	12	0
Santa Fe operations:								
Los Angeles.....	63	0	26	0	8	0	8	0
Los Alamos.....	1	0	1	2	0	0	4	3
Sandia.....	6	0	1	0	11	0	9	0
Total.....	70	0	28	2	19	0	21	3
Washington area operations.....	68	3	19	1	18	0	10	0
Total.....	541	3	271	3	227	0	135	3

*U. S. Atomic Energy Commission—Summary report of emergency clearances granted, 1948—Continued*

Installation	October access <sup>1</sup>		November access		December access		Total access	
	With	With-out	With	With-out	With	With-out	With	With-out
Chicago operations:								
Ames.....	0	0	0	0	1	0	2	0
Berkeley.....	0	0	0	0	0	0	7	1
Chicago.....	14	0	21	0	16	0	106	6
Total.....	14	0	21	0	17	0	115	7
Hanford operations:								
Hanford.....	13	0	5	0	8	0	447	51
Schenectady.....	0	0	0	0	0	0	25	0
Total.....	13	0	5	0	8	0	472	51
New York operations:								
Brookhaven.....	9	0	1	0	2	0	24	1
New York.....	36	0	22	0	4	0	762	9
St. Louis.....	0	0	0	0	0	0	4	0
Total.....	45	0	23	0	6	0	790	10
Oak Ridge operations:								
Dayton.....	0	0	0	0	0	0	9	2
Oak Ridge.....	8	0	10	0	7	0	145	8
Total.....	8	0	10	0	7	0	154	10
Santa Fe operations:								
Los Angeles.....	0	0	0	0	0	0	222	1
Los Alamos.....	1	1	0	0	0	0	13	38
Sandia.....	2	0	0	0	0	0	57	1
Total.....	3	1	0	0	0	0	292	40
Washington area operations.....	6	0	12	0	19	0	279	22
Total.....	89	1	71	0	57	0	2,102	141

<sup>1</sup> Beginning with the month of October all emergency clearances listed were granted by the Managers of Operations under Authority of GM Bulletin 101.

NOTE.—For the purposes of this report an emergency clearance is defined as follows: (a) Clearance of any direct employee of AEC with or without access to "restricted data"; and (b) clearance of any contractor's employee, prospective contractor, consultant, or employee of any other Government agency, with access to "restricted data," prior to full FBI investigation. Emergency clearances are granted only after the duties for the job for which emergency clearance is requested have been specified and the clearance specifically states that access is granted only to information required in the performance of these duties. Clearance under the Interim Security measures for the Armed Forces, issued May 23, 1948, are not included.

*U. S. Atomic Energy Commission—Summary report of emergency clearances granted, 1949*

Installation	January access		February access		March access	
	With	With-out	With	With-out	With	With-out
Chicago operations:						
Ames.....	0	0	0	0	0	0
Berkeley.....	0	0	0	0	0	0
Chicago.....	13	0	26	0	56	0
Total.....	13	0	26	0	56	0
Hanford operations:						
Hanford.....	1	0	14	0	4	0
Schenectady.....	0	0	0	0	0	0
Total.....	1	0	14	0	4	0

*U. S. Atomic Energy Commission—Summary report of emergency clearances granted, 1949—Continued*

Installation	January access		February access		March access	
	With	With-out	With	With-out	With	With-out
<b>New York operations:</b>						
Brookhaven.....	0	0	0	0	0	0
New York.....	15	0	3	0	7	0
St. Louis.....	0	0	0	0	0	0
Total.....	15	0	3	0	7	0
<b>Oak Ridge operations:</b>						
Dayton.....	0	0	1	0	0	0
Oak Ridge.....	3	0	30	0	47	0
Total.....	3	0	31	0	47	0
<b>Santa Fe operations:</b>						
Los Alamos.....	0	0	2	0	5	0
Sandia.....	0	0	0	0	1	0
Total.....	0	0	2	0	6	0
<b>Washington area operations.....</b>	<b>21</b>	<b>0</b>	<b>19</b>	<b>0</b>	<b>38</b>	<b>0</b>
<b>Grand total.....</b>	<b>53</b>	<b>0</b>	<b>95</b>	<b>0</b>	<b>158</b>	<b>0</b>

NOTE.—All emergency clearances listed were granted by the Managers of Operations under authority of GM-Bulletin 101. For the purposes of this report an emergency clearance is defined as follows: (a) Clearance of any direct employee of AEC with or without access to "restricted data"; and (b) clearance of any contractor's employee, prospective contractor, consultant, or employee of any other Government agency with access to "restricted data" prior to full FBI investigation. Emergency clearances are granted only after the duties for the job for which emergency clearance is requested have been specified and the clearance specifically states that access is granted only to information required in the performance of these duties. Clearances under the Interim Security Measures for the Armed Forces, issued May 23, 1947, are not included.

*U. S. Atomic Energy Commission—Emergency clearances granted direct AEC and contractor employees, July 1948 through March 1949*

Installation	July		August		September		October		November	
	AEC	Contract	AEC	Contract	AEC	Contract	AEC	Contract	AEC	Contract
<b>Chicago operations:</b>										
Ames.....	0	0	0	0	0	0	0	0	0	0
Berkeley.....	6	0	0	0	0	0	0	0	0	0
Chicago.....	1	12	5	11	1	10	1	13	1	20
Total.....	7	12	5	11	1	10	1	13	1	20
<b>Hanford operations:</b>										
Hanford.....	3	29	4	25	1	13	1	12	1	4
Schenectady.....	1	0	0	3	0	1	0	0	0	0
Total.....	4	29	4	28	1	14	1	12	1	4
<b>New York operations:</b>										
Brookhaven.....	0	0	0	0	0	6	0	9	0	1
New York.....	14	127	6	90	4	55	9	27	2	20
St. Louis.....	0	0	0	0	0	1	0	0	0	0
Total.....	14	127	6	90	4	62	9	36	2	21
<b>Oak Ridge operations:</b>										
Dayton.....	0	2	0	2	0	4	0	0	0	0
Oak Ridge.....	27	2	8	36	3	5	2	6	3	7
Total.....	27	4	8	38	3	9	2	6	3	7
<b>Santa Fe operations:</b>										
Kansas City.....	0	0	0	0	0	0	0	0	0	0
Los Angeles.....	5	21	1	7	0	8	0	0	0	0
Los Alamos.....	3	0	0	0	3	4	2	0	0	0
Sandia.....	0	1	0	11	0	9	0	2	0	0
Total.....	8	22	1	18	3	21	2	2	0	0
<b>Washington area operations.....</b>	<b>11</b>	<b>9</b>	<b>10</b>	<b>8</b>	<b>8</b>	<b>2</b>	<b>1</b>	<b>5</b>	<b>3</b>	<b>9</b>
<b>Grand total.....</b>	<b>71</b>	<b>203</b>	<b>34</b>	<b>193</b>	<b>20</b>	<b>118</b>	<b>16</b>	<b>74</b>	<b>10</b>	<b>61</b>

*U. S. Atomic Energy Commission—Emergency clearances granted direct AEC and contractor employees, July 1948 through March 1949—Continued*

Installation	December		January		February		March		Total	
	AEC	Contractor	AEC	Contractor	AEC	Contractor	AEC	Contractor	AEC	Contractor
Chicago operations:										
Ames.....	0	1	0	0	0	0	0	0	0	1
Berkeley.....	0	0	0	0	0	0	0	0	6	0
Chicago.....	0	16	2	11	3	23	7	49	21	165
Total.....	0	17	2	11	3	23	7	49	27	166
Hanford operations:										
Hanford.....	5	3	0	1	1	13	0	4	16	104
Schenectady.....	0	0	0	0	0	0	0	0	1	4
Total.....	5	3	0	1	1	13	0	4	17	108
New York operations:										
Brookhaven.....	0	2	0	0	0	0	0	0	0	18
New York.....	1	3	0	15	1	2	2	5	39	344
St. Louis.....	0	0	0	0	0	0	0	0	0	1
Total.....	1	5	0	15	1	2	2	5	39	363
Oak Ridge operations:										
Dayton.....	0	0	0	0	0	1	0	0	0	9
Oak Ridge.....	4	3	2	1	9	21	3	44	61	125
Total.....	4	3	2	1	9	22	3	44	61	134
Santa Fe operations:										
Kansas City.....	0	0	0	0	0	0	0	0	0	0
Los Angeles.....	0	0	0	0	0	0	0	2	6	38
Los Alamos.....	0	0	0	0	0	2	0	3	8	9
Sandia.....	0	0	0	0	0	0	0	1	0	24
Total.....	0	0	0	0	0	2	0	6	14	71
Washington area operations.....	3	16	7	14	4	15	4	34	51	112
Grand total.....	13	44	11	42	18	77	16	142	209	954

**EMERGENCY CLEARANCES RECORDED IN COMMISSION MINUTES**

Meeting No. 1, November 13, 1946; 5 emergency clearances recorded (Internal Administrative Order No. 4).

Meeting No. 4, November 26, 1946; 15 emergency clearances recorded (Internal Administrative Order No. 6).

Meeting No. 5, December 2, 1946; 10 emergency clearances recorded (Internal Administrative Order No. 7).

Meeting No. 7, December 5, 1946; 2 emergency clearances recorded (Internal Administrative Order No. 8).

Meeting No. 11, December 17, 1946; 8 emergency clearances recorded (Internal Administrative Order No. 10).

Meeting No. 72, July 3, 1947; 1 emergency clearance recorded.

In addition to these clearly identified instances of emergency clearance there are two other Commission clearance actions in which it is not certain whether the action was an emergency clearance or a Commission permission for an already cleared individual to have access to closely held weapons data:

Meeting No. 65, June 17, 1947; 9 emergency clearances recorded.

Meeting No. 75, July 9, 1947; 1 emergency clearance recorded.

## ATOMIC ENERGY PROJECT

## EXHIBIT 5

(See also exhibits 9 and 10)

(Referred to on p. 126, pt. 3, June 2, 1949)

## ATOMIC ENERGY COMMISSION

## INTERNAL ADMINISTRATIVE ORDER NO. 13—PERSONNEL EMPLOYMENT

During the period of organization of the Commission's staff, whenever the General Manager shall find that it is essential to the efficient performance of the Commission's duties under the Atomic Energy Act of 1946 to employ an individual, within the Commission's headquarters, before full investigation and report by the Federal Bureau of Investigation of the character, associations, and loyalty of such individual can be obtained, and the General Manager shall further find—

(a) That it is impractical to obtain for the position contemplated the services of a qualified person who prior to January 1, 1947, shall have been employed by, or permitted access to restricted data by, the Manhattan Engineer District; and

(b) That a preliminary report on such individual by the Federal Bureau of Investigation based on a file and fingerprint check shall not have disclosed any information derogatory of the character, associations, or loyalty of such individual

the Commission hereby declares the employment of such individual to be a case of emergency within the meaning of Section 10 (b) (5) (B) (ii) of the Atomic Energy Act of 1946 and the General Manager is hereby authorized to employ such individual; provided, that the Federal Bureau of Investigation shall be requested to make a full investigation and report as soon as possible on the character, associations, and loyalty of such individual and that the continued employment of such individual shall be conditioned upon the results of such investigation and report.

This order shall remain in effect until March 31, 1947, unless sooner revoked by the Commission.

By order of the Commission:

DAVID E. LILIENTHAL,  
*Chairman.*

Dated: January 27, 1947.

## ATOMIC ENERGY COMMISSION

## INTERNAL ADMINISTRATIVE ORDER NO. 16—PERSONNEL EMPLOYMENT

Internal Administrative Order No. 13 authorizing the General Manager to employ individuals in case of emergency as defined in Section 10 (b) (5) (B) (ii) is hereby extended and shall remain in effect until revoked. All emergency clearances heretofore authorized by the General Manager in conformity with the provisions of said order are hereby ratified.

By order of the Commission:

DAVID E. LILIENTHAL,  
*Chairman.*

Dated: May 29, 1947.

## ATOMIC ENERGY COMMISSION

## INTERNAL ADMINISTRATIVE ORDER NO. 19—PERSONNEL EMPLOYMENT

1. Whenever the General Manager shall find that it is essential to the efficient performance of the Commission's duties under the Atomic Energy Act of 1946 to employ an individual before full investigation and report by the Federal Bureau of Investigation of the character, associations, and loyalty of such individual can be obtained, and the General Manager shall further find—

(a) That it is impracticable to obtain for the position contemplated the services of a qualified person who prior to January 1, 1947, shall have been employed by, or permitted access to restricted data by, the Manhattan Engineer District; and

(b) That a preliminary report on such individual by the Federal Bureau of Investigation based on a file and fingerprint check shall not have disclosed any information derogatory of the character, associations, or loyalty of such individual.

The Commission hereby declares the employment of such individual to be a case of emergency within the meaning of Section 10 (b) (5) (B) (ii) of the Atomic Energy Act of 1946 and the General Manager is hereby authorized to employ or authorize the employment of such individual; provided, that the Federal Bureau of Investigation shall be requested to make a full investigation and report as soon as possible on the character, associations, and loyalty of such individual and that the continued employment of such individual shall be conditioned upon the results of such investigation and report.

2. The authority contained in this Order may be redelegated by the General Manager to Admiral John E. Gingrich, Director of Security and Intelligence.

3. This order shall remain in effect until revoked by the Commission. Internal Administrative Orders Nos. 13 and 16 are hereby revoked.

By order of the Commission :

DAVID E. LILIENTHAL,  
*Chairman.*

Dated : October 15, 1947.

APRIL 23, 1948.

MEMORANDUM

To: Director of Security and Intelligence.

From: Carroll L. Wilson, General Manager.

Subject: Delegation of Authority—Emergency Clearances, Contractor Personnel.

1. Whenever you shall find it to be in the interest of the common defense and security to authorize or direct Commission contractors to grant access to restricted data to a certain individual who is employed by such a contractor, prior to the completion of an investigation and report to the Commission by the Federal Bureau of Investigation on the character, associations, and loyalty of such individual; and you shall further find:

(a) That an operation essential to the Commission's programs cannot be performed properly unless access to "restricted data" is granted to the individual employee who will perform the operation; and

(b) That it is essential to the Commission's programs that such operation be performed or commenced prior to the completion of an investigation and report to the Commission by the FBI on the character, associations, or loyalty of such individual employee; and

(c) That it is impracticable to obtain to perform such operation prior to the completion of such report and investigation a qualified person who was permitted access to "restricted data" by the Manhattan Engineer District or who has previously been cleared for access to "restricted data"; and

(d) That a preliminary report on the individual employee by the Federal Bureau of Investigation based on a file and fingerprint check shall not have disclosed any information derogatory of the character, associations, or loyalty of such individual

you are authorized to authorize or direct the contractor to grant access to "restricted data" to such individual, provided, that the Federal Bureau of Investigation shall be requested to make a full investigation and report as soon as possible on the character, associations, and loyalty of such individual and that the continued access of such individual to "restricted data" shall be conditioned upon the results of such investigation and report.

2. The authority herein delegated shall be exercised only by the Director of Security and Intelligence and may not be redelegated.

3. This delegation shall remain in effect until revoked by the General Manager.

CARROLL L. WILSON,  
*General Manager.*

## ATOMIC ENERGY COMMISSION

Bulletin  
GM-101Security and Intelligence  
Personnel ClearancesDECENTRALIZATION OF AUTHORITY TO GRANT TEMPORARY SECURITY CLEARANCES UNDER  
EMERGENCY CONDITIONS

Ref: Amends General Manager's letter of February 14, 1947, subject: "Personnel Clearance"; amends memorandum from Director of Security and Intelligence to Managers of Operations and Area Managers dated April 20, 1948; amends memorandum of May 24, 1948, from Director of Security and Intelligence to Managers of Operations; rescinds letter of May 10, 1948, from Director of Security and Intelligence to Managers of Operations; and paragraph 2 of Bulletin GM-85.

For: Managers of Operations.

1. *Purpose.*—This Bulletin decentralizes to the Managers of Operations authority to grant emergency clearances and provides the standards and procedures which shall be followed.

2. *Delegation of Authority.*—(a) The authority herein delegated shall be exercised by the Managers of Operations or, in the absence of the Managers of Operations, their deputies, and may not be redelegated.

(b) Whenever it shall be found that it is indispensable to the accomplishment of the Atomic Energy Commission's duties under the Atomic Energy Act of 1946 to employ an individual directly or to authorize the granting of access to restricted data to any individual not directly employed by the Atomic Energy Commission prior to completion of an investigation and report to the Atomic Energy Commission by the Federal Bureau of Investigation on the character, associations and loyalty of such person or persons, the employment of such an individual or the granting of access to restricted data to such an individual may be authorized; provided, that the Federal Bureau of Investigation shall be requested to make an investigation and report to the Atomic Energy Commission, on the character, associations and loyalty of such person or persons, and the continued employment of such person or persons, or the continued access to such person or persons to restricted data shall be conditioned upon the results of such investigation and report. In granting temporary security clearance under emergency conditions, the Manager of Operations shall make the following determinations:

(1) That an operation essential to AEC programs cannot be performed properly unless an individual be employed, or unless access to restricted data is granted to an individual who will perform the operation.

(2) That it is essential to AEC programs that such operation be performed or commenced prior to completion of such an investigation and report to the Atomic Energy Commission by the Federal Bureau of Investigation.

(3) That it is impracticable to obtain to perform such operation the services of a qualified person who has previously been cleared for access to restricted data by the Atomic Energy Commission.

(4) That available information, including any or all of the following, shall not have disclosed derogatory information: the Personnel Security Questionnaire; evaluation by responsible character references; file and fingerprint check by the Federal Bureau of Investigation; and any other data as to the character, associations or loyalty of such individual.

3. *Documentation.*—Each request made for temporary security clearance under emergency conditions must be made by a letter of request for such appointment, prepared in conformity with Exhibit I. This letter shall be accompanied by the documents containing the available information referred to in paragraph 2 (b) (4) above, including a certification as to favorable review of the Personnel Security Questionnaire, receipt of a favorable report of Central FBI file and fingerprint search, and initiation of investigation (Exhibit II), except as provided in paragraph 4. The granting of each temporary security clearance shall be authorized in writing by the Manager of Operations in the form provided as Exhibit III.

4. *Exceptional cases.*—Only under extraordinary circumstances shall any request for temporary clearance be processed without certification by the local security office that a favorable Central FBI file and fingerprint search has been

received, and that an investigation has been initiated. Exceptions may be made, but only upon specific instruction by the Manager of Operations prior to the processing of a request, as to the documentation which will be accepted by him. In such cases, immediate steps will be taken by the local security office to initiate the investigation.

5. *Allocation of Responsibility.*—(a) *Security Officer:* Security Officers designated by the Manager of Operations will be responsible for processing, recording, reviewing, and reporting upon requests for temporary security clearance.

(b) *Area Managers:* Area Managers designated by the Manager of Operations shall review and recommend approval for requests for temporary security clearance relating to appointments under the security jurisdiction of the respective area offices.

(c) *Managers of Operations:* Managers of Operations will designate the Area Offices and operating security offices which will assume the foregoing responsibilities. Managers of Operations shall maintain a record of temporary security clearances granted by them and shall submit a report for each calendar month by the fifth day of the following month. This report shall be submitted to the Personnel Security Branch, Washington Headquarters. Data shall be separate for the Office of Operations and the Area Offices, and shall be in conformity with Form AEC-244, attached as Exhibit IV.

(d) For purposes of this Bulletin, the Assistant General Manager shall act as Manager of Operations in the Washington Area.

6. *Procedural Guides.*—There are attached as Exhibits I to VII, inclusive, procedural guides for the processing and documentation of temporary security clearances under emergency conditions.

CARROLL L. WILSON, *General Manager.*

**Attachments:**

1. Exhibit I.
2. Exhibit II.
3. Exhibit III.
4. Exhibit IV.
5. Exhibit V.
6. Exhibit VI.
7. Exhibit VII.

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*Exhibit I*

(Form letter for Use in Requesting Emergency Clearances. Emergency Clearance Request Number to be inserted by Operating Security Office. Employing organization prepares original and two copies; forwards original and one copy to AEC Operating Security Office, which will retain one copy and forward original with supporting papers to the Area Manager.)

Emergency Clearance Request No. ———.

To: Manager of Operations.

Through: Area Manager.

From: (Head of employing organization; either AEC office or division, or contractor.)

Subject: (Name of individual to be cleared and AEC number.)

Request is made for temporary security clearance of the above-named individual for employment with access to restricted data under emergency conditions, in accordance with the provisions of the Atomic Energy Act of 1946, prior to completion of a full investigation and report to the Atomic Energy Commission on his character, associations and loyalty.

(The letter will be continued to provide information and certification as to the following:)

(a) That an operation (describe) essential to AEC programs cannot be performed properly unless an individual be employed, or unless access to "restricted data" is granted to an individual who will perform the operation.

(b) That it is essential to AEC programs that such operation be performed or commenced prior to completion of such an investigation and report to the Atomic Energy Commission by the Federal Bureau of Investigation.

(c) That it is impracticable to obtain to perform such operation the services of a qualified person who has previously been cleared for access to "restricted data" by the Atomic Energy Commission.

(d) That the required Personnel Security Questionnaire and fingerprint cards are attached.

Approved:

-----  
(Area manager)

### *Exhibit II*

(Recommendation for approval of temporary security clearance and certification as to receipt of a favorable report of central FBI file and fingerprint search, and initiation of investigation. Operating Security Office prepares original and two copies, retains one copy and forwards original and one comeback copy to Area Manager together with supporting papers. Security Office will initial the comeback copy. Area Manager returns comeback copy to Security Office and transmits original to Manager of Operations with supporting papers.)

#### MEMORANDUM

Emergency Clearance Request No. ———.

To: Manager of Operations.

From: Area Manager.

Attached is the letter requesting the above-numbered temporary security clearance, together with the available information required in this case.

The letter will be continued to provide certification as to the following:)

(a) Concurrence in the statements that emergency conditions exist which require temporary security clearance.

(b) That a favorable report of central FBI file and fingerprint search has been received and an investigation has been initiated.

(c) That the Personnel Security Questionnaire has been favorably reviewed.

(d) That approval of the request is recommended.

[NOTE.—Where the request is being processed as an "exceptional case," this letter should be prepared by the Area Manager in accordance with prior agreement with the Manager of Operations. The letter shall include specific reference to the available information deemed acceptable in the case.]

### *Exhibit III*

(Operating Security Office prepares a letter for signature of the Manager of operations granting temporary security clearance. Letter is prepared in original and three copies. Operating Security Office retains one copy and forwards original and two copies to the Area Manager attached with other supporting papers to Exhibit II.)

#### MEMORANDUM

Date: —————

To: Area Manager (Attention: Operating Security Office).

From: Manager of Operations.

Subject: Emergency clearance for.

Temporary security clearance is hereby granted to the above-named individual for employment with access to restricted data under emergency conditions, in accordance with the provisions of the Atomic Energy Act of 1946, pending completion of a full investigation and report to the Atomic Energy Commission on his character, associations, and loyalty.

Access is limited to restricted data in connection with subject's duties as (describe job).

\_\_\_\_\_  
Manager of Operations.

**Exhibit IV**

Monthly report on emergency clearances

Area	Date of report	From	To
Name	AEC No.	Job title	Date granted
	<p align="center"><b>EXHIBIT IV</b></p> <p>The monthly report on emergency clearances shall be prepared in triplicate and two copies submitted to the Personnel Security Branch, Washington, D. C., on Form AEC-244 on or before the fifth day of the month following the one covered by the report. The report shall contain only the emergency clearances <i>granted</i> during the period covered by the report. Date of granting is date on which clearance letter is signed by Manager of Operations. The report shall be broken down by offices and the names listed in alphabetical order.</p>		

**Exhibit V**

## GUIDE FOR SCREENING AND REVIEWING PERSONNEL SECURITY QUESTIONNAIRE

Carefully used, the PSQ constitutes an effective means for judging the eligibility of applicants. Area Managers should make recommendations for acceptance or rejection, and Managers of Operations should base their decisions in part on careful screening of the PSQ. The following items may be significant in reaching a decision by the Area Manager and Manager of Operations.

The Personnel Security Questionnaire shall be *screened* immediately in the operating security office in accordance with this guide. Full investigation may be recommended in the first instance to the Area Manager by the Security Office, where doubt as to eligibility for temporary security clearance is established. It should be clearly understood that even though an individual may be ineligible for temporary security clearance, this does not mean, of necessity, that clearance will be withheld when a full investigation has been completed.

1. *Incomplete Personnel Security Questionnaires.*—The Personnel Security Questionnaire shall be carefully examined for completeness. Incompleteness must usually be considered unacceptable by the screener since there is no way of determining whether the omission was careless or deliberate.

2. *Discrepancies in Personal History.*—(a) An irregular pattern of education.

(1) The date of birth should be compared with dates of education, residence, employment, and military service.

(b) An irregular or incomplete pattern of residence.

(1) Location of residence and dates of residence should be compared with location and dates of schooling, military service, and employment.

(c) An irregular, incomplete, or questionable pattern of employment.

(1) Location and dates of employment should be compared with location and dates of schooling, military service, and residence.

(2) There should be a complete and consistent accounting of the periods of time during which various occupations are claimed.

(d) Discrepancy as to citizenship.

(1) The date and place of birth must be consistent with the citizenship status claimed, either by birth, derivation, or naturalization ; place and dates of residence of the individual's parents.

(e) Discrepancy as to military service record where applicant was within age of eligibility for military service.

(1) A service record or record of no service should be entered.

(2) Where military service is claimed, the branch of service and the service serial number should be entered.

(3) Where no service is indicated, a satisfactory accounting for residence and employment should appear.

3. *Questionable circumstances.*—(a) Citizenship in a country other than the United States. (The approval of the Director of Security and Intelligence is required before a request for clearance may be submitted on an alien.)

(b) Recent naturalization of an individual and particularly those holding prior citizenship in countries which are Communist or Fascist, or which are Communist, Fascist, or otherwise subject to totalitarian domination.

(c) Close relatives residing in foreign countries which are hostile to or unsympathetic with the democratic form of government.

(d) Membership in organizations which are reported to be infiltrated by Communists and Fascists, or which are dominated by such individuals or their "fellow travelers."

(e) Previous employment with industrial, social, civic, commercial, or other bodies which are known to promote theories or beliefs opposed to the democratic form of government, or where the employer knowingly employs individuals who support such ideologies.

(f) Schooling in institutions known to teach totalitarian ideologies or to endorse organizations and groups promoting ideologies and theories of government opposed to democratic principles, or serving as an instructor in such institutions.

(g) Listing as references individuals known to be of questionable character or who support beliefs and ideologies opposed to democratic principles or who are known to be members of groups opposing such principles.

(h) Listing of references whose association with the applicant has been of brief duration.

(i) Visits to foreign countries during recent years without supplying an adequate and satisfactory statement as to the purpose of such visits.

(j) An arrest record indicating criminal tendencies or emotional or moral instability.

(k) Falsification in any manner of the Personnel Security Questionnaire.

(l) Any information regarded as substantially derogatory as defined in present criteria.

### Exhibit VI

#### PROCESSING TEMPORARY SECURITY CLEARANCE ACTIONS

The following are basic procedural requirements for processing temporary security clearances under emergency conditions.

1. Requests are based upon file, and fingerprint search shall be received by the local Security Office and processed in the following manner:

(a) *Security officer.*—(1) An AEC Security file will be opened and an Emergency Request Number as well as an investigation file number will be assigned. Duplicates of all documents pertaining to the request will be added to and retained in this file at all times.

(2) Unless otherwise indicated by the Area Manager, a full background investigation will be initiated immediately requesting a Q investigation in the E category.

(3) The PSQ will be screened on the basis of the guide provided as Exhibit V, and a notation shall be made on the PSQ as to favorable or unfavorable screening. The action will remain pending until the return of the results on the file and fingerprint searches.

(4) On receipt of the file and fingerprint searches the file will be forwarded to the original screener who will make a determination as to advisability of granting the request.

(a) Where favorable, a letter of certification (Exhibit II) will be prepared for the signature of the Area Manager, record copy (comeback) to be initialed by the Security Officer; and a letter of approval (Exhibit III) addressed to the Area Manager, attention the Security Office, will be prepared for the signature of the Manager of Operations. The letters and copy of the PSQ will be forwarded to the Area Manager.

(b) Where the determination is unfavorable, the original screener will prepare a rejection letter (Exhibit VII) for the signature of the Area Manager. The file (PSQ) and the letter will be forwarded to the Area Manager.  
 (5) Transactions will be returned (and appropriately processed and recorded) as follows:

(a) Comeback copies on all transmittals direct from the Office Area Manager; and, files attached to comeback copy of letters of rejection.

(b) Letters granting approval by the Manager of Operations together with the file of supporting papers.

(c) Unsigned letters of approval, of rejection of certification with instruction as to further processing.

(6) Where the requesting official withdraws the request for clearance subsequent to rejection of request or denial of temporary security clearance, the Security Office will notify PSB of cancellation of request for clearance by No. 2 card. Where the request for clearance is not withdrawn, no notice will be given to PSB.

(b) *Area manager.*—(1) Letters recommending approval with be forwarded with all documents attached when signed, to the Manager of Operations. Otherwise they will be returned to the Security Officer with appropriate notation as to rejection or procurement of additional information and reprocessing.

(2) Letters of rejection, when signed, will be forwarded to the requesting official, and the file returned to the Security Officer with the comeback copy of the dispatched letter. Otherwise they will be returned to the Security Officer, with appropriate notation as to procurement of additional information and reprocessing.

(c) *Manager of Operations.*—(1) Each transaction will be registered and controlled in accordance with reporting requirements (Exhibit IV).

(2) Letters of approval, when signed, will be returned to the Area Office together with all attached documents, except one copy of the letter of approval.

(3) Cases of denial of temporary security clearance will be returned with appropriate instruction together with all attached documents.

2. Requests based upon PSQ review, without file and fingerprint search, shall be processed in the same manner as in paragraph 1 above except that the Security Officer will cause an immediate screening determination to be made, and process the case without awaiting report on file and fingerprint search.

3. Requests based upon biographical data or other information under special circumstances other than as classified in paragraphs 1 and 2 above: Under extraordinary necessity and only by prior agreement between the Area Manager and the Manager of Operations may such special requests be processed. In all such cases, the Manager of Operations will instruct as to the documentation acceptable to him in the case. Further, the Security Officer will immediately forward and follow through a memorandum requesting the required PSQ's and fingerprint cards, and initiate the full background investigation.

#### Exhibit VII

(Letter from Area Manager rejecting requesting for Temporary Security Clearance. Operating Security Office will prepare an original and two copies; retain one copy and forward original and one copy to Area Manager. Upon dispatch, record copy and file shall be returned to the Operating Security Office.)

#### ATOMIC ENERGY COMMISSION

In reply refer to:

Attention: (Office which requested emergency clearance.)

Subject: (Name)

Reference is made to your Emergency Clearance Request No. ——— for the above named Subject.

A review of Subject's file as of this date makes it advisable to have a full background investigation at hand before any clearance action is taken.

Accordingly, emergency clearance on this individual will not be processed, but it should be clearly understood that this action does not mean, of necessity, that clearance will be withheld when a full investigation has been completed.

Please advise this office immediately whether the full background investigation on this request should be continued.

Very truly yours,

Area Manager.

## EXHIBIT 6

(Referred to on p. 127, pt. 3, June 2, 1949; see also p. 751, pt. 17, June 29, 1949)

UNITED STATES ATOMIC ENERGY COMMISSION,  
Washington 25, D. C., June 29, 1949.

HON. BRIEN MCMAHON,  
Chairman, Joint Committee on Atomic Energy,  
United States Capitol, Washington 25, D. C.

DEAR SENATOR MCMAHON: There is transmitted herewith, in accordance with your request, for inclusion as Exhibit 6 in the Appendix of the hearings before the Joint Committee on the investigation into the administration of the Atomic Energy Project, a compilation of data from the records of the Commission in Washington and the Field Operations Offices. This compilation, which presents certain aspects of emergency clearances for access to "restricted data" granted by the Commission between the dates of January 1, 1947, and May 31, 1949, has been developed in response to the specific inquiries made by the Chairman of the Committee and by Senator Knowland on pages 126 and 127 (pt. 3, June 2, 1949) of the published transcript.

While, in many respects, the statistics in the attached compilation speak for themselves, we feel that it would be useful to have in the record the brief comments about them prepared by the Commission's staff and marked "Explanatory Statement." We would, therefore, appreciate having this letter and the statement included as a part of Exhibit 6, along with Tables I, II, and III.

Sincerely yours,

UNITED STATES ATOMIC ENERGY COMMISSION,  
DAVID E. LILIENTHAL, *Chairman*.

Attachments:

Tables I, II, and III.  
Explanatory Statement.

TABLE I.—*Cases in which emergency clearances were granted to prospective contractors as basis for contract negotiations or to official visitors requiring access to restricted data, during the period beginning Jan. 1, 1947, and ending May 31, 1949*

Area :	Number
Chicago-----	0
Ames-----	0
Berkeley-----	0
Hanford-----	41
Schenectady-----	1
New York-----	20
Brookhaven-----	3
St. Louis-----	0
Oak Ridge-----	110
Dayton-----	0
Santa Fe-----	0
Los Angeles-----	2
Sandia-----	0
Washington-----	0
Total-----	177

**TABLE II.—Cases in which, after emergency clearances were granted, information having derogatory implications was developed in the full FBI investigation and, on the basis of such information, involuntary termination of employment on AEC work occurred**

Area	AEC	Con- tractor	Area	AEC	Con- tractor
Chicago.....	1	0	Oak Ridge.....	2	3
Ames.....	0	0	Dayton.....	0	0
Berkeley.....	3	0	Santa Fe.....	1	0
Hanford.....	2	5	Los Angeles.....	1	8
Schenectady.....	0	0	Sandia.....	0	3
New York.....	3	0	Washington.....	2	3
Brookhaven.....	0	0			
St. Louis.....	0	0	Total.....	15	22

## NOTES

- (1) Number of additional cases where termination was voluntary and before information was discussed with subject: 6.  
 (2) Number of additional cases where subject never entered on duty: 5.  
 (3) Number of additional cases where a short-term commitment was not renewed: 2.  
 (4) Additional case where there was no separation other than a short-term suspension: 1.  
 (5) Pending: 4.

## COMMENTS

- (1) In nine cases, information included some indication of association with persons or groups alleged to be subversive or to have subversive tendencies; no espionage suspects.  
 (2) In the majority of the other cases where involuntary terminations occurred, the action was based on reports of character deficiencies, evidenced in the most part by sexual irregularities, alcoholism, or falsification of employment questionnaires, usually with respect to previous arrest records.  
 (3) In 21 cases, information having derogatory implications was developed in the full FBI investigation but, upon further investigation and/or extension of the record, class "Q" clearance was ultimately granted. These cases are, of course, not included in the table or notes above.

**TABLE III.—Cases in which emergency clearances were granted and in which the person being investigated by the FBI voluntarily terminated employment on AEC work before completion of the full FBI investigation**

Area	AEC	Con- tractor	Area	AEC	Con- tractor
Chicago.....	0	0	Oak Ridge.....	7	0
Ames.....	0	0	Dayton.....	0	0
Berkeley.....	0	0	Santa Fe.....	3	0
Hanford.....	3	16	Los Angeles.....	0	1
Schenectady.....	0	0	Sandia.....	0	4
New York.....	1	5	Washington.....	4	1
Brookhaven.....	0	2			
St. Louis.....	0	0	Total.....	18	29

## NOTES

- (1) In 14 of the above cases, no information having derogatory implications was developed in the full FBI investigation which was carried to completion.  
 (2) In 27 of the above cases, the FBI investigation was discontinued prior to completion but no information having derogatory implications had been developed prior to discontinuance.  
 (3) In the remaining 6 cases, information having derogatory implications was developed after the subject had voluntarily terminated employment on AEC work. In one of these cases, there was an allegation that the subject had been active in Communist circles; in the five others, the information related to alcoholism, previous arrest record, or, in one case, an allegation that the subject was willing to sell his vote.

## EXPLANATORY STATEMENT

(To accompany tables I, II, and III)

As was pointed out in the hearings before the Joint Committee in the discussion of emergency clearance procedure on June 2, 1949, emergency clearance for access to "restricted data" is granted only in cases where delay in granting access, in order to allow time for completion of a full field investigation by the FBI, would impede the progress of the program to an extent which, on balance, would be more harmful to the security of the country than granting access on the basis of the information already available.

In table II are listed the 37 cases out of 4,095 in which, after an emergency clearance had been granted, information having some derogatory implication was developed by the full FBI investigation and, on the basis of such information, an involuntary termination of the individual's employment on AEC work occurred. In two additional cases, mentioned in Note (3), short-term commitments for advisory services were not renewed because of such information. Of these 39 cases, none involved espionage or suspicion of espionage. Thirty involved reports of character deficiency evidenced in the most part by allegations of alcoholism, sexual misconduct, or the falsification of employment questionnaires, usually with respect to previous arrest records. Thus in only nine emergency clearance cases has an individual's employment on

atomic energy work been terminated because of information turned up in the full FBI investigation which indicated the possibility of associations with questionable persons or groups.

The fact that only nine such cases occurred is, first of all, a credit to the effectiveness of the practice of obtaining a preliminary check of FBI files before emergency clearance is granted. It is more important, however, as a measure of the limited nature of the risk involved in granting emergency clearances under the safeguards of the Commission's established procedures. The facts in these nine cases are even more illuminating: Five of the nine persons, although temporarily cleared, were never in fact given access to "restricted data" during the short periods they were employed. The sixth, a boilermaker-welder on a construction job had access to an exclusion area, but no access to technical or statistical data itself. The derogatory information about the seventh, a consultant to one of the Commission's contractors for a period of slightly more than two months, was that his son had had "fringe" associations during student days not later than 1944; no similar associations or leanings were ascribed to the father. The individual in the eighth case was alleged to have signed a Communist Party nominating petition in 1941; this he categorically denied and further investigation by the FBI resulted in a finding by handwriting experts that substantial discrepancies exist between the signature on the petition and his true signature. Only the ninth case involved reasonably well-confirmed evidence of membership in or association with the Communist Party. The individual concerned is an accountant who was cleared to work in a plant which processes a material having technical specifications of some security significance. The extent to which such specifications would be available to a member of the accounting staff is conjectural. There is considerable evidence in the file that Case No. 9 is a loyal citizen and there is none that espionage was attempted, or even contemplated.

In Table III are listed the 47 cases in which emergency clearances were granted and in which the person being investigated by the FBI voluntarily terminated his employment on AEC work before completion of the full FBI investigation. It should be noted here that the mere fact of such a voluntary departure from the program carries with it no implication that the departure was to avoid the consequences of an unfavorable investigation report. In 41 of these 47 cases, no information having derogatory implications was developed in the full FBI investigation. In five of the remaining six cases, the derogatory information related solely to alcoholism, previous arrest records and, in one case, an allegation that the employee was "willing to sell his vote." In the sixth case, where the derogatory information was that the contractor's employee involved had been active in Communist circles, the employee was not in fact ever given access to restricted data.

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### EXHIBIT 7

(Referred to on p. 128, pt. 3, June 2, 1949)

(From the FIRST REPORT OF THE SECRETARY OF DEFENSE, 1948—P. 16)

"I want to record my personal satisfaction with the existing statute governing matters in the field of atomic energy, and to express my pleasure, also, at the way in which relationships between the National Military Establishment and the Atomic Energy Commission are being conducted."

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UNITED STATES ARMY, PACIFIC, APO 958, 28 May 1948.

*The Commanding General*

Mr. DAVID E. LILIENTHAL,  
Chairman, Atomic Energy Commission,  
Washington 25, D. C.

MY DEAR MR. LILIENTHAL: Your nice note of May 17 has just reached me, and I find it difficult to express in words my appreciation for it. I am indeed happy to feel that our efforts at Eniwetok have met with your approval.

The success of Operation Sandstone was due to the individual efforts of all concerned. I have never been associated with a finer group of people than those connected with this operation. The support we received from everyone in this operation, and particularly the Atomic Energy Commission, left nothing to be desired. You leaned over backwards to meet our every request and I want you to know that, along with everyone else in the Task Force, I deeply appreciate your support.

With kindest personal regards,  
Sincerely,

J. E. HULL,  
Lieutenant General, United States Army,  
Commanding.

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STATEMENT OF LT. GEN. JOHN E. HULL, COMMANDER, JOINT TASK FORCE SEVEN,  
AT PRESS CONFERENCE, HEADQUARTERS, USARPAC, FORT SHAFTER, T. H., MAY  
18, 1948

Joint Task Force Seven has successfully completed its mission as assigned by the Joint Chiefs of Staff. This mission was dual in character. First, it was the mission of the Task Force to construct an atomic energy proving ground for

the Atomic Energy Commission at Eniwetok. Secondly, it was required that we assist the AEC in the conduct of the first series of tests of atomic weapons during the months of April and May.

The Task Force had completed the construction of the proving ground by April, in time to permit the conducting of the tests as scheduled. In general, this involved the construction and rehabilitation of housing and living facilities for the scientific group and for troops. Installation of utilities, water, power, and communications was required. Fortunately, we were able to use existing structures, left over from the war, mostly quonset-type buildings, at the proving ground for housing personnel and for storage and work shops; after repairs, of course. Some equipment was repairable, for instance refrigerating equipment. Considerable savings resulted from these efforts. It was necessary to repair air strips to permit the landing of heavy planes, including C-54's, B-29's and B-17's. Landing facilities for small water craft had to be provided, although cargo had to be off-loaded on lighters from the transport ships.

Construction of the actual testing ground involved special construction for the placement of various scientific instruments and test equipment.

These tests had no kinship to the Bikini tests, the purpose of which was to test the effect on naval equipment and other materials as well as animal and marine life. In the words of the directive given to the Commander of Joint Task Force One, the purpose of the Bikini test was to determine "the effects of atomic explosives against naval vessels in order to appraise the strategic implications of atomic bombs including the results on naval design and tactics." We did not conduct the postponed underwater test Charlie.

The tests of Operation Sandstone were literally and truly field laboratory tests, designed to determine how the bombs now under development by the United States would work and to determine their efficiency. We did just that. We got our answers. We liked the answers. These answers belong to the United States Government and, naturally, are not for publication. It can be said, however, that the bombs worked. We have proved the weapon-development work done by the Los Alamos Scientific Laboratory during the past 2 years.

This job which we have just completed was begun on 3 April 1947 when the General Advisory Committee of the Atomic Energy Commission concurred in the recommendation of the Los Alamos Scientific Laboratory that tests of certain new designs of weapons be conducted in 1948. The Commission requested and received the President's approval to go ahead with the program in June 1947.

\* \* \* \* \*

In September 1947 preparations had progressed to the point where formation of a Joint Task Force was directed. Joint Task Force Seven actually came into being on October 13, 1947.

As a military organization, Joint Task Force Seven is unique. It was organized along the lines of our best wartime experience, but there was an additional element. As a part of the organization we had a Task Group which was essentially civilian in make-up. This was the Scientific Group which conducted the actual tests and which recorded and is still analyzing the results. Captain Russell, who is Deputy Director of the Division of Military Application of the AEC, headed this Task Group as Test Director, and Doctor Darol K. Froman, as Scientific Director for the Proving Ground, headed the Task Unit of scientists within the Task Group. Through Captain Russell, the scientific unit operated technically under the AEC. This Task Group, by common consent, did not work through my staff. The channels between Captain Russell, Dr. Froman, and myself were direct. Dr. Alvin C. Graves served as Deputy Director to Dr. Froman and Mr. Robert W. Henderson and Dr. John C. Clark were Assistant Scientific Directors—all from the Los Alamos Laboratory.

The operation of Joint Task Force Seven, thus organized, was the ultimate in integrated effort and embodied our present-day concept of preparedness—this is the concept we are currently teaching at the National War College—the integrated effort of the Armed Forces with civilian scientists and other specialized civilian elements.

It is a tribute to the scientists who were members of the Task Force that the Operation was successful. The mixing of civilian and military elements in the past sometimes has reacted like oil and water. Joint Task Force Seven was a unified team. Successful accomplishment of its mission was the result of an integrated effort. Much credit for this accomplishment is due Dr. Froman. It has been a real pleasure to have been associated with him on this project.

I am sorry that Dr. Norris E. Bradbury, Director of the Los Alamos Laboratory is not here, but I want to say for his benefit that if the men under Doctor Froman are typical of the Los Alamos organization, the research and development in the field of nuclear weapons is in good hands.

All of us have been equally impressed with the scientific competence, the technical skill, and the sound judgment of the civilian scientists and technicians assembled for these tests. Our close association has been valuable in many respects and, I am sure, paves the way for a continuing and increasing cooperative effort to insure the common defense and security of the people of the United States. \* \* \*

STATEMENT OF DR. DAROL K. FROMAN, SCIENTIFIC DIRECTOR, JOINT TASK FORCE SEVEN, AT PRESS CONFERENCE, HEADQUARTERS, USARPAC, FORT SHAFTER, T. H., MAY 18, 1948

General Hull and Captain Russell have outlined the historical background leading up to the 1948 program of atomic weapon tests and the organization of the Task Force which was formed to carry out the program. Although the tests were conducted by a combined military and civilian team, Joint Task Force Seven is a military organization with a great majority of its personnel from the Armed Forces. However, the spirit of cooperation which existed between the military and civilian personnel resulted in the smoothest possible operation. Throughout the whole life of the Joint Task Force, there has not been a single incident which impeded any test or measurement and which arose from the rather great differences between military and civilian philosophies and methods of operation. The mixing was really very intimate; for example, most of the technical sections were staffed with both civilians and members of the Armed Forces Special Weapons Project.

A year ago, I would not have believed such a pleasant and successful working relationship could be achieved, and I believe now that it resulted in this case from the broad understanding and wisdom of General Hull. He has set a standard for all future integrated projects involving the Armed Forces and civilian groups. To have been a member of his organization has been a most pleasant experience for me personally, and I believe for all the civilians of the Task Force.

The Task Unit responsible for carrying out technical operations and making Scientific measurements was part of the Task Group commanded by Captain Russell. Captain Russell also represented the Atomic Energy Commission as Test Director. Only his wide and intimate knowledge of the organization, activities, and technical work of the Commission, and of military operations—particularly naval and air operations—made it possible for us to do the job required. Since the beginning of this project, Captain Russell and I have worked very closely together. We have even shared the same room for the past 3 months. We are now nearing the end of one of those rare experiences which someone as lucky as I sometimes finds and which marks a high light in one's life. \* \* \*

### EXHIBIT 8

(See also exhibits 2 and 11)

(Referred to on pp. 165 and 170, pt. 4, June 6, 1949)

The following answers were reported by Mr. James R. Yore, Chicago AEC Security Officer, by telephone on June 1, 1949:

1. Question. Were green stickers issued for automobiles of any persons working in Argonne Laboratories, the use of which preclude an auto check?

Answer. In February 1949 green car stickers were issued by ANL for use on Government-owned and ANL operated automobiles, and on private cars belonging to ANL employees assigned to the site in DuPage County. Cars bearing these stickers were admitted to designated parking areas within the construction areas at the DuPage site. No registration was necessary for such cars during work days between the hours of 7 a. m. to 8 p. m. It is emphasized that such cars were admitted unchallenged to the construction area, and not to any security area. Personnel in these cars who desired to enter any completed building wherein

classified material was stored or classified work was performed had to present badge identification to the guard at the entrance of each such building before they were permitted to enter. Because of the construction in progress each completed building wherein work of a classified nature was being performed or wherein classified materials were stored was designated as a security area. Each completed building on being turned over to ANL was manned by ANL guards. The general area around these buildings was a construction area. On May 31, 1949, the technical portion of this construction area was sufficiently completed to have it established as a security area and accordingly all cars entering this portion have to be registered and the personnel in the cars properly identified before entry can be gained to this area. In addition, a badge identification is made in each building located in this area. Cars bearing the ANL green stickers are still permitted entrance to the administration portion of the construction area but only to designated parking places. As was pointed out entrance to any completed building is gained only after badge identification is presented to the guard who is located at the entrance of each such building.

NOTE.—Construction area control consists of identification of cars and individual identification which was a control imposed by the contractor for property protection under his responsibility.

2. Question. Were any instructions issued either verbal or written that reports of infractions of security regulations by ANL officials were not to be reported?

Answer. No written or verbal instructions have ever been issued by any responsible authority to the effect that security infractions of ANL officials are not to be reported or written up. ANL and AEC representatives have no knowledge of any persons in any capacity purporting to issue such instructions. If it is alleged that any individual has endeavored to exercise a spurious authority in this fashion both ANL and AEC will welcome full details of the incident so that proper immediate action may be effected against a clear breach of regulations, as there are specific guard orders which require a written report by ANL guards, of all security infractions or unusual incidents.

3. Question. Was the master key file left open at ANL and the guard asked not to report the incident—if so by whom and date it occurred?

A comprehensive check at this time has failed to disclose any incident wherein a master key file or duplicate file was left open and the guard asked not to report it. There is no master key at ANL. There are several duplicate keys which are keyed to a limited number of similar files or similar doors within guarded areas. This check is continuing and further results, if any, will be reported.

4. Request. Furnish copy of all security regulations and related orders issued for or within ANL during 1948, exclusive of accountability.

Answer. Copies of all security regulations and guard orders and other security memoranda issued by ANL during 1948, as well as all security regulations issued to ANL by Chicago AEC during 1948 are being forwarded.

## EXHIBIT 9

(See also exhibits 5 and 10)

(Referred to on p. 196, pt. 5, June 8, 1949)

UNITED STATES ATOMIC ENERGY COMMISSION,  
Washington 25, D. C., June 24, 1949.

Mr. WILLIAM L. BORDEN,  
*Executive Director, Joint Committee on Atomic Energy,*  
Washington, D. C.

DEAR MR. BORDEN: There is forwarded for insertion into the record of the hearings on June 8, at page 196, materials describing the authority, responsibility, and general procedures in connection with personnel clearances as requested by the Chairman.

These materials include the following:

- (1) Bulletin GM-80, "Decentralization of Authority to Grant Personnel Clearances and of Control of Investigative Reports" (March 30, 1948).
- (2) Bulletin GM-80 (revised) 6-17-48.
- (3) Interim Procedure of 4-15-48.
- (4) Bulletin GM-85 of 5-26-48.
- (5) Bulletin GM-101 of 7-29-48.
- (6) Bulletin GM-102 of 7-29-48.

- (7) "Personnel Security Clearance Criteria for Determining Eligibility," published 1-5-49.
- (8) Letter of Director of Security, 4-20-48.
- (9) Letter of Director of Security, 5-24-48.
- (10) Announcement of Director of Security, 8-16-48.
- (11) Announcement of Director of Security, 10-1-48.
- (12) Letter from Director of Military Application Division, 11-30-48.

Sincerely yours,

CARROLL L. WILSON, *General Manager.*

Enclosures (12) as listed.

(Enclosure 1)

#### ATOMIC ENERGY COMMISSION

BULLETIN  
GM-80

SECURITY AND INTELLIGENCE  
Personnel Clearances

Issuance Date: March 30, 1948.

Revised 6-17-48.

#### *Decentralization of Authority to Grant Personnel Clearances and of Control of Investigative Reports*

Ref.: Amends General Manager's letter of February 14, 1947, subject: Personnel Clearance. Temporary security clearance for emergency appointments, clearances and approvals of aliens, and clearances and approvals for personnel of the military establishment are not covered by this Bulletin.

For: Managers of Operations.

1. *Delegation of Authority.*—a. Effective April 15, 1948, Managers of Operations are authorized to receive on behalf of the Commission reports from the Federal Bureau of Investigation concerning the character, associations, and loyalty of individuals employed by the Commission or considered for such employment, or permitted by contractors or licensees to have access to restricted data or proposed to have such access; and to determine on behalf of the Commission that employing such persons or permitting them to have access to restricted data will not endanger the common defense or security and to grant security clearance therefor, *provided*: that the complete report by the Federal Bureau of Investigation shall not have disclosed any substantially derogatory information concerning the character, associations, or loyalty of such persons. If any such substantially derogatory information shall have been disclosed, the complete FBI report, together with other pertinent information, shall be forwarded to the Office of Security and Intelligence, Washington, D. C., for determination as to whether there is security risk.

b. The authority to grant security clearance in cases where no derogatory information is disclosed may be redelegated in writing to such assistants as the Manager may deem necessary; the authority to grant security clearance in cases where derogatory information is disclosed, but is not considered to be substantially derogatory, may be redelegated in writing to Area Managers, without power of further redelegation.

2. *Allocation of Responsibility.*—a. *Managers of Operations* will designate the local Security Offices which are to assume the responsibilities and may delegate to the appropriate Area Managers or other officials authority for granting the personnel security clearances, subject to the limitations of paragraph 1 b. above and Exhibits I and II. Arrangements may be made between the respective Offices of Operations for the allocation of these responsibilities to one as an administrative service for the other, where the location of a facility is such as to justify such an arrangement as a matter of expediency.

b. *AEC Headquarters.*—The Office of Security and Intelligence will transmit to the designated local Security Offices investigative reports received from the FBI; receive and coordinate with the FBI all requests from the field relating to the procedure for processing of investigations; provide detailed information as to the subversive characteristics of organizations, upon request; and make the analysis, review and security decision on all cases requiring decision and instruction by AEC Headquarters.

3. *Procedural Guides.*—There are attached as Exhibits I, II, III and IV, the basic procedural requirements for processing personnel clearance actions under the new authority, and for furnishing statistical reports to Washington.

CARROLL L. WILSON, *General Manager.*

**Attachments:**

1. Exhibit I.
2. Exhibit II.
3. Exhibit III.
4. Exhibit IV.

*Exhibit I*

*Substantially Derogatory Information*

For purposes of Bulletin GM-80, these are the *interim* criteria which will be applied in determining whether information disclosed in investigative reports shall be regarded as substantially derogatory. Determination that there is such information in the case of an individual establishes doubt as to his eligibility for security clearance. Such cases will continue to be referred to as "hold" cases. (Cases referred to as "invite" cases are considered not to contain substantially derogatory information.)

Information shall be regarded as substantially derogatory when it reflects or implies characteristics, activities, or interests in any of the following categories, even though such information represents an allegation or is based upon hearsay reporting, or where the information may be incomplete and may require additional investigation:

- a. Possible sabotage, espionage, or attempts or preparations therefor, or association with suspected spies or saboteurs;
- b. Suspicion of treason, sedition or advocacy thereof;
- c. Advocacy of revolution or force or violence to alter the constitutional form of government of the United States, or association with individuals or organizations supporting such views;
- d. Membership in any organization which has been declared to be subversive by the Attorney General, or association with individuals who are members, or who support subversive views held by such organizations;
- e. Performing or attempting to perform duties or otherwise acting so as to serve the interests of another government in preference to the Government of the United States;
- f. Without proper authorization revealing or disclosing to any person information, documents or material involving or incorporating restricted data or other classified matter to which the individual has gained access;
- g. Evidence as to unfit character, mental instability, immoral relationships or relationships with criminal elements on the part of the individual under consideration, when there is indicated any possibility of indiscretion such as may result in disclosure of restricted data;
- h. Negligence of a grave character in the handling or protection of restricted data or other classified matter or thing, or willful disregard of security regulations;
- i. Any other information which, in the opinion of the Manager of Operations or duly authorized Area Manager, is of such a nature as to constitute a security risk.

*Exhibit II*

*Processing of Personnel Clearance Actions*

The following are basic procedural requirements for processing personnel actions:

1. *Transmittal of Requests and Reports.*—a. Existing procedures for requesting investigations remain in force pending conclusion of negotiations with the FBI concerning channels of transmittal.

b. Existing procedures for transmittal to the field of FBI reports are modified as follows:

(1) As reports are received in AEC Headquarters from the FBI, they will be immediately transmitted in duplicate to the office of origin.

(2) As completion letters are received in AEC Headquarters from the FBI, they will be transmitted to the office of origin, together with any reports filed at Headquarters prior to the effective date of this Bulletin.

2. *Personnel Security Files*.—Security folders will be filed numerically and alphabetical cross-indexes on 3 x 5 reference cards will be maintained. The practice of using "out" cards when files are withdrawn should be initiated. Security files will be completely documented with respect to all judgments, concurrences, recommendations and actions taken on the case, and as to the current employment and clearance status of the subject. Good security practice dictates that files containing FBI reports be subject to access only by AEC officials concerned. Managers of Operations may at their own discretion discuss with employers' representatives information that may assist employers in evaluating an individual's qualifications for the work required; but such discussion should be kept to the minimum consistent with effective operation and the Government's interest; should be based upon the "summary statements" prepared as indicated in Exhibit III; and in all cases the information should be treated as if classified not lower than CONFIDENTIAL.

3. *Completion of Investigation*.—Upon receipt of an FBI notice that investigation of a subject has been completed, the security file with all accumulated reports should be checked against the PSQ to verify the completeness of the investigation, and the verification will be recorded in the file. Request for missing reports, if any, will be made to the FBI through the Personnel Security Branch, AEC Headquarters.

4. *Screening and Initial Analysis—Local Office*.—Files will be read, as they are completed, and the items or paragraphs of the investigative reports referring to or containing derogatory information will be marked in red pencil along the left-hand margin. Further investigation will be requested of FBI if indicated. Detailed information as to the subversive characteristics of organizations referred to in investigative reports should be requested of the Personnel Security Branch, AEC Headquarters. Files will be separated into categories, the finding recorded on the FBI completion notice and the cases further processed as follows:

a. *Non-Derogative Information (Clear)*.—For purposes of security clearance, records of minor offenses such as traffic violations and other misdemeanors of a like nature are not considered as derogatory information. Findings will be verified and recorded, and notification of subject's clearance will be forwarded to the employer's personnel representative.

b. *Information Not Substantially Derogatory (Invite)*.—Cases will be subject of second reading by another analyst, and findings verified with reference to the interim criteria provided in Exhibit I. The decision that the information is in fact not substantially derogatory will be made by Managers of Operations and Area Managers to whom they have delegated authority to make such decisions. Notification of clearance will be reported to the employer's personnel representative with attention invited to the information furnished according to the provisions of paragraph 2 above.

c. *Substantially Derogatory Information—Character and Habits (Hold)*.—Cases will be subject of second reading by another analyst, and findings verified with reference to the interim criteria provided in Exhibit I. A Summary Statement (Exhibit III) itemizing the derogatory information will be prepared. A copy of the statement will be forwarded to the employer's personnel representative with a request for information as to the operational consequences of a possible denial of clearance, including information on the nature of the assignment involved and the qualifications of the applicant or employee. Cases will be held pending a reply from the employer's personnel representative, and closed in file or processed to Washington accordingly.

d. *Substantially Derogatory Information—Associations and Loyalty (Hold)*.—Cases will be subject of second reading by another analyst, and if verified, a summary statement will be prepared. The procedure described in c. above will be followed, except that a summary statement will not be furnished the employer's personnel representative. Instead, a statement will merely be made that there is doubt as to the applicant's or employee's eligibility for security clearance.

5. *Request for Decision on Substantially Derogatory (Hold) cases* will be made to the Personnel Security Branch, AEC Headquarters. A duplicate file will be assembled and arranged with the PSQ at the bottom; next the FBI reports in chronological order of the date reported from bottom to top; next, the summary statement; and then, in the same chronological order, copies of all memoranda and correspondence relating to the case. The transmitting memorandum will state the Manager's recommendations regarding the case with supporting reasons and, attached, the statement of pertinent comments from the employer.

6. *Revocation or Denial of Clearance.*—Specific instructions as to the interim procedure to be followed will be issued by the General Manager in each case prior to revocation or denial of clearance by AEC Headquarters.

7. *Termination or Withdrawal of Application.*—In all cases where employees are terminated from employment or access or request for clearance is withdrawn, the Security Office will advise the Personnel Security Branch, AEC Headquarters, by teletype in order that such cases may be withdrawn from processing and the files returned to the local Security Office for consolidation with the local file. Thereafter, the Security Office will obtain from the employer's personnel representative a confirming document in the case of each subject, including the nature and reason for the action taken, to complete the file.

8. *Transfers.*—When employees are under consideration for transfer, the Managers of the receiving offices will accept the AEC clearance previously granted if it is a "Q" clearance based on full FBI background investigation (MED and E clearances, and S and P approvals, will not be used as security clearance in transfers), except that approval from the Office of Security and Intelligence, AEC Headquarters, Washington, is required for all transfers to the Office of Santa Fe Directed Operations, its contractors and subsidiary sites, and for transfers to any other installations if access to production figures or weapons data is desired. In such instances, Managers of the receiving offices will request the transferring office to forward to Washington a duplicate of the security file for the individual concerned, and will advise Washington of the nature of the work upon which it is intended that the transferee will be engaged. In all other instances, security files will be transferred between local Security Offices, but Washington will be advised of the transfer.

### *Exhibit III*

DOE, JOHN JAMES

AEC #

OAK RIDGE

#### SUMMARY STATEMENT

Subject was engaged as a steamfitter on the MED project from January 1944 to December 1946. Administrative clearance was requested on \_\_\_\_\_ and granted on \_\_\_\_\_. A "Q" investigation was requested on \_\_\_\_\_ and completed on \_\_\_\_\_.

Investigation discloses that:

1. The Subject has been repeatedly intoxicated during 1944, 1945, and 1946 and has been arrested on many occasions during this period.

2. The Subject, according to the information obtained from responsible persons, is indiscreet in his conversations when intoxicated and has discussed in public places restricted information relative to his work.

3. The Subject, according to information obtained from reliable persons, caused a building to be burned in 1947 and was charged with arson. There was insufficient proof to convict him and the Subject was acquitted.

4. The Subject, according to a reference who has been closely associated with him for the past 15 years, is not dependable and he would not recommend him for a position of trust.

5. The Subject, according to fellow employees, has frequently reported to work in an intoxicated condition and sells bootleg whiskey on the job.

[SAMPLE FICTITIOUS STATEMENT]

Form AEC-219

*Exhibit IV*

## MONTHLY REPORT, PERSONNEL SECURITY ACTIONS

Month ending ..... 19..	(1)	(2)	(3)		(4)	(5)
	Total	Q	E		S	P
			AEC	Con		
1. Cases subject to action during month:						
a. On hand at beginning of month:						
(1) Pending transmittal to FBI.....						
(2) Pending report from FBI.....						
(3) Pending closing by AEC.....						
b. Received during month.....						
2. Preliminary actions taken during month:						
a. Requests transmitted to FBI.....						
b. Reports received from FBI.....						
3. Cases closed by AEC (break-down in box below):						
a. Affirmative action taken:						
(1) Applicants.....						
(2) Employees.....						
b. Case canceled (break-down in box below):						
(1) Nonderogatory:						
(a) Applicants.....						
(b) Employees.....						
(2) Derogatory:						
(a) Applicants.....						
(b) Employees.....						
c. Negative action taken:						
(1) Applicants.....						
(2) Employees.....						
4. Cases pending action at end of month (Line 1-Line 3):						
a. Pending transmittal to FBI 1a (1)+1b-2a..						
b. Pending report from FBI 1a (2)+2a-2b..						
c. Pending closing by AEC 1a (3)+2b-3..						
5. Changes in backlog (Line 1a-Line 4):						
a. Line 1a (1)-Line 4a.....						
b. Line 1a (2)-Line 4b.....						
c. Line 1a (3)-Line 4c.....						

SAMPLE FORM: Copies for use will be distributed by the effective date of Bulletin GM-80.

## DEFINITION OF REPORT TERMS

Column

- (2) A *Q Clearance* is a formal determination by AEC, after evaluation of a report of full background investigation by the FBI, that employing an individual or permitting him access to restricted data will not endanger the common defense or security.
- (3) An *E temporary clearance* is a determination by AEC that because of an emergency either AEC or a contractor may permit an individual to have access to restricted data prior to final clearance.
- (4) An *S temporary approval* is a determination by AEC that because of an emergency an individual may be employed by AEC prior to clearance, but that as an administrative precaution to minimize security risks, such employment shall be without access to restricted data until full clearance is obtained. Such approvals are normally given only after an FBI file and fingerprint check, and after a request has been made for Q clearance.

- (5) A *P approval*, or permit, is a determination by AEC that there is no unwarranted security risk involved in permitting a contractor employee entrance to a controlled area, provided he does not have access to restricted data.

Line where  
term first  
appears

- 1 A *Case* is set up when a request for clearance or approval is received from an employer.
- 2 An *Action* is any action following initial setting up of case which advances the case toward completion, or completes it.
- 2a A *Request* to FBI is a request to the central FBI office in Washington, D. C. for either full background investigation or file and fingerprint check.
- 2b A *Report* from FBI is the report from the central FBI Office in Washington, D. C. on which AEC takes action, normally either a completion letter or a combination file and fingerprint report.
- 3 *Closed* means closed in file through affirmation action, cancellation, or negative action.
- 3 a *Affirmative action* means granting of clearance or approval.
- 3 b A case may be *canceled* when an employee is terminated or an applicant withdraws prior to affirmative or negative action.
- 3 b (1) *Nonderogatory* means that no substantially derogatory information was disclosed.
- 3 b (2) *Derogatory* means that substantially derogatory information had been reported.
- 3 c *Negative action* means denial of clearance or denial of approval; revocation of clearance or revocation of approval; or referral to higher authority for decision.
- 3 a (1) An *Applicant* is an applicant for clearance or approval who does not already have a clearance or an approval.
- 3 a (2) An *Employee* is an individual working or entitled to work under an existing clearance or approval.

(Enclosure 2)

ATOMIC ENERGY COMMISSION

BULLETIN  
GM-80

SECURITY AND INTELLIGENCE  
Personnel Clearances

Revised: June 17, 1948.

*Decentralization of Authority to Grant Personnel Clearances and of Control of Investigative Reports*

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warded to the Office of Security and Intelligence, Washington, D. C., for determination as to whether there is security risk.

b. The authority to grant security clearance in cases where no derogatory information is disclosed may be redelegated in writing to such assistants as the Manager may deem necessary; the authority to grant security clearance in cases where derogatory information is disclosed, but is not considered to be substantially derogatory, may be redelegated in writing to Area Managers, without power of further redelegation.

c. For the purposes of this Bulletin, the Assistant General Manager will act as Manager of Operations in the Washington Area, and Washington Area Security Operations will perform the functions assigned to local Security Offices.

2. *Allocation of Responsibility.*—a. *Managers of Operations* will designate the local Security Offices which are to assume the responsibilities and may delegate to the appropriate Area Managers or other officials authority for granting the personnel security clearances, subject to the limitations of paragraph 1 b. above and Exhibits I and II. Arrangements may be made between the respective Offices of Operations for the allocation of these responsibilities to one as an administrative service for the other, where the location of a facility is such as to justify such arrangement as a matter of expediency.

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CARBOLL L. WILSON, *General Manager.*

**Attachments:**

1. Exhibit I (*see* exhibit I, p. 949).
2. Exhibit II (*see* exhibit II, p. 949).
3. Exhibit III (*see* exhibit III, p. 351).
4. Exhibit IV (*see* exhibit IV, p. 952).

**TRANSMITTAL NOTICE**

Subparagraph c has been added to paragraph 1 on page 1 to delegate to the Assistant General Manager the same authority to grant personnel clearances for the Washington Area as is delegated to the Managers of Operations for their respective areas of jurisdiction. (*See* subparagraph c, above.)

(Enclosure 3)

**INTERIM PROCEDURE**

APRIL 15, 1948.

**Purpose**

The procedure hereinafter described is established for the purpose of assisting the Commission in discharging its duty under the Atomic Energy Act of 1946.

(a) The procedure is intended to apply to employees of the Atomic Energy Commission and to contractors' and licensees' employees subject to security clearance under the Atomic Energy Act of 1946.

(b) The pertinent sections of the Atomic Energy Act of 1946 are as follows:

SEC. 10. (a) **POLICY.**—It shall be the policy of the Commission to control the dissemination of restricted data in such a manner as to assure the common defense and security.

SEC. 10. (b) (5) (B) (i) No arrangement shall be made under Section 3, no contract shall be made or continued in effect under Section 4, and no license shall be issued under Section 4 (c) or 7, unless the person with whom such arrangement is made, the contractor or prospective contractor, or the prospective licensee agrees in writing not to permit any individual to have access to restricted data until the Federal Bureau of Investigation shall have made an investigation and report to the Commission on the character, associations, and loyalty of such individual and the Commission shall have determined

that permitting such person to have access to restricted data will not endanger the common defense or security.

(ii) Except as authorized by the Commission in case of emergency, no individual shall be employed by the Commission until the Federal Bureau of Investigation shall have made an investigation and report to the Commission on the character, associations, and loyalty of such individual.

(iii) Notwithstanding the provisions of subparagraphs (i) and (ii), during such period of time after the enactment of this Act as may be necessary to make the investigation, report, and determination required by such paragraphs,

(a) any individual who was permitted access to restricted data by the Manhattan Engineer District may be permitted access to restricted data; and

(b) the Commission may employ any individual who was employed by the Manhattan Engineer District.

#### *Notice and interim status*

(a) In those cases where the Office of the General Manager determines that a local Board hearing is appropriate because a question exists concerning eligibility of an individual for security clearance, the Manager of Directed Operations concerned, or in the case of an employee at Washington, D. C., the Assistant General Manager, will be notified of the information contained in the Security Statement and will determine the interim status of the employee with respect to security clearance. In all cases the Manager of Directed Operations shall consult with the Office of the General Manager prior to communicating to the employees his interim status.

(b) Such Manager (or in the case of Washington, the Assistant General Manager) will notify the employee of his decision as to his employment status and at the same time present to the employee the security statement which shall contain the information stated as specifically as considerations of security permit, upon which doubt arises for eligibility for security clearance.

(c) The employee will also be notified that:

1. Within a period of ten days from the receipt of such notice the employee shall file his written answer to the matter contained in the security statement with the Manager of Directed Operations from whom he receives such notice.

2. Within five days after receipt of such written answer to the security statement, the local Personnel Security Board will convene to hear such evidence as the employee wishes to submit to the Board for its consideration that pertains to the issue involved. At least 48 hours notice will be given the employee of the date and place of hearing and composition of the Board. The Chairman of the Board will notify the employee of the hour and place the Board will convene for the purpose of receiving the evidence that the employee chooses to present.

3. The employee may appear personally before such Board, be present during the entire hearing, be represented by a counsel of his own choosing, present evidence in his own behalf, through witnesses, or by documents, or both, and challenge any member of the Board for cause, which challenge or challenges will be submitted in writing to the Manager of Directed Operations concerned for his determination at least twenty-four hours prior to the date of the first meeting of the Board.

#### *Failure to file answers or appear*

The failure of the employee to file written answers shall be considered as a relinquishment by the employee of the privilege of availing himself of the benefits accorded to him under this procedure. In the event the employee fails to file written answers to the security statement within the time prescribed, final action will be taken on the basis of the existing record.

In the event that the employee fails to appear at the hearing the Board shall proceed in his absence to a determination of the issues presented.

#### *Appointment of Boards*

(a) Upon the receipt from the employee of his written answers to the security statement, the Manager shall forthwith appoint a Personnel Security Board consisting of three members, one to be designated as the Chairman.

(b) The personnel of the Boards, when practicable as determined by the Manager, shall consist of at least one member who is familiar with the general field of endeavor of that of the employee.

(c) The personnel shall be selected from a panel composed of Atomic Energy Commission employees, employees of contractors of the Atomic Energy Commission, or of such other persons as the Manager of Directed Operations determines possess the necessary qualifications for sitting as members of the Personnel Security Board. All of these persons sitting as members of Personnel Security Boards shall have a full "Q" clearance. In the case of persons who are neither employees of the Commission nor its Contractors, such persons shall be retained as consultants of the Commission for the period of their services.

(d) No person shall sit in a case as a Member of such Board who has prejudged the matter, who possesses information that would make it embarrassing to render an impartial recommendation, or who for bias or prejudice generated for any reason would be unable to render a fair and impartial recommendation.

*Conduct of proceedings*

(a) In no case will undue delay be tolerated, nor will the employee be hampered by unduly restricting the time necessary for proper preparation and presentation.

(b) The proceedings shall be presided over by the Chairman of the Board and shall be conducted in an orderly and decorous manner with every effort made to protect the interests of the Government and of the employee. In performing these duties, the Members of the Board should avoid the attitude of the prosecutor and should always bear in mind and make clear to all concerned in the proceeding that this is an inquiry.

(c) During the course of the proceedings the Chairman shall rule in open session on all questions presented to the Board for its determination, subject to the objection of any Member of the Board. In the event of an objection by any Member of the Board, a majority vote of the Board will be determinative and constitute the ruling of the Chairman. Voting may be either in open or closed session on all questions except recommendations, which shall be in closed session.

(d) In the event that it appears in the course of the hearing that restricted data may be disclosed, it shall be the duty of the Chairman to see that such disclosure is not made to persons who are not authorized to receive it.

(e) The Board will ask the employee and other witnesses any questions calculated to obtain the fullest possible disclosure of relevant and material facts.

(f) The Board will not engage in any arguments with either the employee, his witnesses, or his counsel. Nor will the Board permit any person to argue from the witness stand.

(g) The Board will admit in evidence any matters either oral or written which, in the minds of reasonable men, is of probative value to determine the issue involved. The utmost latitude will be given the subject with respect to relevancy, materiality, and competency. However, every reasonable effort will be made to obtain the best evidence reasonably available. Hearsay evidence will be admitted without regard to technical rules of admissibility and accorded such weight as the circumstances warrant.

(h) Witnesses will be permitted to testify either under oath or not under oath, and such weight will be given to this testimony as the circumstances warrant. Witnesses will be reminded of the provisions of 18 United States Code 231, which makes it a criminal offense, punishable by fine of \$2,000 and a sentence of five years in prison to knowingly and willfully make any false or fraudulent statements or representations.

(i) The employee will be afforded the opportunity of testifying in his own behalf. His failure to testify may be considered by the Board in reaching its recommendations.

(j) The Board shall endeavor to obtain all the facts that are reasonably available in order for it to arrive at its recommendations. If, prior to or during the proceeding, in the opinion of the Board the allegations in the security statement are not sufficient to cover all matters into which inquiry should be directed the Board shall suggest to the Manager of Directed Operations concerned that, in order to give fuller notice to the employee the security statement should be amended. The Manager of Directed Operations shall obtain a determination from the Office of the General Manager whether such amendment shall be made. If, in the opinion of the Board, the circumstances of such an amendment may involve an undue hardship to the employee, because of limited time to answer the new allegations in the security statement, an appropriate adjournment shall be granted upon the request of the employee.

(k) The entire proceedings shall be taken down verbatim and transcribed into a written record, a copy of which shall be furnished the employee at his request. In the event restricted data are disclosed in the transcription, such restricted data shall be deleted before furnishing the transcript to the employee.

(l) The report of the Federal Bureau of Investigation, which the Board has before it, shall not be disclosed to the employee. Because of the confidential nature of the sources of information, confrontation may not be possible.

(m) The proceedings shall not be open except to duly authorized representatives of the staff of the Atomic Energy Commission, the employee, and his counsel, and such other persons as may be authorized by the Board.

#### *Recommendations to the Board*

(a) Before making any recommendations as to the granting or denial of security clearance, the Board shall obtain the relevant data concerning the effect which denial of the security clearance would have upon the atomic energy program. Such data should not be disclosed to the employee or his representatives.

(b) The Board shall carefully consider all material before it including the report of the Federal Bureau of Investigation, the evidence presented by the employee, and the relevant data mentioned in paragraph (a) above. It shall then determine whether, in its judgment, security clearance should be granted. In making its determination the Board shall consider the manner in which the witnesses have testified before the Board, their demeanor on the witness stand, the probability or likelihood of their testimony, their credibility, the authenticity of documentary evidence, or the lack of evidence upon some material points in issue. In considering the material before the Board, the members of the Board, as practical men of affairs, should be guided by the same considerations that would guide them in making a sound decision in the administration of their own lives. If, after considering all the factors, they are of the opinion that it will not endanger the common defense and security to grant security clearance to the employee, they should so recommend. If they are unable to find that it will not endanger the common defense and security to grant security clearance, they should recommend that this clearance not be granted.

(c) The Board may also recommend further investigation upon any material matter on which the Board feels more investigation would produce beneficial results. In this event the Board will set forth in its recommendations that issue upon which more evidence is requested, identifying, when possible, the persons or sources from which evidence should be sought.

(d) The recommendation shall be determined by the majority vote. In the event of a dissent from the majority, the recommendation of the minority shall be made of record.

#### *New evidence*

(a) In the event of the discovery of new evidence that is material and relevant, by the employee who was without fault in not ascertaining its existence before, such evidence in the form of depositions will be submitted to:

(1) The Board in the event the Board has not transmitted its recommendations to the Manager of Directed Operations, or

(2) To the Manager of Directed Operations in the event the Board has transmitted its recommendations, but the Manager has not transmitted recommendations, or

(3) The General Manager in all other cases.

(b) It shall be the duty of those to whom application is properly made for the presentation of the new evidence to ascertain its materiality and relevancy and further, that the employee and his representatives are without fault in failing to present such evidence before. In the event it is determined that such new evidence should be received, those making such decision will also determine in what form it shall be received, whether by deposition, affidavit or orally.

#### *Actions on the recommendations*

(a) The recommendations of the Board and any dissent therefrom will be written out, signed by members of the Board and, together with the record of the case, shall be transmitted with the least practicable delay to the Manager of Directed Operations concerned.

(b) Upon receipt of the recommendations of the Board and the record in the case, the Manager of Directed Operations shall make his recommendations to the General Manager as to the granting or denial of security clearance, together with such other recommendations as may be appropriate. The recommendations of the Manager of Directed Operations shall be written out and, together with

the record of the case, shall be transmitted with the least practicable delay to the General Manager, or in the event that the Manager of Directed Operations recommends the denial of a security clearance he shall notify the employee in writing that an adverse recommendation has been made and is being transmitted to the General Manager and of the opportunity of the employee to request a review by the Personnel Security Review Board. This shall be done by the employee's notifying the Manager of Directed Operations in writing within five days from the receipt of such notice of adverse recommendations from the Manager of Directed Operations. Where an adverse recommendation has been made by the Manager of Directed Operations, the employee will be notified of any change in the interim status of the employee. Where the employee requests a review of the adverse recommendation the Manager of Directed Operations shall send the entire record of the proceedings along with the recommendations to the General Manager for transmittal to the personnel Security Review Board.

In any case submitted to the Personnel Security Review Board, the Review Board shall be requested to submit such recommendations to the General Manager as it considers appropriate.

(c) In any case in which he deems it advisable, the General Manager shall transmit the record to the Personnel Security Review Board and request the Review Board to review the case and make such recommendations as it deems appropriate. In the event that a case may be referred to the Personnel Security Review Board in which the Manager of Directed Operations has recommended the granting of clearance, the employee shall be notified of the submission of the case to the Personnel Security Review Board for its recommendations prior to a final determination by the General Manager.

(d) Upon receipt of the recommendations of the Manager of Directed Operations and, in the event that the case has been considered by the Personnel Security Review Board, upon receipt of the recommendations of the Board, the General Manager shall make decisions as to the granting of security clearance and take such other action in the case as he deems appropriate. The employee will be notified of the decision of the General Manager, with the least practicable delay, concerning his eligibility for security clearance.

#### *Modification of the procedure*

The foregoing procedure may be modified from time to time.

(Enclosure 4)

#### ATOMIC ENERGY COMMISSION

BULLETIN  
GM-85

SECURITY AND INTELLIGENCE  
Personnel Clearance

Issuance date: May 26, 1948.

#### *Elimination of Temporary Security Approval ("S") for Employment by the Atomic Energy Commission*

Ref.: Amends General Manager's letter of February 14, 1947, subject: "Personnel Clearance"; rescinds TWX 10-21-47 re "S" clearances, General Manager to Managers of Operations and Area Managers; amends Exhibit IV, Bulletin GM-80; amends letter 4-20-48, Director of Security and Intelligence to Managers of Operations and Area Managers, subject: "Submission of Requests for FBI Investigations and for Special Central File and Fingerprint Searches."

#### **For: Managers of Operations.**

1. Effective June 7, 1948, authority heretofore exercised by Managers of Operations and Area Managers to grant temporary security approval (Class "S") for direct employment by the Atomic Energy Commission without access to restricted data, prior to clearance, is rescinded, and the "S" classification for personnel security purposes is abolished.

2. Clearance based upon a full background investigation completed by the Federal Bureau of Investigation, in accordance with the provisions of Bulletin GM-80, or preceded by a temporary clearance under emergency conditions granted by the Director of Security and Intelligence, Washington Headquarters, will be required in the case of all direct AEC employees.

CARROLL L. WILSON, *General Manager.*

(Enclosure 5)

## ATOMIC ENERGY COMMISSION

BULLETIN  
GM-101SECURITY AND INTELLIGENCE  
Personnel Clearances

Issuance date: July 29, 1948.

*Decentralization of Authority to Grant Temporary Security Clearances Under  
Emergency Conditions*

Ref.: Amends General Manager's letter of February 14, 1947, subject: "Personnel Clearance"; amends memorandum from Director of Security and Intelligence to Managers of Operations and Area Managers dated April 20, 1948; amends memorandum of May 24, 1948, from Director of Security and Intelligence to Managers of Operations; rescinds letter of May 10, 1948, from Director of Security and Intelligence to Managers of Operations; and paragraph 2 of Bulletin GM-85.

For: Managers of Operations.

1. *Purpose.*—This Bulletin decentralizes to the Managers of Operations authority to grant emergency clearances and provides the standards and procedures which shall be followed.

2. *Delegation of Authority.*—a. The authority herein delegated shall be exercised by the Managers of Operations or, in the absence of the Managers of Operations, their deputies, and may not be redelegated.

b. Whenever it shall be found that it is indispensable to the accomplishment of the Atomic Energy Commission's duties under the Atomic Energy Act of 1946 to employ an individual directly or to authorize the granting of access to restricted data to any individual not directly employed by the Atomic Energy Commission prior to completion of an investigation and report to the Atomic Energy Commission by the Federal Bureau of Investigation on the character, associations and loyalty of such person or persons, the employment of such an individual or the granting of access to restricted data to such an individual may be authorized; provided, that the Federal Bureau of Investigation shall be requested to make an investigation and report to the Atomic Energy Commission on the character, associations and loyalty of such person or persons, and the continued employment of such person or persons, or the continued access to such person or persons to restricted data shall be conditioned upon the results of such investigation and report. In granting temporary security clearance under emergency conditions, the Manager of Operations shall make the following determinations:

(1) That an operation essential to AEC programs cannot be performed properly unless an individual be employed, or unless access to restricted data is granted to an individual who will perform the operation.

(2) That it is essential to AEC programs that such operation be performed or commenced prior to completion of such an investigation and report to the Atomic Energy Commission by the Federal Bureau of Investigation.

(3) That it is impracticable to obtain to perform such operation the services of a qualified person who has previously been cleared for access to restricted data by the Atomic Energy Commission.

(4) That available information, including any or all of the following, shall not have disclosed derogatory information: the Personnel Security Questionnaire; evaluation by responsible character references; file and fingerprint check by the Federal Bureau of Investigation; and any other data as to the character, associations or loyalty of such individual.

3. *Documentation.*—Each request made for temporary security clearance under emergency conditions must be made by a letter of request for such appointment, prepared in conformity with Exhibit I. This letter shall be accompanied by the documents containing the available information referred to in paragraph 2d (4) above, including a certification as to favorable review of the Personnel Security Questionnaire, receipt of a favorable report of Central FBI file and fingerprint search, and initiation of investigation (Exhibit II), except as provided in paragraph 4. The granting of each temporary security clearance shall be authorized in writing by the Manager of Operations in the form provided as Exhibit III.

4. *Exceptional Cases.*—Only under extraordinary circumstances shall any request for temporary clearance be processed without certification by the local security office that a favorable Central FBI file and fingerprint search has been received, and that an investigation has been initiated. Exceptions may be made, but only upon specific instruction by the Manager of Operations prior to the processing of a request, as to the documentation which will be accepted by him. In such cases, immediate steps will be taken by the local security office to initiate the investigation.

5. *Allocation of Responsibility.*—a. *Security Officer.*—Security Officers designated by the Manager of Operations will be responsible for processing, recording, reviewing, and reporting upon requests for temporary security clearance.

b. *Area Managers.*—Area Managers designated by the Manager of Operations shall review and recommend approval for requests for temporary security clearance relating to appointments under the security jurisdiction of the respective area offices.

c. *Managers of Operations.*—Managers of Operations will designate the Area Offices and operating security offices which will assume the foregoing responsibilities. Managers of Operations shall maintain a record of temporary security clearances granted by them and shall submit a report for each calendar month by the fifth day of the following month. This report shall be submitted to the Personnel Security Branch, Washington Headquarters. Data shall be separate for the Office of Operations and the Area Offices, and shall be in conformity with Form AEC-244, attached as Exhibit IV.

d. For purposes of this Bulletin, the Assistant General Manager shall act as Manager of Operations in the Washington Area.

6. *Procedural Guides.*—There are attached as Exhibits I to VII, inclusive, procedural guides for the processing and documentation of temporary security clearances under emergency conditions.

CARROLL L. WILSON, *General Manager.*

Attachments:

1. Exhibit I.
2. Exhibit II.
3. Exhibit III.
4. Exhibit IV.
5. Exhibit V.
6. Exhibit VI.
7. Exhibit VII.

*Exhibit I*

(Form letter for Use in Requesting Emergency Clearances. Emergency Clearance Request Number to be inserted by Operating Security Office. Employing organization prepares original and two copies; forwards original and one copy to AEC Operating Security Office, which will retain one copy and forward original with supporting papers to the Area Manager.)

Emergency Clearance Request No. —.

To: Manager of Operations.

Thru: Area Manager.

From: (Head of employing organization; either AEC office or division, or contractor).

Subject: (Name of individual to be cleared and AEC number.)

Request is made for temporary security clearance of the above named individual for employment with access to restricted data under emergency conditions, in accordance with the provisions of the Atomic Energy Act of 1946, prior to completion of a full investigation and report to the Atomic Energy Commission on his character, associations and loyalty.

(The letter will be continued to provide information and certification as to the following:)

(a) That an operation (describe) essential to AEC programs cannot be performed properly unless an individual be employed, or unless access to "restricted data" is granted to an individual who will perform the operation.

(b) That it is essential to AEC programs that such operation be performed or commenced prior to completion of such an investigation and report to the Atomic Energy Commission by the Federal Bureau of Investigation.

(c) That it is impracticable to obtain to perform such operation the services of a qualified person who has previously been cleared for access to "restricted data" by the Atomic Energy Commission.

(d) That the required Personnel Security Questionnaire and fingerprint cards are attached.

Approved.

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(Area Manager)

*Exhibit II*

(Recommendation for approval of temporary security clearance and certification as to receipt of a favorable report of central FBI file and fingerprint search, and initiation of investigation. Operating Security Office prepares original and two copies, retains one copy and forwards original and one come-back copy to Area Manager together with supporting papers. Security Office will initial the come-back copy. Area Manager returns come-back copy to Security Office and transmits original to Manager of Operations with supporting papers.)

**MEMORANDUM.**

Emergency Clearance Request No.——.

To: Manager of Operations.

From: Area Manager.

Attached is the letter requesting the above numbered temporary security clearance, together with the available information required in this case.

(The letter will be continued to provide certification as to the following:)

(a) Concurrence in the statements that emergency conditions exist which require temporary security clearance.

(b) That a favorable report of central FBI file and fingerprint search has been received and an investigation has been initiated.

(c) That the Personnel Security Questionnaire has been favorably reviewed.

(d) That approval of the request is recommended.

NOTE.—Where the request is being processed as an "exceptional case," this letter should be prepared by the Area Manager in accordance with prior agreement with the Manager of Operations. The letter shall include specific reference to the available information deemed acceptable in the case.

*Exhibit III*

(Operating Security Office prepares a letter for signature of the Manager of Operations granting temporary security clearance. Letter is prepared in original and three copies. Operating Security Office retains one copy and forwards original and two copies to the Area Manager attached with other supporting papers to Exhibit II.)

**MEMORANDUM.**

DATE-----

To: Area Manager (Attention: Operating Security Office).

From: Manager of Operations.

Subject: Emergency Clearance For—

Temporary security clearance is hereby granted to the above named individual for employment with access to restricted data under emergency conditions, in accordance with the provisions of the Atomic Energy Act of 1946, pending completion of a full investigation and report to the Atomic Energy Commission on his character, associations, and loyalty.

Access is limited to restricted data in connection with subject's duties as (describe job).

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Manager of Operations

*Exhibit IV*

The monthly report on emergency clearances shall be prepared in triplicate and two copies submitted to the Personnel Security Branch, Washington, D. C., on Form AEC-244 on or before the fifth day of the month following the one covered by the report. The report shall contain only the emergency clearances granted during the period covered by the report. Date of granting is date on which clearance letter is signed by Manager of Operations. The report shall be broken down by offices and the names listed in alphabetical order.

Form AEC-244 (7-48)

*Monthly report on emergency clearances*

Area ..... Date of Report: From ..... To .....

Name	AEC No.	Job Title	Date Granted
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*Exhibit V*

## GUIDE FOR SCREENING AND REVIEWING PERSONNEL SECURITY QUESTIONNAIRE

Carefully used, the PSQ constitutes an effective means for judging the eligibility of applicants. Area Managers should make recommendations for acceptance or rejection, and Managers of Operations should base their decisions in part on careful screening of the PSQ. The following items may be significant in reaching a decision by the Area Manager and Manager of Operations.

The Personnel Security Questionnaire shall be *screened* immediately in the operating security office in accordance with this guide. Full investigation may be recommended in the first instance to the Area Manager by the Security Office, where doubt as to eligibility for temporary security clearance is established. It should be clearly understood that even though an individual may be ineligible for temporary security clearance, this does not mean, of necessity, that clearance will be withheld when a full investigation has been completed.

1. *Incomplete Personnel Security Questionnaires.*—The Personnel Security Questionnaire shall be carefully examined for completeness. Incompleteness must usually be considered unacceptable by the screener since there is no way of determining whether the omission was careless or deliberate.

2. *Discrepancies in Personal History.*—

a. An irregular pattern of education.

(1) The data of birth should be compared with dates of education, residence, employment, and military service.

b. An irregular or incomplete pattern of residence.

(1) Location of residence and date of residence should be compared with location and dates of schooling, military service, and employment.

c. An irregular, incomplete or questionable pattern of employment.

(1) Location and dates of employment should be compared with location and dates of schooling, military service, and residence.

(2) There should be a complete and consistent accounting of the periods of time during which various occupations are claimed.

d. Discrepancy as to citizenship.

(1) The date and place of birth must be consistent with the citizenship status claimed, either by birth, derivation, or naturalization; place and dates of residence of the individual's parents.

e. Discrepancy as to military service record where applicant was within age of eligibility for military service.

(1) A service record, or record of no service should be entered.

(2) Where military service is claimed, the branch of service and the service serial number should be entered.

(3) Where no service is indicated, a satisfactory accounting for residence and employment should appear.

3. *Questionable Circumstances.*—a. Citizenship in a country other than the United States. (The approval of the Director of Security and Intelligence is required before a request for clearance may be submitted on an alien.)

b. Recent naturalization of an individual and particularly those holding prior citizenship in countries which are Communist or Fascist, or which are Communist, Fascist or otherwise subject to totalitarian domination.

c. Close relatives residing in foreign countries which are hostile to or unsympathetic with the democratic form of government.

d. Membership in organizations which are reported to be infiltrated by Communists and Fascists, or which are dominated by such individuals or their "fellow travelers".

e. Previous employment with industrial, social, civic, commercial or other bodies which are known to promote theories or beliefs opposed to the demo-

cratic form of government, or where the employer knowingly employs individuals who support such ideologies.

f. Schooling in institutions known to teach totalitarian ideologies or to endorse organizations and groups promoting ideologies and theories of government opposed to democratic principles, or serving as an instructor in such institutions.

g. Listing as references, individuals known to be of questionable character or who support beliefs and ideologies opposed to democratic principles or who are known to be members of groups opposing such principles.

h. Listing of references whose association with the applicant has been of brief duration.

i. Visits to foreign countries during recent years without supplying an adequate and satisfactory statement as to the purpose for such visits.

j. An arrest record indicating criminal tendencies or emotional or moral instability.

k. Falsification in any manner of the Personnel Security Questionnaire.

l. Any information regarded as substantially derogatory as defined in present criteria.

### *Exhibit VI*

#### PROCESSING TEMPORARY SECURITY CLEARANCE ACTIONS

The following are basic procedural requirements for processing temporary security clearances under emergency conditions.

1. *Requests based upon file and fingerprint search* shall be received by the local Security Office and processed in the following manner.

##### *a. Security Officer.*

(1) An AEC Security file will be opened and an Emergency Request Number as well as an investigation file number will be assigned. Duplicates of all documents pertaining to the request will be added to and retained in this file at all times.

(2) Unless otherwise indicated by the Area Manager, a full background investigation will be initiated immediately requesting a Q investigation in the E category.

(3) The PSQ will be screened on the basis of the guide provided as Exhibit V, and a notation shall be made on the PSQ as to favorable or unfavorable screening. The action will remain pending until the return of the results on the file and fingerprint searches.

(4) On receipt of the file and fingerprint searches the file will be forwarded to the original screener who will make a determination as to advisability of granting the request.

(a) Where favorable, a letter of certification (Exhibit II) will be prepared for the signature of the Area Manager, record copy (comeback) to be initialed by the Security Officer; and a letter of approval (Exhibit III) addressed to the Area Manager, attention the Security Office, will be prepared for the signature of the Manager of Operations. The letters and copy of the PSQ will be forwarded to the Area Manager.

(b) Where the determination is unfavorable, the original screener will prepare a rejection letter (Exhibit VII) for the signature of the Area Manager. The file (PSQ) and the letter will be forwarded to the Area Manager.

(5) Transactions will be returned (and appropriately processed and recorded) as follows:

(a) Come-back copies on all transmittals direct from the Office Area Manager; and, files attached to come-back copy of letters of rejection.

(b) Letters granting approval by the Manager of Operations together with the file of supporting papers.

(c) Unsigned letters of approval, of rejection of certification with instruction as to further processing.

(6) Where the requesting official withdraws the request for clearance subsequent to rejection of request or denial of temporary security clearance, the Security Office will notify PSB of cancellation of request for clearance by No. 2 card. Where the request for clearance is not withdrawn, no notice will be given to PSB.

**b. Area Manager.**

(1) Letters recommending approval will be forwarded with all documents attached when signed, to the Manager of Operations. Otherwise they will be returned to the Security Officer with appropriate notation as to rejection or procurement of additional information and reprocessing.

(2) Letter of rejection, when signed, will be forwarded to the requesting official, and the file returned to the Security Officer with the come-back copy of the dispatched letter. Otherwise they will be returned to the Security Officer with appropriate notation as to procurement of additional information and reprocessing.

**c. Manager of Operations.**

(1) Each transaction will be registered and controlled in accordance with reporting requirements (Exhibit IV).

(2) Letters of approval, when signed, will be returned to the Area Office together with all attached documents, except one copy of the letter of approval.

(3) Cases of denial of temporary security clearance will be returned with appropriate instruction together with all attached documents.

2. *Requests based upon PSQ review, without file and fingerprint search* shall be processed in the same manner as in paragraph 1 above except that the Security Officer will cause an immediate screening determination to be made, and process the case without awaiting report on file and fingerprint search.

3. *Requests based upon biographical data or other information under special circumstances other than as classified in paragraphs 1 and 2 above.*—Under extraordinary necessity and only by prior agreement between the Area Manager and the Manager of Operations may such special requests be processed. In all such cases, the Manager of Operations will instruct as to the documentation acceptable to him in the case. Further, the Security Officer will immediately forward and follow through a memorandum requesting the required PSQ's and fingerprinting cards, and initiate the full background investigation.

**Exhibit VII**

(Letter from Area Manager rejecting request for Temporary Security Clearance. Operating Security Office will prepare an original and two copies; retain one copy and forward original and one copy to Area Manager. Upon dispatch, record copy and file shall be returned to the Operating Security Office.)

**ATOMIC ENERGY COMMISSION**

In reply refer to:

Attention: (Office which requested emergency clearance.)

Subject: (Name.)

Reference is made to your Emergency Clearance Request No. — for the above named Subject.

A review of Subject's file as of this date makes it advisable to have a full background investigation at hand before any clearance action is taken.

Accordingly, emergency clearance on this individual will not be processed, but it should be clearly understood that this action does not mean, of necessity, that clearance will be withheld when a full investigation has been completed.

Please advise this office immediately whether the full background investigation on this request should be continued.

Very truly yours,

-----  
Area Manager

(Enclosure 6)

## ATOMIC ENERGY COMMISSION

BULLETIN  
GM-102SECURITY AND INTELLIGENCE  
Personnel Clearances

Issuance date: July 29, 1948.

*Decentralization of Authority to Reinstate Personnel Security Clearance of Former Employees*

Ref: Amends letter, Subject: "Personnel Clearance," to Heads of all Field Operations from the General Manager, dated February 14, 1947; supplements Bulletin GM-80, issued March 30, 1948, as revised June 17, 1948; and amends memorandum dated April 20, 1948, to Managers of Operations and Area Managers from the Director of Security and Intelligence, Subject: "Submission of Requests for FBI Investigations and for Special Central File and Fingerprint Searches."

For: Managers of Operations.

1. *Delegation and Redelelegation of Authority.*—a. Effective August 1, 1948, Managers of Operations are authorized to reinstate the security clearance of former employees of the Atomic Energy Commission, its contractors, and licensees, in accordance with the requirements hereinafter set forth, and are further authorized to redelegate such authority to Area Managers and Security Officers. Redelegations of authority shall be written.

b. For the purposes of this Bulletin, the Assistant General Manager will act as Manager of Operations in the Washington Area.

2. *Requirements for Reinstatement of Security Clearance.*—a. For a person who formerly held security clearance under the security jurisdiction of the office wishing to reinstate.

(1) The security clearance shall have been granted by the Atomic Energy Commission on the basis of a full background investigation.

(2) The reports of the Federal Bureau of Investigation upon the basis of which the security clearance was granted shall contain no substantially derogatory information as defined in present criteria.

(3) The reason for termination of security clearance shall not be one affecting eligibility for clearance.

(4) The termination of security clearance shall have occurred not more than twelve months prior to present application for reinstatement.

b. For a person who formerly held security clearance under the security jurisdiction of an office other than the office to which application for reinstatement is made.

(1) The office wishing to reinstate security clearance shall obtain the complete security file and a statement of the reason for termination from the office under whose security jurisdiction the applicant for reinstatement held security clearance.

(2) The office to which application has been made for reinstatement shall then review the file for compliance with the requirements of subparagraph a above.

(3) In emergency circumstances only, the office wishing to reinstate security clearance may do so prior to receipt of the records upon receipt of a certification from the Manager of the office which is to transmit the file or his duly authorized representative, setting forth the date of granting of security clearance, that there is *no derogatory information* in the records, and that the records have been reviewed and meet the requirements of subparagraph a above.

3. *Exceptions.*—a. Approval of the Personnel Security Branch, Office of Security and Intelligence, Atomic Energy Commission, Washington 25, D. C., is required for reinstatements of security clearance at the Office of Santa Fe Directed Operations, its contractors, licensees and subsidiary sites when the prior security clearance was at an office other than the Office of Santa Fe Directed Operations.

(1) The Office of Santa Fe Directed Operations shall request the office wherein prior security clearance was held to forward to the Personnel Security Branch a duplicate of the file for the individual concerned and

shall advise the Personnel Security Branch of the nature of the work upon which it is intended that the person will be engaged.

b. Approval of the Personnel Security Branch is also required for reinstatements of security clearance at any office if access to production figures or weapons data will be necessary.

(1) When such access will be necessary, the office requesting reinstatement shall forward a duplicate file of the individual to the Personnel Security Branch together with a statement as to the nature of the work upon which the person will be engaged, or shall request the office wherein prior security clearance was held to forward to the Personnel Security Branch a duplicate of the file for the individual concerned and advise the Personnel Security Branch of the nature of the work upon which it is intended that the person will be engaged.

4. *Supplemental Background Investigations.*—When the requirements set forth in paragraph 2 above cannot be met, Personnel Security Questionnaires, in quintuplicate, and a new Fingerprint Card must be obtained. The Personnel Security Questionnaires shall be completed in full. In addition to the markings normally required on the Personnel Security Questionnaires and Fingerprint Card, they both shall be marked in the upper right-hand corner with the words: "SUPPLEMENTAL INVESTIGATION."

5. *Procedure for Recording Reinstatements.*—Upon receipt of a request for reinstatement of security clearance, the responsible person shall submit to the Personnel Security Branch a Control Index Card (No. 9), Form AEC-224. Such card shall be executed in accordance with standard procedure, except that the word "REINSTATEMENT" shall be typed under the line "type clearance requested." Subsequent to reinstatement or denial of reinstatement of security clearance, the responsible person shall submit a Tickler Index Card (No. 2), Form AEC-222, to the Personnel Security Branch and such card shall have the word "REINSTATEMENT" typed under the line "type clearance requested" and the date shall be entered in the proper space. The Master Reference Card (No. 1), Form AEC-223, and the Process Index Card (No. 3), Form AEC-222b, shall be executed in accordance with standard procedure, except that the word "REINSTATEMENT" shall be typed under the line "type clearance requested."

CARROLL L. WILSON, *General Manager.*

(Enclosure 7)

#### ATOMIC ENERGY COMMISSION

##### PERSONNEL SECURITY CLEARANCE CRITERIA FOR DETERMINING ELIGIBILITY

The United States Atomic Energy Commission has adopted basic criteria for the guidance of the responsible officers of the Commission in determining eligibility for personnel security clearance. These criteria are subject to continuing review, and may be revised from time to time in order to insure the most effective application of policies designed to maintain the security of the project in a manner consistent with traditional American concepts of justice and rights of citizenship.

The Commission is revising its hearing procedure entitled "Interim Procedure" for the review of cases of denial of security clearance and for the conduct of hearings for employees desiring such review. The Interim Procedure announced April 15, 1948, places considerable responsibility on the Managers of Operations and it is to provide uniform standards for their use that the Commission has adopted the criteria described herein.

Under the Atomic Energy Act of 1946, it is the responsibility of the Atomic Energy Commission to determine whether the common defense and security will be endangered by granting security clearance to individuals either employed by the Commission or permitted access to restricted data. As an administrative precaution, the Commission also requires that at certain locations there be a local investigation, or check on individuals employed by contractors on work not involving access to restricted data (Commission authorization to be so employed is termed "security approval").

Under the act the Federal Bureau of Investigation has the responsibility for making an investigation and report to the Commission on the character, associations and loyalty of such individuals. In determining any individual's eli-

gibility for security clearance other information available to the Commission should also be considered, such as whether the individual will have direct access to restricted data, or work in proximity to exclusion areas, his past association with the atomic energy program, and the nature of the job he is expected to perform. The facts of each case must be carefully weighed and determination made in the light of all the information presented whether favorable or unfavorable. The judgment of responsible persons as to the integrity of the individuals should be considered. The decision as to security clearance is an over-all, common-sense judgment, made after consideration of all the relevant information, as to whether or not there is risk that the granting of security clearance would endanger the national defense or security. If it is determined that the common defense and national security will not be endangered, security clearance will be granted; otherwise, security clearance will be denied.

Cases must be carefully weighed in the light of all the information, and a determination must be reached which gives due recognition to the favorable as well as unfavorable information concerning the individual and which balances the cost to the program of not having his services against any possible risks involved. In making such practical determination, the mature viewpoint and responsible judgment of Commission staff members, and of the contractor concerned are available for consideration by the Manager of Operations.

To assist in making these determinations, on the basis of all the information in a particular case, there are set forth below a number of specific types of derogatory information. The list is not exhaustive, but it contains the principal types of derogatory information which indicate a security risk. It will be observed that the criteria are divided into two groups, Category (A) and Category (B).

Category (A) includes those classes of derogatory information which establish a presumption of security risk. In cases falling under this category, the Manager of Operations has the alternative of denying clearance or referring the case to the Director of Security in Washington.

Category (B) includes those classes of derogatory information where the extent of activities, the attitudes or convictions of the individual must be weighed in determining whether a presumption of risk exists. In these cases the Manager of Operations may grant or deny clearances; or he may refer such cases to the Director of Security in Washington.

Category (A). Category (A) includes those cases in which there are grounds sufficient to establish a reasonable belief that the individual or his spouse has:

1. Committed or attempted to commit, or aided or abetted another who committed or attempted to commit any act of sabotage, espionage, treason or sedition;
2. Established an association with espionage agents of a foreign nation; with individuals reliably reported as suspected of espionage; with representatives of foreign nations whose interests may be inimical to the interests of the United States. (Ordinarily this would not include chance or casual meetings; nor contacts limited to normal business or official relations.)
3. Held membership in or joined any organization which has been declared to be subversive by the Attorney General, provided the individual did not withdraw from such membership when the organization was so identified, or otherwise establish his rejection of its subversive aims; or, prior to the declaration by the Attorney General, participated in the activities of such an organization in a capacity where he should reasonably have had knowledge as to the subversive aims or purposes of the organization;
4. Publicly or privately advocated revolution by force or violence to alter the constitutional form of Government of the United States.

Category (A) also includes those cases in which there are grounds sufficient to establish a reasonable belief that the individual has:

5. Deliberately omitted significant information from or falsified a Personnel Security Questionnaire or Personal History Statement. In many cases, it may be fair to conclude that such omission or falsification was deliberate if the information omitted or misrepresented is unfavorable to the individual;
6. Violated or disregarded security regulations to a degree which would endanger the common defense or national security;
7. Been adjudged insane, been legally committed to an insane asylum, or treated for serious mental or neurological disorder, without evidence of cure;
8. Been convicted of felonies indicating habitual criminal tendencies;
9. Been or who is addicted to the use of alcohol or drugs habitually and to excess without adequate evidence of rehabilitation.

*Category (B).* Category (B) includes those cases in which there are grounds sufficient to establish a reasonable belief that with respect to the individual or his spouse there is;

1. Sympathetic interest in totalitarian, fascist, communist, or other subversive political ideologies;

2. A sympathetic association established with members of the Communist Party; or with leading members of any organization which has been declared to be subversive by the Attorney General. (Ordinarily this will not include chance or casual meetings, nor contacts limited to normal business or official relations.)

3. Identification with an organization established as a front for otherwise subversive groups or interests when the personal views of the individual are sympathetic to or coincide with subversive "lines";

4. Identification with an organization known to be infiltrated with members of subversive groups when there is also information as to other activities of the individual which establishes the probability that he may be a part of or sympathetic to the infiltrating element, or when he has personal views which are sympathetic to or coincide with subversive "lines";

5. Residence of the individual's spouse, parent(s), brother(s), sister(s), or offspring in a nation whose interests may be inimical to the interests of the United States, or in satellites or occupied areas thereof, when the personal views or activities of the individual subject of investigation are sympathetic to or coincide with subversive "lines" (to be evaluated in the light of the risk that pressure applied through such close relatives could force the individual to reveal sensitive information or perform an act of sabotage);

6. Close continuing association with individuals (friends, relatives or other associates) who have subversive interests and associations as defined in any of the foregoing types of derogatory information. A close continuing association may be deemed to exist if:

(1) Subject lives at the same premises with such individual;

(2) Subject visits such individual frequently;

(3) Subject communicates frequently with such individual by any means.

7. Association where the individuals have enjoyed a very close, continuing association such as is described above for some period of time, and then have been separated by distance; provided the circumstances indicate that a renewal of contact is probable;

Category (B) also includes those cases in which there are grounds sufficient to establish a reasonable belief that with respect to the individual there is:

8. Conscientious objection to service in the Armed Forces during time of war, when such objections cannot be clearly shown to be due to religious convictions;

9. Manifest tendencies demonstrating unreliability or inability to keep important matters confidential: willful or gross carelessness in revealing or disclosing to any unauthorized person restricted data or other classified matter pertaining either to projects of the Atomic Energy Commission or any other governmental agency; abuse of trust, dishonesty; or homosexuality.

While security clearance would ordinarily be denied in each of the foregoing categories (A), and (B), security approval, as distinguished from security clearance, might be warranted in those types of derogatory information mentioned under Category (B) above.

The categories outlined hereinabove contain the criteria which will be applied in determining whether information disclosed in investigation reports shall be regarded as substantially derogatory. Determination that there is such information in the case of an individual establishes doubt as to his eligibility for security clearance.

The criteria outlined hereinabove are intended to serve as aids to the Manager of Operations in resolving his responsibility in the determination of an individual's eligibility for security clearance. While there must necessarily be an adherence to such criteria, the Manager of Operations is not limited thereto, nor precluded in exercising his judgment that information or facts in a case under his cognizance are derogatory although at variance with, or outside the scope of the stated categories. The Manager of Operations upon whom the responsibility rests for the granting or denial of security clearance, and for recommendation in cases referred to the Director of Security, should bear in mind at all times, that his action must be consistent with the common defense and national security.

UNITED STATES ATOMIC ENERGY COMMISSION,  
CARROLL L. WILSON, *General Manager*.

(Enclosure 8)

ATOMIC ENERGY COMMISSION,  
Washington, D. C., April 20, 1948.**Memorandum.****To:** Managers of Operations and Area Managers.**From:** John Gingrich, Director of Security and Intelligence.**Subject:** Submission of Requests for FBI Investigations and for Special Central File and Fingerprint Searches.

**Ref.:** General Manager's letter of February 14, 1947, subject: "Personnel Clearance"; and Teletypes—General Manager to all Managers of Operations; October 13, 1947, eliminating "S" clearances for contractor personnel; October 13, 1947, emergency clearance for applicants for employment with contractors; October 21, 1947, emergency clearance of AEC employees; and Bulletin GM #80, subject: "Decentralization of Authority to Grant Personnel Clearances and of Control of Investigative Reports."

**Symbol:** GMSI-PS: JF.

Effective April 15, 1948, and consistent with the definitions of "clearances" and "approvals" contained in Exhibit IV of Bulletin GM-80, requests for FBI investigations and for special central file and fingerprint checks will be made in the manner hereinafter prescribed.

**"Q" Clearance.**—The letter "Q" will be stamped in the space provided for the Job Description in the lower left hand corner of page 4 of the Personnel Security Questionnaire, as well as in the upper right hand corner of page 1, on all copies. The fingerprint card will bear a similar designation. In cases where an applicant indicates former clearance under MED jurisdiction, an extra copy of the PSQ will be forwarded to Oak Ridge for search of the MED files. Oak Ridge will forward this PSQ with the MED file to Washington.

**"E" Temporary Clearance.**—Requests will be made in conformance with the form letter attached as Exhibit I. This request will be processed by the Personnel Security Branch, Office of Security and Intelligence, and upon favorable check of MED and AEC indices, the receipt of favorable file and fingerprint checks from the FBI, and initiation of background investigation, will be so certified to the Director for determination as to granting the emergency clearance. The PSQ's and fingerprint card will bear the letters "QE" stamped in the appropriate spaces on the PSQ and fingerprint card. Under conditions where an applicant indicates former clearance under MED jurisdiction, an extra copy of the PSQ will be forwarded to Oak Ridge as in the procedure outlined under "Q" CLEARANCE above.

**"S" Temporary Approval.**—It will be noted that pursuant to instruction of the General Manager transmitted by teletype of October 21, 1947, "S" Temporary Approvals for direct employment by AEC without access to restricted data may be made by the Area Manager based upon a local file check or a central file and fingerprint check. Such approvals must invariably be followed by a request for full background investigation for a "Q" Clearance. In these cases, the letter "Q" will be stamped in the appropriate spaces on the PSQ and fingerprint card, and also a notation made in the Job Description box on page 4 of the PSQ that "S" Temporary Approval has been granted.

**"P" Approval.**—Where a "P" Approval has been granted and it is desired to process a request for investigation for "Q" clearance, the PSQ and fingerprint card will be stamped with the letter "Q" in the appropriate spaces, and a notation made in the Job Description box on page 4 of the PSQ that "P" Approval has been granted.

**Special Central File and Fingerprint Checks.**—The necessity for careful planning with the FBI on the work load involved in the accomplishment of necessary investigations requires that requests for special FBI central file and fingerprint searches for purposes of "S" Temporary Approvals or "P" Approvals shall be arranged with the FBI on a work load basis through this office. Such requests must be kept to an absolute minimum, and arrangements for processing them shall be made by a letter or TWX which includes the anticipated volume monthly, the period of time during which they may be transmitted and the justification for special service; prior approval must be received from the Office of Security and Intelligence prior to such transmittals. (This requirement does not apply if such requests are being made only in occasional instances.) When such special checks have been arranged for in conjunction with initiation of a full background investigation, the letters "QS" or "QP" will be stamped in the

appropriate spaces on the PSQ and fingerprint card. In the case of request for central FBI file and fingerprint check for purposes of "P" Approval, where ultimate "Q" clearance is not desired, it is merely necessary to stamp the letter "P" in the appropriate spaces on the PSQ and fingerprint card.

**Administrative Clearance.**—It is desirable to eliminate, insofar as possible, the practice of re-employing individuals formerly cleared by MED or by AEC without further background investigation covering the intervening period. In exceptional instances where such clearance seems most expedient, request, with appropriate justification, may be addressed to the Director of Security and Intelligence, Washington, D. C., in a separate memorandum.

JOHN GINGRICH,

*Director of Security and Intelligence.*

#### *Exhibit I*

(Form letter for use in requesting Emergency Clearances)

Emergency Clearance Request No.: —.

To: Director, Office of Security and Intelligence, Atomic Energy Commission, Washington, D. C.

From: (Office of Operations or Area Office or office of the Military Establishment having security jurisdiction.)

Subject: (Name of Individual to be Cleared and AEC No.)

Request is made for temporary security clearance of the above-named individual for employment with access to restricted data under emergency conditions, in accordance with the provisions of the Atomic Energy Act, prior to completion of a full investigation and report to the Commission on his character, associations and loyalty.

(The letter will be continued to provide supporting information as to the following:)

(a) That an operation essential to the Commission's programs cannot be performed properly unless access to "restricted data" is granted to the individual employee who will perform the operation; and

(b) That it is essential to the Commission's programs that such operation be performed or commenced prior to the completion of an investigation and report to the Commission by the FBI on the character, associations or loyalty of such individual employee; and

(c) That it is impracticable to obtain to perform such operation prior to the completion of such report and investigation a qualified person who was permitted access to "restricted data" by the Manhattan Engineer District or who has previously been cleared for access to "restricted data"; and

(d) Concurrence as to the essentiality of employment of the individual recommended for emergency clearance.

(Enclosure 9)

Memorandum.

MAY 24, 1948.

To: Fletcher C. Waller, Assistant General Manager.

From: John Gingrich, Director of Security and Intelligence.

Subject: Supplement to Instructions for Processing Requests for Clearances and Notifications of Terminations of Employees.

In order to clarify many points in connection with the first stage of the decentralization program, to answer many of the questions which have been raised by the Security Officers in the field, and to stress points which apparently are not thoroughly understood by those interested, the following instructions will reiterate and supplement some of the instructions previously furnished to the field security offices as recorded in Bulletin GM-80, and the letters from the Director of Security and Intelligence addressed to the Managers of Operations and Area Managers, dated April 20, 1948, and May 26, 1948, on the subjects: "Submission for Request for FBI Investigation and for Special Central File and Fingerprint Searches," and "Emergency Clearance Requests," respectively.

#### TERMINATIONS

1. The Security Offices in the field shall not send in TWX lists on terminations.
2. The Security Offices in the field shall not send in typewritten lists on terminations.

3. (a) Where terminations are to be reported on individuals whose applications for clearance were submitted to the Personnel Security Branch in Washington prior to the institution of the decentralization program (April 15, 1948), such notification shall be made immediately following the termination by sending in a properly executed number 2 (green) index card.

(b) Where terminations are to be reported on individuals whose applications for clearance were submitted as new cases after the inauguration of the decentralization program, such notification shall be made to the Personnel Security Branch in Washington immediately following termination by sending in a properly executed number 3 (yellow) card when the FBI investigation has been completed, or a number 2 (green) card when the FBI investigation is incomplete.

4. When an individual for whom clearance is pending is terminated from one job and is rehired within one week following such termination under a security approval and "Q" clearance is desired for the new employment, the notice of rehire shall be forwarded to the Personnel Security Branch immediately by TWX, advising that the FBI investigation should not be discontinued. Even in such cases, the TWX will not serve as a record in the Personnel Security Branch, but in addition to the TWX, the field must send in a properly executed number 2 (green) index card to record the termination, and a properly executed number 9 (pink) index card to notify the Personnel Security Branch of the rehire.

*Requests for "Q" Clearance Investigations Made Following Lapse of Time After "P" Approval is Granted*

1. When a "Q" investigation is requested for clearance of an individual who has some time previously received a "P" approval as a result of a central file and fingerprint check, new Personnel Security Questionnaires must be submitted to request "Q" clearance and must show that the individual is employed under "P" approval, and they must be accompanied by either a new fingerprint card, or a T-1 (Negative FBI Identification Check Form) or a T-2 (FBI Arrest Record Form). By submitting the T-1 or T-2 forms, the field security officer may thus avoid having to obtain a new fingerprint card from the applicant for clearance. The statement that the individual is employed under "P" approval should be placed in the job description box on page 4 of all copies of the PSQ.

*Transfers From One Employer to Another Under the Security Control of the Same Area Office*

1. When an individual transfers from one employer to another under the security control of the same Area Office, it is not necessary to notify the Personnel Security Branch, except in cases where it is anticipated that the individual will be transferred to work involving production figures or weapons data. Such transfers shall not be made without approval of the Director of Security and Intelligence, Washington, D. C.

*Preparation of Letters of Transmittal Requesting Clearance*

1. In preparing letters of transmittal on requests for clearance, it is very necessary that the symbol of the office, followed by the transmittal letter number, be placed at the top of the transmittal letter.

2. The names of all individuals for whom clearance is requested must appear in the letter of transmittal.

3. The classification of the type clearance desired must be listed in the transmittal letter.

*Preparation of Emergency Clearance Supporting Letters*

1. The emergency clearance supporting letters must follow in detail the instructions as set forth in the letter from the Director of Security and Intelligence addressed to the Managers of Operations, dated May 26, 1948, on the subject: "Emergency Clearance Requests."

2. In preparing such supporting letters for emergency clearances, the AEC file number shall follow the name of the individual for whom emergency clearance is being requested.

*Notification to the Personnel Security Branch of New Action on Cases Carrying an Old AEC File Number*

1. If the Personnel Security Branch is being notified of an action involving a case where the request for clearance was made prior to the inauguration of the decentralization program, the old file number (the one given the case by the Personnel Security Branch) shall be used where it is known. In such cases a new file number should not be assigned by the field Security Office.

2. Where the old AEC file number is known to the field, it shall be placed in the AEC space on the appropriate index card being sent in to record the action. The identifying letter symbol of the office of origin shall be placed under the AEC number space.

3. Where the old AEC file number is not known at the field Security Office, the identifying letter symbol of the office of origin shall be placed on the appropriate index card under the AEC file number space to report a termination or transfer. Additional identifying data such as the birth date of the individual, his social security number, his Army serial number, etc., shall be placed on the index card under the space where the AEC file number would normally be put. Upon receipt of such data from the field, the Personnel Security Branch will research the file and advise the field of the file number.

*Preparation of Personnel Security Questionnaires in Requests for All Types of Security Clearance Investigations*

1. The full name of the individual for whom clearance is requested shall be entered in the name box (number 1) on the Personnel Security Questionnaire, with the last name first, followed by the given name and the middle name or initial, if any.

2. The full name shall be followed by the AEC file number in the name box (number 1) on the Personnel Security Questionnaire.

3. The classification of the type clearance desired shall be typed on all copies of the PSQ following the name and AEC file number in the name box (number 1) on the Personnel Security Questionnaire.

4. The classification of the type clearance being requested shall be stamped prominently in the upper right hand corner of the *first page of the first copy* of the Personnel Security Questionnaire in requests for all types of security clearances. Because the classification of the clearance is typed in the name box on all copies of the PSQ, this eliminates the necessity of stamping the classification in the right-hand corner of *all* copies of the PSQ, as required in the letter of April 20, 1948.

5. *With respect to requests for emergency clearances, it is emphasized that if the "QE" designation does not appear in the proper place in the name box on the PSQ, no special file and fingerprint search will be conducted by FBI and emergency clearance cannot, therefore, be granted.*

6. When the individual for whom clearance is requested is employed, the information regarding his employment together with a statement as to the type clearance (MED, or Temporary Emergency) or approval under which he is employed, shall be placed in the job description box under the description of the job to which he is to be assigned.

*Preparation of Fingerprint Cards to Support Requests for Clearances*

1. The AEC file number assigned shall be placed in the number space in the upper left hand corner of the fingerprint card.

2. The AEC file number shall be followed by the designation of the classification of type clearance being requested.

3. The classification of the type clearance being requested must also be stamped in the upper right-hand corner of the fingerprint card.

*Preparation of the Jacket in Which PSQ's Are Forwarded to the Personnel Security Branch*

1. The data listed on the outside of the jacket in which PSQ's and fingerprints are forwarded to the Personnel Security Branch shall include the full name (last name, followed by given name, middle name or initial, if any), the AEC file number, and the classification of the type clearance being requested.

2. In placing the Personnel Security Questionnaires and fingerprint card in the envelope, the copy of the Personnel Security Questionnaire stamped with the classification of the type clearance being requested, shall be on the top of the other copies of the Personnel Security Questionnaires.

JOHN GINGRICH,  
*Director of Security and Intelligence.*

(Enclosure 10)

ATOMIC ENERGY COMMISSION,  
Washington 25, D. C., August 16, 1948.

ANNOUNCEMENT

*The Processing of "QE" and "QP" Investigations for Submission to FBI*

Ref.: This announcement supplements instructions contained in letter from the Director of Security and Intelligence to Managers of Operations and Area Managers dated April 20, 1948, Subject: Submission of Request for FBI Investigations and for Special Central File and Fingerprint Searches; and supplement thereto dated May 24, 1948.

For: Managers of Operations and Area Managers.

Effective immediately, where a full background investigation is requested in conjunction with a class "E" temporary clearance or a class "P" security approval, in which special cases central FBI file and fingerprint searches are required, it will be necessary to forward an individual letter of request attached to the PSQ.

The PSQ to which the attachment is made will be the most legible copy and the one which is stamped in the right-hand upper corner with the designations either "QE" or "QP". The letter should be stapled to the third page within the fold of the PSQ. A suggested form of letter of request is attached hereto.

This office has been advised that the use of this procedure will expedite the return of central file checks.

JOHN GINGRICH,  
*Director of Security and Intelligence.*

Attachment.

-----  
Operations or Area Office  
-----  
Type of Clearance or Approval

HON. JOHN EDGAR HOOVER,  
*Director, Federal Bureau of Investigation,  
U. S. Department of Justice,  
Washington, D. C.*  
(Attention: Mr. Victor P. Keay.)

DEAR MR. HOOVER:

----- is the subject of an Atomic Energy  
Name AEC No.

Act investigation prior to employment within the Program. You are requested to have a file search made on the subject and to furnish the results on or with this letter.

Very truly yours,

\_\_\_\_\_  
*Chief of Security, U. S. Atomic Energy Commission,  
-----, Office of Operations.*

(Enclosure 11)

ATOMIC ENERGY COMMISSION,  
Washington 25, D. C., October 1, 1948.

ANNOUNCEMENT

*Transmittal of Clearance Requests to the Federal Bureau of Investigation*

Ref.: Amends paragraph 9. a. of the letter of the General Manager, dated February 14, 1947, entitled: "Personnel Clearances," and Exhibit 2, paragraph 1. a. of Bulletin GM-80; and amends memorandum of the Director of Security and Intelligence to the Managers of Directed Operations and Area Managers, dated April 20, 1948, Subject: "Submission of Requests for FBI Investigation and for Special Central File and Fingerprint Searches"; and amends the letter from the Director of Security and Intelligence to the Managers of Directed Operations and Area Managers, dated May 24, 1948, Subject: "Supplement

to Instructions for Processing Requests for Clearances and Notifications of Terminations of Employees."  
For: Managers of Operations.

*Effective October 10, 1948*, the following basic procedural requirements for transmittal of requests for clearance investigation will be followed by the Offices of Operations, and the Area Offices designated by Managers of Operations.

*Address.*—The local AEC Security Offices will forward requests for full background investigation and file and fingerprint searches directly to:

Honorable J. Edgar Hoover, Director,  
Federal Bureau of Investigation,  
U. S. Department of Justice,  
Washington, 25, D. C.  
Attention: Chief, Atomic Energy Liaison Section.

#### *Personnel Security Questionnaire*

*Form.*—Official AEC form Budget Bureau #38-R001.1 must be used.

*Original and Copies.*—An original signed copy will be retained by the local Security Office and four copies will be forwarded to the Federal Bureau of Investigation. Additional copies may be required from the personnel representative dependent upon local practice and the nature of the requests, e. g., an additional copy will be required for "QE" requests. No more than thirty (30) days should elapse between the execution and submission of a PSQ in any case.

*Section Number One.*—Enter last name, first name, and middle name or initial. The name must be followed by the AEC security file number and the type clearance requested.

*Type Clearance.*—The type clearance shall also be stamped prominently in the upper right-hand corner of the first page of the first copy forwarded to the Federal Bureau of Investigation.

*Job Description Section.*—This section will contain a description of the job requiring the full background investigation. If the subject is employed at the time the request is made, the type clearance (MED, or temporary emergency) or approval granted for such employment will be stated therein.

*Employment and Access.*—The agency or firm to employ applicant must be stated and the nature of access, whether to restricted data or to an exclusion area, must be shown on page 4 of all copies forwarded to the FBI.

#### *The Fingerprint Card*

*Form.*—The required form is identified as GPO No. 0-16-22517. Where a T-1 (Negative FBI Identification Check Form) or a T-2 (FBI Arrest Record Form) on the individual is available, it may be forwarded in place of the fingerprint card.

*Name and Signature of Applicant.*—The name must be entered in name box in upper left-hand corner. Enter last name, first name and middle name or initial. The signature of the applicant on the reverse side must match this name.

*Physical Impairment.*—Where physical impairment makes it impossible to make an impression on the fingerprint card, such impairment should be satisfactorily explained on the card.

*The AEC File Number.*—The AEC file number assigned shall be placed in the number space in the upper left-hand corner of the fingerprint card.

*The Type Clearance.*—The AEC file number on the fingerprint card shall be followed by the designation of type clearance being requested. It must also be stamped in the upper right-hand corner of the fingerprint card above, but not in, the space provided for insertion of the fingerprint classification by the FBI.

*Retakes.*—Where the fingerprint card being forwarded is the result of a request for retake of the fingerprints, such card must be stamped on the side where the fingerprints are recorded with the word "RETAKE."

*Other Data.*—The Signature of the official taking the prints, and the date the impressions are taken, must be inserted in the proper spaces. The reverse side of the card must be completed in full detail. A photograph is not required.

*AEC File Number is Permanent.*—File numbers are assigned consecutively by the local Security Office where the request for an investigation originated subsequent to April 15, 1948, and are prefixed by code letters assigned by Personnel Security Branch. File numbers assigned by PSB prior to April 15, 1948, will continue in use in each case and a new number shall not be assigned; but in each such case the local code symbol shall be entered after or under the number. In cases of transfer, or reinstatement of clearance the original AEC file number will continue in use.

*The Transmittal Jacket.*—The Personnel Security Questionnaires together with the fingerprint card for each request must be forwarded by the AEC

Security Office in a transmittal jacket. The data listed on the outside of the jacket shall include the full name, the AEC file number and the type of clearance being requested. In placing the Personnel Security Questionnaires and fingerprint card in the jacket, the copy of the PSQ stamped with the classification of the type clearance being requested shall be on the top of the other copies of the PSQ.

**Transmittal Letter.**—The jackets containing four copies of the PSQ and the fingerprint card shall be accompanied by a letter of transmittal addressed to the FBI as indicated above. This letter shall be on Atomic Energy Commission letterhead and shall clearly indicate the office of origin of the request, and shall contain the letter symbol of the office together with a transmittal letter number, placed at the top of the letter. An alphabetized list of names of individuals and AEC numbers for whom clearance is requested must appear in the letter of transmittal. The type clearance desired must be stated and one letter of transmittal should be restricted to requests for one type of clearance.

**Special Letters Required in "QE" and "QP" Investigations.**—When a central FBI file and fingerprint check is requested prior to completion of a full background investigation, an additional letter shall be enclosed, and it should be stapled to the third page within the fold of the stamped copy of the PSQ. This letter shall indicate the originating Operations or Area Office and the type clearance or approval in the upper-right-hand corner. It should be addressed to Honorable J. Edgar Hoover, Director, Federal Bureau of Investigation, U. S. Department of Justice, Washington 25, D. C., Attention: Chief, Atomic Energy Liaison Section.

The letter should state that the individual is the subject of an Atomic Energy Act investigation prior to employment within the program, and should request that a file search be made on the individual and the results be furnished on or with the letter. This letter should be signed by the Chief of Security of the office making the request. The letter may be mimeographed with signature reproduced.

**Procedure for Transmittal to the Field of FBI Reports.**—Reports will be received in AEC Headquarters from the FBI; will be immediately recorded and transmittal in duplicate to the office of origin.

**Index Cards.**—When Personnel Security Questionnaires and fingerprint cards are submitted to the FBI, the standard index card shall be prepared, and the number 9 Control Index Card must be transmitted directly to the Personnel Security Branch by the local AEC Security Office instead of stapling it to the jacket which goes to the FBI. All other index cards will be handled in accordance with existing procedure.

**Missing Reports or Additional Investigation Requests.**—Missing reports or additional investigation requests will be transmitted to the Personnel Security Branch for forwarding to the Federal Bureau of Investigation. They shall not be sent directly to the FBI by the Offices of Operations or Area Offices. Requests for such additional investigation must be accompanied by a copy of the PSQ and copies of all investigative reports in the case to which such requests relate. Upon receipt from the FBI of the missing reports, or reports containing additional investigation, they will be transmitted to the requesting office by the Personnel Security Branch.

JOHN GINGRICH, *Director, Security Division.*

(Enclosure 12)

NOVEMBER 30, 1949.

CARROLL L. TYLER,

*Manager, Santa Fe Operations.*

Brig. Gen. JAMES MCCORMACK, Jr.,

*Director, Division of Military Applications.*

#### TRANSFERS AND REINSTATEMENTS

Pending revision of personnel security clearance procedure, the following changes in existing procedure regarding transfers and reinstatements will become effective December 1, 1948.

#### *Transfers Between Installations or Areas not Under the Security Control of the Same Office of Operations*

When an employee is under consideration for transfer, the Manager of Operations to whose security control he is being transferred will accept the AEC clear-

ance previously granted if it is a "Q" clearance based on a full FBI background investigation (MED and emergency clearances will not be used as security clearance in transfers). The Manager of the office to which the employee is being transferred may in his discretion after review of the files, accept an "S" clearance when it is based on a full FBI background investigation in lieu of "Q" clearance, and is authorized to change the "S" clearance to "Q" clearance in accepting such transfer. In all such transfers the security files will be transferred between the local security offices, and the Personnel Security Branch in Washington will be informed of action taken, including any change in type clearance, by the forwarding of the appropriate index card to Washington.

***Transfers from One Employer to Another When Both Are Under the Security Control of the Same Office of Operations and/or Area Office***

The Manager of Operations or Area Manager of the installation to which the individual is being transferred will accept the AEC clearance previously granted if it is a "Q" clearance based on a full FBI background investigation (MED and emergency clearances will not be used as security clearance in transfers). The Manager of the office to which the employee is being transferred may in his discretion after review of the file accept an "S" clearance when it is based on a full FBI background investigation in lieu of "Q" clearance, and is authorized to change the "S" clearance to "Q" clearance in accepting such transfer. The Personnel Security Branch in Washington shall be notified of a change in type clearance by the forwarding of the appropriate index card to Washington.

***Reinstatements***

The procedure outlined in Section 3 entitled "Exceptions" to Bulletin GM-102, "Decentralization of Authority to Reinstate Personnel Security Clearance of Former Employees," will no longer be followed.

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**EXHIBIT 10**

(See also Exhibits 5 and 9)

(Referred to on p. 197, pt. 5, June 8, 1949)

[Unclassified]

**DEVELOPMENT AND OPERATION OF THE ATOMIC ENERGY COMMISSION PERSONNEL SECURITY PROGRAM**

1. With the adoption of the Atomic Energy Act of 1946 in August of that year, certain personnel of the Manhattan Engineer District were selected to assist in the development and organization of the Atomic Energy Commission. Although the Atomic Energy Commission formally assumed responsibility for the administration of the Atomic Energy Project on January 1, 1947, the policies and procedures which had been established by the Manhattan Engineer District were continued in full force and effect pending the adoption of the Commission's own policies and procedures.

2. With respect to security, all of the policies and procedures as established in the Manhattan Engineer District Security Manual, dated November 26, 1945, were continued until February 17, 1947, the effective date of the General Manager's letter dated February 14, 1947, Subject: "Personnel Security." All other Security regulations and practices affecting physical security, document and information control, and the handling of security violations, theretofore in effect under the Manhattan Engineer District, continued in full force and effect.

**PERSONNEL SECURITY OPERATION IN THE MANHATTAN ENGINEER DISTRICT**

3. The following is a brief outline of the policies and procedures of the Manhattan District as they affected personnel security clearances as reconstructed from the memories of several employees of the Commission who were formerly employed in the Personnel Security Organization of the Manhattan District.

a. The Manhattan Engineer District maintained a Project Security Office in Washington, D. C., and a Central Operating Office at Oak Ridge, with sub-offices or area offices, as they were called, at several other places throughout the United States. Each area office had an Area Security Officer who was directly responsible to the Chief of Intelligence and Security at Oak Ridge. However, the

Area Security Officer was fully responsible for the security clearance of all employees under the jurisdiction of his particular area.

b. Contractors processed all applicants for employment, securing from each applicant Personnel Security Questionnaires, Fingerprint Charts and Security Acknowledgments, which were forwarded to the Local Area Security Office. The Area Security Office transmitted all fingerprint charts directly to the Federal Bureau of Investigation for central fingerprint file check. The Personnel Security Questionnaires were then reviewed and divided into categories consistent with the classification of the duties to be performed by the applicant. These categories were:

Category I: Those having access to top secret or secret information.

Category II: Those having access to classified information lower than secret.

Category III: Those working in unclassified positions.

c. The Area Security Office prepared "data cards" in each case, forwarding one of these to the Oak Ridge Central Office. With respect to personnel falling into Category I, special investigations were requested from the Army Area in whose jurisdiction the installation was located. In those cases falling into Category II, routine investigations were requested either from the applicable area or from commercial investigative agencies. With respect to those persons falling within Category III, Central FBI fingerprint checks and local agency checks only were required.

d. The Area Security Offices reviewed the personnel papers and reports of investigation, and if it was determined that a more complete investigation should be conducted, a special Army investigation was requested or the case was referred to the Counter Intelligence Group associated with the Area Security Office for such additional investigation. In all such cases, notification of the action was made to the Oak Ridge Central Office.

e. Upon receipt of the reports of investigation, the local Area Security Office reviewed the files and cleared those persons whose investigation reports were evaluated as not containing sufficient derogatory information to raise a question concerning eligibility for security clearance.

f. In those cases where the reported derogatory information was of a criminal nature, the Area Security Office disposed of the cases administratively. In those cases where the reported derogatory information was of a loyalty nature and where the local Area Security Office was unable to effect a determination, or an administrative disposition, or where the individual's value to the Project was involved, they were referred to the Chief of the Security and Intelligence Division, Oak Ridge.

g. Loyalty cases received by the Office of the Chief of Security and Intelligence at Oak Ridge were reviewed by an Analysis and Review Section which made recommendations to the Chief regarding ultimate disposition. Depending upon the circumstances of the case, security clearance might be denied by the Chief of the Security and Intelligence Division or by succeeding higher commands.

h. In no known case was security clearance denied publicly or with notice to the individual concerned. Denials were handled by terminating employment for administrative reasons, or by arranging transfers of the individuals to less sensitive work. In at least one case, arrangements were made to have the individual called to active duty with the Army. Many cases were cleared as "calculated risks" with continuing investigation and surveillance. No administrative review was afforded the personnel affected, although in a few cases numbering not more than twenty, the individuals were called in for an interview.

i. Available records indicate that approximately 390,000 personnel clearance cases were processed by the Manhattan Engineer District. There were approximately 96 denials of clearance in cases where the reported information was of a loyalty nature, and an additional 217 terminations were arranged administratively after derogatory information of a loyalty nature was developed. As previously stated, cases in which the derogatory information was of a criminal nature, such as arson, narcotic users and peddlers, homosexuals, etc., were disposed of administratively by the Area Security Officer, usually through working arrangements with the contractors.

j. All transfers of personnel to Los Alamos were passed upon by the Project Intelligence Office in Washington. All other transfers of personnel having access to classified information were processed by the Project Intelligence Office, Washington, or by the Central Office, Oak Ridge.

k. All requests to reinstate personnel who had access to classified information at different installations were passed either by the Project Intelligence Office, Washington, or by the Central Office, Oak Ridge.

l. Reinstatements at the same Area were processed in the same manner as applicants. If after review of the individual's file a doubt existed as to the desirability of granting clearance, additional investigation was requested or other appropriate action taken.

m. The Central Headquarters at Oak Ridge provided primarily a central data card record and an Analysis and Review Section for the processing of questionable cases, transfers, and reinstatements. The Manhattan District Security Manual of November 26, 1945, is contained in Security Source Book No. 1, as Section A.

PERSONNEL SECURITY OPERATIONS UNDER THE AUTHORITY OF GENERAL MANAGER'S LETTER, FEBRUARY 14, 1947—SUBJECT, PERSONNEL CLEARANCE

4. On February 14, 1947, the General Manager of the Atomic Energy Commission released a letter establishing the policy and procedures with respect to personnel security clearance. These procedures became effective on February 17, 1947, and specifically superseded Section II of the Manhattan District Security Manual referred to above, and all other prior instructions with respect to the security clearance of personnel. All other security regulations and practices theretofore in force under the Manhattan Engineer District were to continue in full force and effect until specifically modified by the Commission. (See Security Source Book No. 1, Section B for General Manager's letter dated February 14, 1947, subject: "Personnel Clearances" with Amendments, Revisions, and Additions Thereto.)

5. Prior to January 1, 1947, and during the period between that date and February 17, 1947, approximately 400 individuals were processed to the Federal Bureau of Investigation for full background investigation in accordance with special arrangements made with that Bureau. This figure included former Manhattan District personnel and applicants for employment on Atomic Energy Projects.

6. Following the General Manager's letter of February 14, 1947, the volume of requests for full background investigations increased almost immediately to approximately 2,000 cases per month, building up steadily during the next several months until in July 1947 a maximum of 8,080 cases were processed to the Federal Bureau of Investigation. This volume for background investigations was maintained for several months before beginning to decrease. It was obvious from the very beginning of the Commission's administration of the Atomic Energy Project that there would be a very large number of Manhattan District personnel carried over for employment, either as direct employees of the Commission, or its contractors, and that all such personnel would be subject to full background investigation by the Federal Bureau of Investigation. Inasmuch as these individuals had been previously cleared for access to classified material by the Manhattan District they were transferred to the Atomic Energy Project under this clearance in accordance with the appropriate provisions of the Atomic Energy Act, and their employment continued pending full background investigation, and a determination of their eligibility for Atomic Energy Commission security clearance.

7. This investigative burden involving 26,879 individuals imposed difficulties on the Federal Bureau of Investigation in promptly handling investigation requests. In order to meet this difficulty an agreement was reached between the Commission and the Federal Bureau of Investigation whereby the Federal Bureau of Investigation was to investigate as promptly as possible all new applicants for employment on atomic energy projects, and to defer the investigation of old employees who had Manhattan District clearance. This meant that during the peak months the Federal Bureau of Investigation would handle a varying volume of reinvestigation cases equal to the difference between 8,000 cases (the maximum which the Federal Bureau of Investigation could handle) and the number of applicant cases submitted during any given month. The Bureau did, however, agree to perform full background investigations on a number of employees who had Manhattan District clearance, but in which certain information with derogatory implications had been developed. These cases were selected by the Commission and were given priority treatment by the Federal Bureau of Investigation.

8. Coincident with the release of the General Manager's letter of February 14, 1947, an Acting Director of Security was appointed, and a Personnel Security Section organized. Under the Chief of the Personnel Security Section there were placed four analysts, and a number of other personnel to process all requests for security clearance. The functions performed by the Personnel Security Section under the general supervision of the Acting Director of Security were as follows:

a. To receive all Personnel Security Questionnaires from Field Operating Security Offices; to assign case numbers, prepare Summary Sheets, case folders, index cards, follow-up of delayed investigations, the recording of cancellations and terminations, and the submission to the Federal Bureau of Investigation of retakes of fingerprint charts, etc.

b. Upon completion of the background investigation and receipt of the case reports the case folder was referred to one of the analysts who would review the file for completeness of the investigation and content thereof.

c. Each case in which no derogatory information was found was evaluated accordingly, and the analyst indicated his independent judgment of such evaluation in the case file. Thereafter, with the authorization of the Acting Director of Security, the case was returned to processing personnel who recorded the clearance grant, and notified the Field Security Office thereof. In cases where the files were found to contain derogatory information by the analyst, the case was subjected to a reading by a second analyst, and where both analysts agreed that the case file did, in fact, contain derogatory information, but of a non-substantial nature, clearance was authorized with advice to the Field Operating Offices inviting attention to the reported information. This practice gave rise to the designation "invite" cases.

d. In the event of a disagreement between the two analysts as to the evaluation to be given a case, the matter was referred to the Chief of the Personnel Security Section who, with the authorization of the Acting Director of Security when he determined that the reported information was not, in fact, substantial, authorized the granting of clearance on an "invite" basis.

e. In those cases where the analysts determined that the reported information was of a substantially derogatory nature, determination of eligibility for security clearance was withheld to permit either additional investigation by the Federal Bureau of Investigation or a review by the General Manager, and in some few cases by the Commission. This withholding of security determinations pending extension of the record and determination of eligibility for security clearance gave rise to the designation "hold" cases. Before submission of any case to the General Manager, the Chief of the Personnel Security Section would discuss the hold case with the analysts, following which discussion a summary of information would be prepared, and forwarded to the Acting Director of Security for his transmittal to the General Manager and the Commission. After review of the case the General Manager might take one of the following actions:

- (1) Authorize the granting of clearance on an "invite" basis.
- (2) Authorize the denial of security clearance.
- (3) Cancellation of consideration for employment where the individual was an applicant for employment with the Atomic Energy Project.
- (4) Refer the case to the Commission for review and concurrence or disagreement with the recommendation for denial of clearance.
- (5) Appoint an "ad hoc" Board to consider the case and make recommendations to the General Manager regarding a final security determination (This practice was initiated in May 1947.)

f. After a final security determination had been made by the General Manager, the file was returned to the Acting Director of Security for the recording of security actions and notification thereof to the Operating Security Offices. In their consideration of several cases, the "ad hoc" Boards found it advisable in a few cases to invite the subject seeking security clearance to appear before the Board, and give his explanation of the information with derogatory implications. This practice later was reduced to a regular procedure in the treatment of certain security clearance cases, and is referred to later in this paper as the Informal Interview Procedure. As the processing of personnel clearances increased in volume, it became evident that many of the cases, particularly those of former Manhattan District personnel, presented difficult problems in making a final security determination. These difficulties arose not only because of the derogatory information which had been developed by the Federal Bureau of Investigation but, also, because of the fact that many of these individuals were performing work of considerable importance to the Atomic Energy

Program. It was felt that because of the association and experience of the individual with the Project, a determination to deny security clearance might result in serious operational consequences and additional security hazards. It was, therefore found advisable to defer security determination in some cases of this type until such time as the Commission could establish some type of administrative review procedure. In the meantime, the individual was continued in employment under his Manhattan District clearance.

#### ESTABLISHMENT OF THE ATOMIC ENERGY COMMISSION PERSONNEL SECURITY REVIEW BOARD

9. In a memorandum dated July 20, 1947, the General Counsel recommended that the Commission authorize the General Manager to establish and appoint a Personnel Security Review Board. The stated functions of this Board would include participation in adjudication of questions regarding personnel security clearance of applicants, employees of the Atomic Energy Commission and its contractors, and in the development of policies, procedures and standards for adjudicating personnel security problems. This recommendation was adopted by the Commission on July 21, 1947. However, the implementation of the recommendation was delayed pending further review by the General Manager of the proposed program and its implications. On November 19, 1947, the Commission requested that the Board, which had been previously sanctioned, be selected and appointed as quickly as possible. Thereafter, the Commission selected a Chairman who, in consultation with the Commission, appointed the other members of the Atomic Energy Commission's Personnel Security Review Board. The Chairman of this Board was the Honorable Owen Roberts, former Justice of the United States Supreme Court.

10. On November 28, 1947, the Joint Congressional Committee on Atomic Energy had expressed an interest in the cases of twenty-one employees of the Commission or its contractors, and these were the first cases presented to the Board, which held its first meeting on February 21, 1948. The summaries of the administrative handling of these cases, and fourteen others which were reviewed by the Atomic Energy Commission Personnel Security Review Board under Mr. Justice Roberts, are set forth in Section C of Security Source Book No. 1.

#### ESTABLISHMENT OF THE ATOMIC ENERGY COMMISSION INTERIM PROCEDURE FOR ADMINISTRATIVE REVIEW

11. Throughout the period January 1, 1947, to April 15, 1948, consideration had been given to the adoption of an administrative review procedure which would be effective not only in safeguarding the security of the Atomic Energy Program but would also assure fair and just treatment of the employees affected. On April 15, 1948, the Commission issued an Interim Procedure for Administrative Review which provided employees, whose security clearance had been questioned, an opportunity to present their cases to a local Personnel Security Board, which would thereafter make recommendations as to the security determination to be made. This Interim Procedure provided for the following:

- a. Notification of employee of basis for question concerning eligibility for clearance.
- b. The opportunity to answer in writing and to be afforded a hearing.
- c. Representation by counsel of his own choosing, and the presentation of evidence in his behalf in person and through witnesses.
- d. Recommendation to be made to Manager of Operations by local Board as to whether security clearance should be granted or denied.
- e. After review of complete case record, the Manager of Operations was to make a recommendation to the General Manager as to granting or denial of clearance.
- f. If the Manager of Operations recommended that clearance be denied, the employee was to be notified and given the opportunity to request that the Atomic Energy Commission Personnel Security Review Board review the adverse recommendation. The General Manager also could submit a case to this Board on his own initiative, with notice to the employee.
- g. On the basis of its review, the Atomic Energy Commission Personnel Security Review Board was to make a recommendation to the General Manager to assist him in his final determination as to security clearance. (The "Interim Procedure" is contained as Section D of Security Source Book No. 1.)

12. Coincident with the release of the Commission's Interim Procedure for Administrative Review, the General Manager's Bulletin GM-80, Subject: "Decentralization of Authority to Grant Personnel Clearances and of Control of Investigative Reports," was issued. This decentralization, implemented by the GM Bulletin, had been the subject of much discussion prior to April 15, 1948, and was designed as a first step in the decentralization of personnel security operations to the Commission's Offices of Operations. In addition to the delegation of authority to Managers of Operations, this bulletin established interim criteria for evaluating reported derogatory information. (Bulletin GM-80 is contained as Section E in Security Source Book No. 1.)

13. During the period January 1, 1947, to April 15, 1948, the Commission's Personnel Security Branch processed the cases of 71,762 individuals. After analysis and review, the clearance of 1,693 individuals (including 269 applicants) was "withheld" pending further study and development of review procedures. Final action on these cases resulted in the granting of clearance to 531 individuals (37 of these were permitted to continue employment without access to restricted data or exclusion areas), and in the cases of the remaining 1,073 individuals, requests for clearance were withdrawn or the individuals were terminated by the Offices of Operations either by resignation, administrative dismissal or transfer to work not requiring access, and in the cases of applicants by a determination "not to hire." This final group of 1,073 cases were disposed of without security determination by the Director of Security.

PERSONNEL CLEARANCE OPERATIONS UNDER AUTHORITY OF GENERAL MANAGER'S  
BULLETIN GM-80

14. With the release of Bulletin GM-80 referred to above, the processing, analysis and review of all personnel security cases which had theretofore been performed by the Personnel Security Branch, Washington Headquarters, became the responsibility of the Offices of Operations. It authorized the Managers of Operations to grant security clearance in cases evaluated as not containing substantially derogatory information. Authority to deny or revoke security clearance was specifically reserved to the General Manager. This Bulletin provided for the processing of personnel security cases as follows:

a. Under the general supervision of a Director of Security for the Office of Operations, the Personnel Security Section of the Office of Operations received Personnel Security Questionnaires from the contractors or the Atomic Energy Commission's Personnel Office for processing directly to the Federal Bureau of Investigation. Upon receipt of the Personnel Security Questionnaires, the Personnel Security Section would assign case numbers, prepare case folders, summary sheets, index cards, ticker follow-up of delayed cases, and provide an index card for the Central Index which was to continue to be maintained in the Personnel Office of the Director of Security, Washington Headquarters.

b. Upon completion of the FBI investigation and the receipt of reports in the Offices of Operation, the case file was referred to a screener whose function it is to verify the completeness of the investigation, and to appropriately mark all derogatory information contained in the investigative reports. In those cases in which the screener finds no derogatory information, his findings are verified and recorded and notification of clearance is forwarded to the employer's Personnel Representative. (Records of minor offenses are not considered as derogatory information.)

c. In cases where the screener has made a finding that there is derogatory information, but not of a substantial nature ("invite" cases), the file is subject to a second reading by an analyst, and the findings of the screener are verified with reference to the Commission's criteria for determining eligibility for security clearance. Where the analyst verifies that the information is not, in fact, substantially derogatory, he transmits the case to the Area Manager or to the Manager of Operations for his concurrence that the information is in fact not substantially derogatory. Where the Area Manager or the Manager of Operations concurs in the findings of the analyst, his concurrence is noted in the file which is then forwarded for processing of the clearance grant and notification to the employer's Personnel Representative.

d. In cases where both screener and analyst have evaluated the reported information as being substantially derogatory, with reference to the Commission's criteria ("Hold" cases), the analyst prepares a summary statement, itemizing the derogatory information, and forwards same, together with the com-

plete file, to the Area Manager or Manager of Operations. If the Area Manager or Manager of Operations concurs in the findings of the analyst, a letter is prepared and forwarded to the employer's Personnel Representative, advising him that the determination of the Subject's eligibility for security clearance is being "withheld" pending advice from the employer's Personnel Representative as to the operational consequences of a possible denial of security clearance. The case is then returned to the analyst who, upon receipt of the employer's report, either closes the case (where advice is received that employee has terminated), or, he transmits the file to the Chief of Security for forwarding same to the Director of Security, Washington Headquarters, with comments and recommendations.

e. Upon receipt of cases containing information with substantially derogatory implications ("Hold" cases) in the Office of the Director of Security, Washington Headquarters, the complete file is carefully reviewed, resulting in one or more of the following actions:

(1) In the case of applicants, the Director of Security may deny security clearance on the existing record, or grant security clearance on an "invite" basis if he determines that the reported information is not, in fact, substantially derogatory with reference to the Commission's published criteria, or, he may make a determination that additional investigation, and in some cases an informal interview, is necessary before making a determination to deny or grant security clearance.

(2) In the cases of employees, the Director of Security may make a determination that the reported information is not, in fact, substantially derogatory with reference to the Commission's published criteria, in which event the Manager of Operations is advised that he may grant security clearance on an "invite" basis, or

(3) He may make a determination that further investigation should be requested of the Federal Bureau of Investigation, which may result in a final determination that security clearance may be granted on an "invite" basis, or

(4) That the record in the case should be further extended and clarified through informal interview with the Subject by appropriate Atomic Energy Commission Officials designated by the Manager of Operations, in which cases a stenographic transcript is made and becomes a part of Subject's security file, or

(5) He may instruct the Manager of Operations concerned to initiate a Local Personnel Security Board hearing under the Interim Procedure for Administrative Review.

f. In those cases where an informal interview has been authorized, and after review of the transcript of the interview and related information in the file, the Manager of Operations may be authorized to grant security clearance; or, he may request additional investigation by the Federal Bureau of Investigation through Washington Headquarters of the Division of Security to verify information obtained in the informal interview; or, he may make a determination that the doubt concerning Subject's eligibility for security clearance has not been resolved by the informal interview and the additional investigation; in which event, the Manager of Operations will request the Director of Security, Washington Headquarters, to initiate administrative review of the case under the Interim Procedure.

g. In those cases where the Administrative Review Procedure is invoked, the Security Division, Washington Headquarters, prior to its initiation, reviews the complete record in the case, prepares a summary statement and a security statement which will be incorporated in a letter of notification to the employee. The security statement is then forwarded to the Manager of Operations with an appropriate letter instructing him to appoint a Local Personnel Security Board who will process the case in accordance with the Commission's Interim Procedure and make recommendations to the Manager of Operations as to whether security clearance should be granted or denied.

h. In those cases where the Local Personnel Security Board recommends that security clearance be granted and the Manager of Operations concurs in that recommendation, a transcript of the Local Personnel Security Board's hearing will be transmitted to the General Manager, via the Director of Security, Washington Headquarters, for his decision as to the granting of security clearance, or

i. Where the Local Personnel Security Board recommends denial of clearance and the Manager of Operations concurs in that recommendation, the employee

is notified by the Manager of Operations that he is recommending to the General Manager that clearance be denied. The Manager of Operations also informs the employee in writing of his right to have his case reviewed by the Atomic Energy Commission's Personnel Security Review Board in Washington. If the employee does not respond to this notification within five days, the Manager of Operations' recommendation to deny clearance becomes final and the case is closed. Where the employee requests a review of the recommendation for denial of clearance, the Manager of Operations forwards the case to the General Manager, via the Director of Security, Washington Headquarters, for transmittal to the Atomic Energy Commission's Personnel Security Review Board.

j. Where the Manager of Operations does not concur in the recommendation of the Local Personnel Security Board and his recommendation is contrary to it, the procedures outlined in subparagraphs h and i above are operative.

k. When a case is referred by the General Manager to the Atomic Energy Commission's Personnel Security Review Board following the recommendation of denial of clearance by a Manager of Operations, the Review Board considers the entire record in the case and makes its recommendation to the General Manager who will make a final determination, either to grant or deny clearance.

#### INFORMAL INTERVIEW PROCEDURE

15. Reference has been made in previous paragraphs to the "Informal Interview Procedure." In May 1947 when the first "ad hoc" board was convened to consider personnel security cases, it was found that in certain cases the reported information with derogatory implications could be clarified and explained by informal interview with the Subject of the investigation. Accordingly, this procedure was resorted to in a few cases prior to April 15, 1948, and more frequently thereafter.

16. After analysis and review, informal interviews were authorized in those cases where:

a. There was reason to believe that the derogatory implications of reported information might be offset not merely by a self-serving statement, but by extenuating information which might be subject to verification, and which might eliminate the doubt concerning eligibility.

b. It was determined that further information might be elicited which would warrant further inquiry by the Federal Bureau of Investigation.

17. The Director of Security, in authorizing Managers of Operations to conduct informal interviews, has outlined not only the procedure to be used in the conduct of the interview but, also, the appropriate action which might be taken after the interview has been completed and reviewed. These actions might consist of any one or more of the following:

a. The granting of security clearance if the Manager of Operations determined that the common defense and security would not be endangered thereby.

b. A request for additional investigation by the Federal Bureau of Investigation through the Director of Security, Washington, D. C.

c. A recommendation to the Director of Security, Washington, D. C., that the case should be the subject of formal hearing by a Local Personnel Security Board.

18. During the period January 1, 1947, to April 30, 1948, informal interviews had been authorized in the cases of 161 individuals (including 15 applicants), and 147 had been completed. As a result of the informal interviews, followed in many cases by additional investigation, 116 individuals were granted security clearance, 4 individuals were denied clearance (2 were permitted to continue in employment without access), 27 terminated prior to interview or final determination, and 14 were in a pending status.

#### LOCAL PERSONNEL SECURITY BOARD CASES

19. During the period April 15, 1948, to April 30, 1949, the cases of 53 individuals had been referred to Managers of Operations for formal hearings before Local Personnel Security Boards. In 14 cases, the individuals concerned resigned or were terminated prior to the Board's hearings. In two cases, the hearings are pending, and in 37 cases, Board hearings have been completed with the following results:

a. Clearance granted—19.

b. Clearance denied—4.

c. Clearance denied, but decision appealed to Atomic Energy Commission Personnel Security Review Board—7 (5 of these cases are pending with the Review Board at this time. The other two have been finally determined and are included in a. and b. above.)

d. Pending decisions of Managers of Operations—5.

e. Pending decision of Director of Security—4.

(For summaries of the administrative handling of these cases, see Section C of Security Source Book No. 1.)

20. At the time of the release of Bulletin GM-80, it was anticipated that further decentralization of authority to Managers of Operations for personnel clearance matters would follow. It was intended that eventually Managers of Operations would be empowered to not only grant security clearances, but, also, to deny or revoke clearance under definite procedures to be established. Such further delegation of authority to Managers of Operations has been deferred by the Commission to permit:

a. An evaluation of the results of the decentralization of Personnel Security Operations made under Bulletin GM-80.

b. To permit preparation and publication of more detailed "uniform standards" or "criteria" for determining eligibility for security clearance.

c. To provide the Commission time to study revisions of the Interim Procedure for Administrative Review; and

d. To permit the Commission to make a determination as to the advisability of extending some type of administrative review to applicants.

#### TEMPORARY SECURITY CLEARANCES UNDER EMERGENCY CONDITIONS

21. It became apparent early in the Commission's administration of the Atomic Energy Program that certain personnel of the Commission and its contractors would have to be employed before a full background investigation and report by the Federal Bureau of Investigation could be obtained. Accordingly, the General Manager was authorized by the Commission to grant emergency clearances as indicated in Section F of Security Source Book No. 1. The General Manager was also given permission to redelegate the authority to grant emergency clearances to the Director of Security. On July 29, 1948, the Commission, by Bulletin GM-101, redelegated this authority to grant emergency clearances to the Managers of Operations.

22. Monthly summaries of emergency clearances granted during the period from January 1, 1947, to April 30, 1949, are contained as Section G of Security Source Book No. 1. The full background investigation of individuals who had been granted emergency clearances developed substantially derogatory information in only a very small number of cases.

#### STATISTICAL DATA

23. In the period from April 15, 1948, the date of the first phase of decentralization, to April 30, 1949, the security divisions in the Operating Offices processed the cases of 69,707 individuals to the Federal Bureau of Investigation for background investigations. After analysis and review of the investigation reports, clearance determination was "withheld" in the cases of 384 individuals (including 86 applicants), and their files were referred to the Director of Security, Washington Headquarters for decision as to the procedure to be followed in determining their eligibility for security clearance. Final action in these cases resulted in the granting of clearance to 157 individuals, denial of clearance in the cases of 84 persons (34 of these were permitted to continue employment without access to restricted data or exclusion areas). Fifty-four cases are pending action in the Operations Offices, and in the cases of the remaining 89 individuals, requests for clearance were withdrawn or the individuals were terminated either by resignation, transfer to work not requiring access to restricted data, or by determination "not to hire" in cases of applicants.

24. During the total period covered by this paper (January 1, 1947, to April 30, 1949), the Commission had processed the cases of 141,469 individuals to the Federal Bureau of Investigation for background investigations. Records in the office of the Director of Security reflect that clearance was withheld in 2,077 cases. Of these cases, clearance was ultimately granted to 688 individuals, and denied to 173. In 1,162 cases, terminations occurred prior to final security determination. Fifty-four of the cases, as of April 30, 1949, were pending final security clearance determination.

## EXHIBIT 11

(See also Exhibits 2 and 8)

(Referred to on p. 197, pt. 5, June 8, 1949)

JUNE 6, 1949.

HONORABLE BRIEN MCMAHON,

*Chairman, Joint Committee on Atomic Energy,  
Senate Office Building, Washington 25, D. C.*

DEAR SENATOR MCMAHON: In answer to Senator Knowland's specific questions raised in the hearings this morning, we should like to report the following:

1. Attached herewith is a rough sketch and a scaled map of the area, which is divided into the East Area (temporary facilities) and the West Area (so-called permanent facilities).

a. *East Area.*—This area is guarded by Argonne National Laboratory guards. It is fenced with chain link fencing. It is divided by an interior fence into 2 areas:

(1) *The Administration and/or Construction Area.*—Access to this general area is controlled for administrative reasons, such as prevention of theft of government property. The Administration Building and other buildings within the area are separately guarded, and special identification is required for access to them.

(2) *The Technical Area.*—Access to the Technical Area is controlled by a guard at this point of entrance through the interior fence; at which health-safety controls are also exercised. Interior buildings within the Technical Area which contain restricted data are separately guarded. Special identification is required for access to such buildings.

It should be emphasized that the order of May 10, 1949, discussed in the hearing this morning, had no application in the East Area, over which the Austin Company exercised no jurisdiction or control.

b. *West Area.*—This area is guarded by Austin Company guards; and is the area to which the guard order of May 10, 1949 (enclosure 1) applied.

This area is not fenced, as construction is not far enough along to require same. Access to the general area is controlled at guarded checking stations on access roads for administrative reasons.

The purpose of the order of May 10, 1949 (enclosure 1) was specifically for the purpose of protection of Government and Company property. Registration of those entering the Area out of hours is for the purpose of identifying individuals having a legitimate reason for being in the Area and who are charged with responsibility that any persons accompanying them will not pilfer Government or Company property. The order was issued by the Chief of Plant Production of the Austin Company who has no connection with nor jurisdiction over the East Area.

There is only one quonset building within this area in which restricted data is located. This building is separately guarded twenty-four hours a day, and restricted data is further protected by 3-combination lock file cabinets. Guard orders for this post are set forth in Enclosure 2.

Only approved personnel are issued badges for access to this Area. The order of May 10, 1949, is in the nature of a general order governing the conduct of guards exercising supervision over the Area. Special orders applying to particular guard posts such as the entrance to the aforementioned quonset hut were issued to meet the problem existing at this particular locality.

Sincerely yours,

CARROLL L. WILSON, *General Manager.*

Enc. 1 Memo to All Guards 5/10/49.

Enc. 2 Memo re Guards' Duties during Working Hours, Non-Working Hours.

Enc. 3 Sketch of East and West Areas.<sup>1</sup>Enc. 4 Scaled Map.<sup>1</sup>

(Enclosure 1)

THE AUSTIN COMPANY,  
ARGONNE NATIONAL LABORATORY, SITE "D,"  
May 10, 1949.

Memo to: All Guards.

Subject: Persons Allowed Unlimited Access to Property—Amended List.

The following persons *and their guests* will be allowed unlimited access to all areas of the property at all times, upon identification of themselves:

<sup>1</sup> In the files of the Joint Committee on Atomic Energy.

## ARGONNE NATIONAL LABORATORY

Abraham, B.	Fields, P.	Osborne, D. W.
Bass, P. B.	Fineman, P.	Payne, E. D.
Benson, A. E.	Fitzpatrick, J. P.	Peppard, D.
Bernstein, G.	Foot, F.	Plunkett, D. A.
Bigler, W. P.	Freedman, M.	Pringstein, P.
Brockett, C. T.	Fried, S.	Rodger, W.
Brues, M. D., A. M.	Furney, L. C.	Rose, J. R.
Burris, L.	Gallagher, J. J.	Schraidt, J.
Byford, W. H.	Gilbreath, J. R.	Seay, D. G.
Chapman, T. S.	Gilbert, L. E.	Shepard, W. O.
Dana, P. A.	Hagemann, F. T.	Shonka, R. F.
Dempster, A. J.	Hart, E. J.	Simon, S.
DeVierman, M. L.	Hawkins, Jr., H. G.	Simpson, O. C.
Etherington, H.	Hennig, G.	Steenberg, J. L.
King, J.	Hessler, R. A.	Steinberg, E.
Krause, D.	Hilberry, N.	Stephenson, H. K.
Landow, E. W.	Hindman, J. C.	Stevenson, C. E.
Lawroski, S.	Hodur, J. C.	Studier, M.
Lichtenberger, H.	Horton, H. R.	Swope, G.
Liebfried, L.	Hoyt, F. C.	Tompkins, F. S.
Lisco, M. D., H.	Huffman, J. R.	Tregillus, C. A.
Manning, W. M.	Hughes, D. J.	Vogler, S.
Manson, D. S.	Hull, H. L.	Wallace, D.
McKinley, J. H.	Hyman, H.	Wallace, W. T.
McNeill, C. A.	Jaffey, A. H.	Webster, C. E.
Meints, R. E.	Jonke, A.	Wood, D. F.
Munnecke, V.	Kaplan, L.	Young, C. A.
Natale, J.	Katz, J. J.	Young, H. D.
Feder, H.	Katzin, L. I.	Zinn, W. H.

## ATOMIC ENERGY COMMISSION

Armstrong, J. E.	Gager, L. E.	Skinner, S. M.
Aronstam, M. S.	Harris, J. T.	Stark, M.
Baldwin, H. C.	Heath, R. S.	Tammaro, A.
Biebert, R. F.	Kowalski, W. J.	Thorgney, G. B.
Curran, J. J.	Litt, W. C.	Walker, K. A.
Davis, H. L.	Moen, P. C.	Woll, R. A.
Eversole, H. B.	Ramey, J. T.	Yore, J. R.
Faust, J. T.	Saxe, D.	
Flaherty, J. E.	Schumacher, J. E.	

## UNIVERSITY OF CHICAGO

Bobbitt, J. T.	Harrell, W. B.	Weber, E. C.
Carlson, E. J.	Hines, J. W.	Weidner, C. K.
Evans, B.	Klett, R. H.	
Flook, L. R.	Osborne, R.	

## AUSTIN COMPANY

Bastedo, J. W.	Hall, T. B.	Price, O. V.
Bryde, C. F.	Herpe, N. F.	Short, L. C.
Clement, F. R.	Kennedy, L. L.	Slattery, W. L.
Downing, A. T.	King, R. J.	Specht, H. E.
Elliott, T. J.	Krook, P. M.	Thompson, H. G.
Engstrom, W. R.	Michaelson, W. M.	Wolnski, A. J.
Goodheart, E. L.	Pines, J. A.	Wilson, J. B.

## VOORHEES, WALKER, FOLEY &amp; SCOTT

Brucket, A. J.	Haines, C. S.	Walker, Ralph
Dean, H. H.	McKenna, F. J.	
Gherardi, H. T.	Smith, Ben	

## HANLEY &amp; COMPANY

Hanley, Thomas

Johnson, N. J.

L. K-B., F-W.

Burnett, Oliver

Dow, J. E.

The only registration required will be that at point of contact of the persons listed above (and their guests) and this registration will be necessary *only after normal working hours, Saturdays, Sundays, and holidays.*

*This listing is to be carried on each guard's person at all times when on duty at this site.*

J. A. PINES, *Chief, Plant Protection.*

JAP/wea.

THE AUSTIN COMPANY,  
SITE "D"—WEST AREA, CONSTRUCTION OPERATIONS,  
June 7, 1949.

Memo to: All Guards and Watchmen.

Subject: Persons Allowed Access to Property—Amended List.

This memorandum refers to and supersedes subject memorandum dated May 10, 1949.

Upon proper identification, the following persons will be allowed access to those areas of Site 'D' under the jurisdiction of The Austin Company, except that only those persons whose normal place of business is in the Administration Building at Construction Headquarters shall have access to that building, that access to be in accordance with presently established guard regulations covering the operation of Post No. 3.

## ARGONNE NATIONAL LABORATORY

Abraham, B.  
Bass, P. B.  
Benson, A. E.  
Bernstein, G.  
Bigler, W. P.  
Brockett, C. T.  
Brues, M. D., A. M.  
Burris, L.  
Byford, W. H.  
Chapman, T. S.  
Dana, P. A.  
Dempster, A. J.  
DeVierman, M. L.  
Etherington, H.  
Feder, H.  
Fields, P.  
Fineman, P.  
Fitzpatrick, J. P.  
Foote, F.  
Freedman, M.  
Fried, S.  
Furney, L. C.  
Gallagher, J. J.  
Gilbreath, J. R.  
Gilbert, L. E.  
Hagemann, F. T.  
Hart, E. J.  
Hawkins, Jr., H. G.  
Hennig, G.

Hessler, R. A.  
Hilberry, N.  
Hindman, J. C.  
Hodur, J. C.  
Horton, H. R.  
Hoyt, F. C.  
Huffman, J. R.  
Hughes, D. J.  
Hull, H. L.  
Hyman, H.  
Jaffey, A. H.  
Jonke, A.  
Kaplan, L.  
Katz, J. J.  
Katzin, L. I.  
King, J.  
Krause, D.  
Landow, E. W.  
Lawroski, S.  
Lichtenberger, H.  
Liebfried, L.  
Lisco, M. D., H.  
Manning, W. M.  
Manson, D. S.  
McKinley, J. H.  
McNeill, C. A.  
Meints, R. E.  
Munnecke, V.  
Natale, J.

Osborne, D. W.  
Payne, E. D.  
Peppard, D.  
Plunkett, D. A.  
Pringsheim, P.  
Rodger, W.  
Rose, J. R.  
Schraidt, J.  
Seay, D. G.  
Shepard, W. O.  
Shonka, R. F.  
Simon, S.  
Simpson, O. C.  
Steenberg, J. L.  
Steinberg, E.  
Stephenson, H. K.  
Stevenson, C. E.  
Studier, M.  
Swope, G.  
Tomkins, F. S.  
Tregillus, C. A.  
Vogler, S.  
Wallace, D.  
Wallace, W. T.  
Webster, C. E.  
Wood, D. F.  
Young, C. A.  
Young, H. D.  
Zinn, W. H.

## ATOMIC ENERGY COMMISSION

Armstrong, J. E.  
Aronstam, M. S.  
Baldwin, H. C.  
Biebert, R. F.

Curran, J. J.  
Davis, H. L.  
Eversole, H. B.  
Faust, J. T.

Flaherty, J. E.  
Gager, L. E.  
Harris, J. T.  
Heath, R. S.

## ATOMIC ENERGY COMMISSION—continued

Kowalski, W. J.  
Litt, W. C.  
Moen, P. C.  
Ramey, J. T.  
Saxe, D.

Schumacher, J. E.  
Skinner, S. M.  
Stark, M.  
Tammaro, A.  
Thorgney, G. B.

Walker, K. A.  
Woll, R. A.  
Yore, J. R.

## UNIVERSITY OF CHICAGO

Bobbitt, J. T.  
Carlson, E. J.  
Evans, B.  
Flook, L. R.

Harrell, W. B.  
Hines, J. W.  
Klett, R. H.  
Osborne, R.

Weber, E. C.  
Weidner, C. K.

## AUSTIN COMPANY

Bastedo, J. W.  
Bryde, C. F.  
Clement, F. R.  
Downing, A. T.  
Elliott, J. T.  
Engstrom, W. R.  
Goodheart, E. J.  
Hall, T. B.

Hjerpe, N. F.  
Kennedy, L. L.  
King, R. J.  
Krook, P. M.  
Michaelson, W. M.  
Pines, J. A.  
Price, O. V.  
Short, L. C.

Slattery, W. L.  
Specht, H. E.  
Thompson, H. G.  
Wolski, A. J.  
Wilson, J. B.  
Curran, J. M.  
Reintjes, W. J.

## VOORHEES, WALKER, FOLEY &amp; SMITH

Bruckert, A. J.  
Dean, H. H.  
Gherardi, H. T.

Haines, C. S.  
McKenna, F. J.  
Smith, Ben

Walker, Ralph

## HANLEY &amp; COMPANY

Hanley, Thomas

Johnson, N. J.

## L. K-B., F-W.

Burnett, Oliver

Dow, J. E.

The official duties of the above persons are such that their presence is required on the project at irregular and unanticipated times. Said persons will be fully responsible for any and all persons accompanying them.

The only registration required will be that of the persons listed above. This registration will be at the point of contact and will include the number of persons in the party.

The above procedure will be required only after normal working hours and on Saturdays, Sundays and Holidays.

*This listing is to be carried on each guard's person at all times when on duty at this site.*

J. A. PINES, *Chief, Plant Protection.*

JAP: bas.

(Enclosure 2)

Guards' duties during working hours.

1. Check all employees' badges and identification.
2. If a visitor, check same for possession of a visitor's badge.
3. Assist in directing the visitor to his or her destination. Guard holds the visitor until the person he or she is to see comes out and identifies the visitor.
4. Each morning promptly route the visitors' report for the previous day to guard headquarters.

5. Perform all routine relief duties for receptionists.

Guards' duties during nonworking hours.

1. Guard assigned to this post will be held directly accountable for all security violations during his full tour of duty. He is to maintain the front door of building locked at all times.

2. Register on an ANL Form #9 (relative to registration of employees after work) full name, badge number, time in and time out of all persons entering or leaving the Administration Building (*no exception*).

3. He is to maintain a constant fire watch throughout the building.
4. (Deals with duties in case of fire.)
5. All cartons, waste paper baskets and receptacles of all kinds that are used or may be used which porters, janitors or maintenance men may handle to remove scrap paper or other refuse, are to be checked before permission is granted to remove same from premises. Maintain, at all times, a strict inspection of all boxes, bags, packages, thermos bottles and all other places of concealment that may be employed to remove company or government property by stealth.
  - a. When warranted, through suspicion, advanced information, or in any case where a person or persons are suspected of removing or attempting to remove government property concealed on their person, hold such person or suspected person at your post and immediately contact the Lt. or Sgt. of the shift.
  - b. While waiting for the Lt. or Sgt. in charge to arrive, search suspected person or persons for any articles he may have on his person that could be used as evidence against him.
6. The guard is responsible for security against theft, destruction or damage.
- 7 & 8. (Deal with checking and recording temperatures, etc.)
9. Submit written report on ANL Form #3, "Unusual Incident Report" at close of shift to Captain of Guard or Lt. in charge, covering any unusual incident that may have occurred during the tour of duty.

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## EXHIBIT 12

(See also Exhibits 13 and 14)

(Referred to on p. 239, pt. 6, June 9, 1949)

### RADIOISOTOPES FOR INTERNATIONAL DISTRIBUTION

CATALOG AND PRICE LIST, SEPTEMBER 1949

(Isotopes Branch United States Atomic Energy Commission, P. O. Box E,  
Oak Ridge, Tennessee)

#### INTRODUCTION

As officially announced by President Truman, September 3, 1947, at the Fourth International Congress of Cancer Research, St. Louis, Missouri, the U. S. Atomic Energy Commission is now in a position to accept requests for radioisotopes from foreign countries.

Radioisotope production processes have improved sufficiently in the first year of domestic distribution to permit supplying reasonable demands from outside the United States. Especially is this true for those isotopes of particular value in biological and medical investigations.

Radioisotopes are producible in the uranium chain-reacting pile by two processes: (1) the fission of U-235 nuclei and (2) neutron absorption by nonfissionable nuclei. Radiomaterials listed in this catalog, with the exception of Iodine 131, are produced by the latter process. "Fission Products," obtained from process (1) above are not in routine production and therefore have not been included in this catalog.

#### NEUTRON-INDUCED RADIOISOTOPES

Neutron-induced radioisotopes producible in the pile are formed by (1) simple neutron absorption, ( $n, \gamma$ ) reaction, yielding a radioactive isotope of the parent element, (2) transmutation, ( $p$ ) or ( $n, \alpha$ ) reactions, yielding radioisotopes which differ chemically from their parents, and (3) ( $n, \gamma$ ) reaction followed by a decay chain, yielding radioactive daughters nonisotopic with the target element.

Production of neutron-induced radioisotopes involves the insertion of an element, in a suitable elemental or compounded form, into the pile and its subsequent removal. Materials to be activated are placed in small aluminum containers. The containers are then inserted into holes in a graphite block or "stringer," which composes part of the graphite and uranium structure of the pile. The block, loaded with containers, is pushed into the interior of the pile through an opening in the surrounding thick concrete shield and is irradiated for a period varying from a few days to several months.

Isotopes produced by the above neutron-induced reactions are available in chemically unprocessed irradiated units. Some are also available in a form chemically separated from the target material. Each of these forms is more fully explained below.

#### IRRADIATED UNITS

Unprocessed irradiated materials are shipped in the aluminum cans as they are removed from the pile, except for packing in containers which stop harmful radiation. In this case no chemical separation process on the active material is done prior to shipping. The term "Irradiated Unit" is used to describe such an activation. (See pages 8-9\* and pages following.)

When the target element is irradiated as a compound, the other elements in the compound are chosen so as to produce: (1) no radioisotopes, (2) short-lived radioisotopes, or (3) radioisotopes easily separated from those produced by the target element. Oxides of metallic elements, for example, make suitable target compounds since oxygen is not activated. In some cases an irradiated unit of a compound may contain several radioisotopes, which are all useful and easily separable.

Target materials are chemically and spectroscopically analyzed and are chosen for their high purity. Since minor or trace quantities of chemical contaminants will nevertheless be present, extremely small quantities of radiocontamination will be produced in most units. For the majority of uses the radiocontaminants due to impurities will be insignificant.

Production time required for irradiated units will vary from two weeks to six weeks. Generally a higher priced unit takes a longer time to produce.

#### SEPARATED RADIOISOTOPES

A transmutation reaction yields a radioisotope which differs chemically from the target material. When a radioisotope of an element is produced by transmutation, it will not be diluted with "carrier" (stable isotopes of that element) other than that which is already present as an impurity in the target material.

A separation of the desired active species is usually made before use.

Several of the radioisotopes, which are very useful in biological and medical application and hence in constant demand, are chemically separated routinely and an effort is made to keep stocks on hand for shipments. Separated Carbon 14, Phosphorus 32, Sulfur 35 and Calcium 45 are available in this group. The specifications for these materials are given on pages 6 and 7.\*

The same consideration of chemical separability holds for the daughters of neutron-induced decay chains—Iodine 131 from tellurium bombardment is an example.

*No guarantees of radiochemical or chemical purity or other such characteristic may be made*, although every effort will be made to produce as high quality material as possible. Analyses will be furnished with each shipment.

Separated radioisotopes are sold by millicuries as defined on page 5.\*

Carbon 14, because of its long half-life, is kept in stock and deliveries can be made promptly. Other separated materials (I 131, P 32, S 35 and Ca 45) are processed in batches and shipment can usually be made from Oak Ridge each week.

#### PUBLICATIONS

For the use of its staff and maintenance of reference files, the Isotopes Branch should be supplied with three copies of a report, within six months after completion of research, stating the results of investigations carried on with isotopes obtained through its facilities. The user should publish the results in an appropriate technical or scientific journal or permit the U. S. Atomic Energy Commission to arrange for such publication.

#### CLINTON LABORATORIES

The pile at Clinton Laboratories, Oak Ridge, is the major producer of radioisotopes for off-Commission distribution. Research and development on production and separation processes at the facility have markedly increased the availability of the useful radioisotopes. Actual sale and distribution of radiomaterial is made by Clinton Laboratories (which acts as the "supplier" under a contract with the U. S. Government). Requests for allocation must first be submitted and approved by the Isotopes Branch of the Commission.

\* Page numbers refer to original document.

Argonne National Laboratories (Chicago, Illinois) and the University of California Radiation Laboratory (Berkeley, California) have also carried on extensive research in the production of isotopes and in radiochemistry. Credit for initial research in these fields must be shared by many laboratories and individuals, both within the United States and abroad.

#### PROCUREMENT

Production of a radioelement or preparation of material for shipment is scheduled only after a purchase order has been received. Before placing a purchase order it is necessary to file a request with the Isotopes Branch, U. S. Atomic Energy Commission, and to receive an approved allocation authorizing the procurement.

Details of the procedure for requesting and purchasing radioactive materials are included in this catalog (pages 14-16 \*). Further information may be obtained by writing to the U. S. Atomic Energy Commission, Oak Ridge, Tennessee, attention: Isotopes Branch.

Each foreign government is requested to designate some representative (or agent) in the United States to handle matters connected with procurement of radioisotopes. This agent may be a diplomatic official, a commercial concern, or any other individual or corporation selected by the foreign government. This representative would maintain liaison with the U. S. Atomic Energy Commission in all matters pertaining to allocation, purchase orders, payments for isotopes and containers, transportation arrangements and charges.

All correspondence should be in English. This will avoid misinterpretation of technical information, especially data relating to health and safety precautions.

The technical staff of the Isotopes Branch, U. S. Atomic Energy Commission, will be pleased to assist in providing references on techniques in the use of materials.

General conditions of eligibility for foreign users will be similar to those for users in the United States.

**ANY REFERENCE TO MATERIALS IN THIS CATALOG SHOULD INCLUDE THE CATALOG ITEM NUMBER**

#### TRANSPORTATION AND CUSTOMS CLEARANCE

Shipping charges must be paid by the requester. Clinton Laboratories will package materials for shipment and deliver them to the carrier, for consignment to any point within the United States. Payment for all charges, customs clearance, and transportation outside continental United States will be the responsibility of the authorized agent of the foreign government.

NOTE.—OUTLINE OF PROCEDURE FOR HANDLING FOREIGN REQUESTS—SEE PAGE 14 \*.

#### HOW TO ESTIMATE COSTS

1. Number of units <sup>1</sup> desired	_____	\$
2. Price per unit	_____	
3. Total (1 x 2)	_____	
4. Handling charges <sup>2</sup>	_____	
5. Cost of material (3 + 4)	_____	
6. Deposit on shipping container <sup>3</sup>	_____	
7. Total amount of remittance (5 + 6)	_____	

<sup>1</sup> MILLICURIES for processed materials and IRRADIATED UNITS for unprocessed materials. A millicurie is defined for the purpose of this catalog as  $3.7 \times 10^7$  disintegrations per second. For cases in which there is an indeterminate mixture of isotopes, absolute measurements of activity cannot be given. In such cases the "millicurie" means  $3.7 \times 10^7$  beta emissions per second in the sample. For a definition of "irradiated unit" see pages 8 and 9.\*

<sup>2</sup> A handling charge of \$25 is made for each shipment (each item constitutes a shipment). On approved continuing orders for isotopes with half-lives of less than 30 days the handling charge for the first shipment will be \$25 and \$10 for each subsequent shipment.

<sup>3</sup> A deposit of \$125 will be required on returnable containers used to ship gamma ray emitters. A refund will be made upon return of container, express prepaid, in good condition, within fourteen (14) days from date of receipt of shipment. Such containers must not be used for any other product than that shipped therein. Charges for damaged parts will be made as follows:

Container	_____	\$85.00
Shipping crate	_____	20.00
Tools	_____	20.00
Total	_____	125.00

\* Page numbers refer to original catalog.

Shipments are made f. o. b. Clinton Laboratories, Oak Ridge, Tennessee, USA. Transportation costs including return of container will be paid by requester.

\* \* \* \* \*

#### OUTLINE OF PROCEDURE FOR HANDLING FOREIGN REQUESTS

1. All correspondence with the Commission should be in English. It is believed that this will save time, and will avoid misinterpretation of technical information, particularly information relating to health and safety precautions. Correspondence should be addressed to the Isotopes Branch, United States Atomic Energy Commission, P. O. Box E, Oak Ridge, Tennessee.

2. The radioisotopes for which foreign distribution is being authorized are listed and described in the foregoing pages of this catalog. Additional copies of the catalog may be obtained from the Isotopes Branch at Oak Ridge. Subject to limitations on availability of supplies, the radioisotopes listed in the catalog will be furnished for eligible uses abroad—namely, for scientific research, medical research and therapy, including such uses on animals as may be related to medical research and therapy.

3. Each foreign government interested in having radioisotope shipments made to eligible users in its country is requested to address a note to the Secretary of State, referring to this memorandum, and stating:

a. The name of a representative (or agent) in the United States who will handle matters connected with radioisotope shipments. (Such representative may be a diplomatic official, a commercial concern, or any other person or corporation selected by the foreign government. The representative should be authorized to maintain liaison with the United States Atomic Energy Commission, and to complete financial and shipping arrangements, such as payments for materials, deposits for shipping containers, arrangements for transportation, etc.)

b. That the representative is authorized to certify on behalf of the government to the accuracy of the information set forth in each request for radioisotopes.

c. That the foreign government understands that there are special health and safety hazards arising out of the possession, handling or use of radioisotopes, and that such hazards require special protective measures.

d. That the foreign government agrees that neither the United States Government nor any United States distributing agent shall be responsible for injury or damage caused by, or in the application of, any radioisotopes delivered.

4. Following the deposit of such a note with the Department of State, individual requests for radioisotopes should be submitted to the United States Atomic Energy Commission by or through the representative designated by the foreign government pursuant to paragraph 3 above. (A new note need not be presented to the Department of State unless the authorized representative shall have changed, or unless there should be some material change in the information supplied in the original registration.) The request may be on a form such as the one inclosed herewith, or by letter, and should be addressed to the Isotopes Branch, United States Atomic Energy Commission, P. O. Box E, Oak Ridge, Tennessee. The request may be accompanied by a purchase order made out to the Commission's designated contractor (e. g., the Clinton Laboratories, Oak Ridge, Tennessee). It is not essential, however, that a purchase order be submitted until the Commission has issued a "notice of allocation" (see paragraph 8 below). The request should include adequate information on the following matters:

a. Name and item number of radioisotope desired (as listed in the catalog).

b. Quantity desired. (Radioisotopes with half-lives of less than 30 days may be allocated, on one request, in amounts sufficient for six months' needs. Shipments may be made at intervals of not less than one week as arranged with the supplier.)

c. Desired time and rate of deliveries.

d. Names and experience of persons who will use materials furnished.

e. Name of institution at which materials will be used.

f. Purposes for which materials will be used.

g. Health and safety measures to be employed.

5. The request also should contain the following undertakings:

a. That, (1) at intervals of six months after delivery of each shipment of radioisotopes to the representative of a foreign government for forwarding to an investigator in the country he represents, three copies of a progress report on the results of the investigation will be furnished to the United States Atomic Energy Commission and (2) the results of such investigation if publishable by

nature either will be published by the author in an appropriate technical or scientific publication or permission to arrange for publishing such results will be granted to the Commission.

b. That the materials will not be used in a manner other than as disclosed in the request.

c. That qualified scientists irrespective of nationality will be permitted to visit the institutions where the materials will be used and to obtain information freely with respect to the purposes, methods and results of such use, in accordance with well-established scientific tradition.

6. Requests which the United States Atomic Energy Commission may receive directly from institutions or doctors in foreign countries ordinarily will be referred to the representative designated pursuant to paragraph 3 above, for handling and consideration in accordance with established procedures.

7. Particularly in view of the limited supply of radioisotopes and the special health and safety hazards connected therewith, it is hoped that each interested foreign government will establish adequate procedures for reviewing the merits of a request prior to its submission to the United States Atomic Energy Commission. In this connection, it may be helpful to explain the procedure which is followed in the United States.

In its program of domestic distribution of radioisotopes, the Commission has established criteria for determining which requests should be granted. In all cases, the domestic applicant is required to provide sufficient information on the matters listed in paragraph 4 above, to permit review and evaluation of the merits of the request. Such review and evaluation is made by the "Advisory Committee on Isotope Distribution Policy," a committee chosen from a group of technically qualified scientists nominated by the National Academy of Sciences. This committee and its two subcommittees have been highly effective not only in eliminating impractical or unwise applications of radioisotopes, but also in aiding research investigators to correct and revise meritorious plans and techniques so that more accurate results will be obtained. The adoption of comparable procedures in other countries would go far toward assuring (1) maintenance of adequate health and safety standards, and (2) most beneficial utilization of the limited supplies of radioisotopes available in the United States for foreign distribution.

8. The foreign request will be reviewed and evaluated by the "Advisory Committee on Isotope Distribution Policy" as in the case of a domestic request. When the Commission determines that the material can be furnished, the Commission will issue a notice of allocation, and will authorize its designated contractor (e. g., the Clinton Laboratories, Oak Ridge, Tennessee) to make distribution.

9. Shipping instructions should be included with the purchase order. Radioisotopes are sold f. o. b. Oak Ridge, Tennessee. Customs clearance and transportation outside the continental limits of the United States should be arranged by the representative designated pursuant to paragraph 3. Shipments will be consigned collect to the representative via rail or air express, to any point within the continental limits of the United States.

10. Payment will be due and payable on receipt of an invoice from the Commission's designated contractor (e. g., the Clinton Laboratories, Oak Ridge, Tennessee).

Form 313	REQUEST FOR RADIOISOTOPE AEC Form 313 (Jan. 20 47)	LEAVE BLANK
Send original copy only	To: U. S. ATOMIC ENERGY COMMISSION Isotopes Branch, Research Division P. O. Box "E", Oak Ridge, Tennessee	1. Date

NOTE.—Form must be typed with carbon impression on reverse side in order that photo reproduction of extra copies may be made as necessary

2. From: (Name of institution)	3. Location
4. Name of individual making application	5. Title and department

6. If material is to be used secondarily in other departments or in cooperation with other institutions, give details:

## INFORMATION COPY

## SPECIFICATIONS

NOTE.—Use a separate Form 313 for each isotope. Request only in form and quantities given in Price List unless arrangements for other forms have been made through correspondence

7. Price list item number	8. Element and isotope	9. Quantity desired (Specify millicuries or irradiation units)	10. To be delivered at the rate of (Specify quantity per week, month, etc.)
11. Especially undesirable chemical contaminants		12. Especially undesirable radioactive contaminants	
13. Chemical and physical form			
a. First choice		b. Acceptable form	c. Form in which to be finally used
14. Other desirable specifications (not given in availability list)			

## EXPERIMENTAL DETAILS

15. Statement of intended uses, including syntheses to be performed, importance of investigation, etc. (A more extensive description may be attached.)	
16. Sample will be measured as (ash, gas, liquid, etc.)	17. Geometry of sample (thin flat, surrounds counter, etc.)
18. Detection instruments to be used (Specify kinds of instruments and types of circuits.)	
19. Name and experience of person who will supervise measurements	

## EXPERIMENTAL DETAILS FOR "IN VIVO" USES

20. Organisms to be studied (kind)	21. Approximate number
22. Activity to be used per organism	23. Nature of samples to be taken for measurement

## HEALTH PROTECTION AND SAFETY

24. Describe monitoring proposed for health protection (personnel and qualifications, instruments, etc.)
25. Describe proposed disposal method for surplus or waste

## PUBLICATION

26. Publications on this or related problems by the intended users are found in (Name only a few recent papers. In the event applicant has no published articles use space for names of persons familiar with researches)		
Journal	Pages	Date
27. Results of investigations using requested material will be published. Manuscript will probably be submitted to the following publication:		

## SHIPPING

Shipments are made F. O. B. Clinton Laboratories, Oak Ridge. The requester will pay all charges. Special shipping arrangements will be made with Clinton Laboratories after this request has been approved by the Isotopes Branch

## SIGNATURES

It is recognized by the applicant that this request may be referred to an Advisory Committee or to sub-committees nominated by the National Academy of Sciences and that he has no objection to the disclosure of items contained herein to such qualified review. Three copies of published articles resulting from the use of the requested material will be furnished the Isotopes Branch, Research Division.

-----  
Signature of applicant

If special approval is required by your institution or firm, person authorized to approve this request should sign here:

-----  
Title

## REQUEST FOR RADIOISOTOPE FOR INTERNATIONAL DISTRIBUTION

## UNITED STATES ATOMIC ENERGY COMMISSION

1. Name of country:	(LEAVE THIS SPACE BLANK)
2. Isotope:	3. Catalog item No.:
4. Quantity desired:	
5. Desired time and rate of delivery:	
6. Institution(s) at which isotope will be used (Name and address):	
7. Names and experience of persons using isotope:	
8. Purposes for which isotope is to be used:	
9. Health and safety measures to be employed:	
10. Name and address of person in the United States to whom <i>Shipment</i> is to be made:	
11. Name and address of person in the United States to whom <i>Invoice</i> should be sent:	

UNITED STATES ATOMIC ENERGY COMMISSION,  
ISOTOPE DIVISION,  
*Post Office Box E, Oak Ridge, Tennessee.*

The undersigned, on behalf of the government he represents, agrees to the following undertakings:

1. That (a) at intervals of six months after delivery of each shipment of radioisotopes to the undersigned agent of the country he represents for forwarding to an investigator in his country, three copies of a progress report on the results of the investigation will be furnished to the United States Atomic Energy Commission, and (b) the results of such investigations, if publishable by nature, either will be published by the author in an appropriate technical or scientific journal or permission to arrange for publishing such results will be granted to the Commission.

2. That the materials will not be used in a manner other than described in this request.

3. That qualified scientists, irrespective of nationality, will be permitted to visit the institutions where the materials will be used and to obtain information freely with respect to the purposes, methods, and results of such use, in accordance with well-established scientific tradition.

-----  
Date

-----  
Signature of Official Representative

## EXHIBIT 13

(See also Exhibits 12 and 14)

(Referred to on pp. 264 and 265, pt. 6, June 9, 1949)

## FOREIGN DISTRIBUTION OF RADIOISOTOPES

The purpose of this memorandum is to inform the Department of State of certain considerations relating to the decision of the United States Atomic Energy Commission to permit distribution of specified radioisotopes to qualified users outside the United States, provided a program can be worked out with the Department of State consistent with the Foreign Policy of the United States.

The radioisotopes in question are byproduct materials produced in the uranium chain-reacting pile. They are valuable tools of research, of potential benefit to people everywhere, especially in the field of cancer control and in the study of biological and chemical processes.

Radioisotope distribution within the United States was authorized by the Manhattan District a little over a year ago. The policy then inaugurated is the policy still in force. It provides for screening by an allocation committee which takes account of the facilities of the requester, provisions for safety, the nature of the work proposed, and whether or not the results will be made public. Priority is given to requests for radioisotopes to be used in scientific and medical studies which may yield results that will be published. No security restrictions are placed upon the use of the materials nor upon the publication of the scientific findings.

The administrative machinery for carrying out the domestic policy has proven entirely satisfactory and, to date, more than 1,000 shipments of the 90 regularly available radioisotopes have been made within the United States and to Hawaii. The experience thus gained has satisfied the Commission that the policies established by the Manhattan District are sound and workable and that security has not been prejudiced. It is now prepared to establish a program for the distribution of certain of these radioisotopes to meet the needs of doctors and scientists abroad.

It is proposed that foreign distribution under this program will be in limited quantities and will be made only for uses certified to be for scientific research and for medical therapy. The detailed information to be requested and the undertakings to be made by the recipient are set forth on page 3 below. Such foreign distribution will not interfere with the Commission's continuing program for meeting the needs of qualified doctors and institutions in the United States.

Interest in radioisotopes and skill in their use is not confined to the United States. Foreign doctors in many neighboring and distant countries have learned the technique by employing the natural radioisotopes, the output from their own few cyclotrons, and (before the war) shipments from various institutions having cyclotrons in this country.

Since the availability of pile-produced isotopes has become known, many requests have come to the Commission from abroad. On June 19, 1947, the Isotopes Branch had at hand 96 inquiries from 28 foreign countries. Of these 96 inquiries, 73 asked for radioisotopes for medical research and therapy. Requests from the United Kingdom and the British Commonwealth were greatest in number.

These specific inquiries give some measure of the volume of the needs abroad, but do not immediately indicate another aspect of the matter: Foreign scientists and medical men are generally sympathetic with the wishes of their colleagues for radioisotopes, so that almost every foreign request could, if necessary, be supported by approval from a number of other scientists and doctors. In other words, denial of foreign applications not only disappoints the individual applicant but is a cause for regret among a wide circle of his professional colleagues, and, indeed, is a cause of regret among a large body of professional people who are familiar with the situation in this country.

The foreign governments to which distribution is made will be asked to furnish information concerning the following: (a) The name of the isotopes desired, the quantity, and the time and rate of deliveries, (b) the name of the institution and the names and experience of persons who will use the materials, (c) the purposes for which the materials will be used, and (d) the health and safety measures to be employed. In addition, the foreign government will be asked to make the following undertakings:

(a) That, (1) at intervals of 6 months after materials have been furnished for scientific investigation, three copies of a progress report on the results of such investigation will be furnished to the United States Atomic Energy Commission, and (2) if the results of such investigation are of sufficient interest to be published, they will be published in an appropriate technical or scientific publication, or permission to arrange for publishing such results will be granted to the Commission.

(b) That the materials will not be used in a manner other than as disclosed in the request.

(c) That qualified scientists irrespective of nationality will be permitted to visit the institutions where the materials will be used and to obtain information freely with respect to the purposes, methods and results of such use, in accordance with well established scientific tradition.

The Commission has considered this program for distribution, weighing particularly its technical advantages and potential disadvantages to the United States, and has concluded that the recognizable advantages outweigh the possible dangers.

It should be understood clearly that, under the program proposed, the Commission will not authorize any foreign distribution of those radioisotopes which there is any reason to believe would further the development of atomic energy for military or industrial purposes by any foreign government or any person abroad.

Foreign distribution will not be authorized for naturally radioactive materials, that is, the natural elements of higher atomic number than element 83 (bismuth).

Foreign distribution will not be authorized for any newly produced heavier element of higher atomic number than element 92 (uranium).

The Commission proposes to authorize foreign distribution of limited quantities of the following radioisotopes:

Antimony 122; 124; 125	Cobalt 60	Potassium 42
Argon 37	Copper 64	Silver 108; 110; 111
Arsenic 76; 77	Gold 198; 199	Strontium 89
Bromine 82	*Iodine 131	Sodium 24
Calcium 45	Iron 55, 59	*Sulfur 35
*Carbon 14	Mercury 197; 203; 205	Zinc 65, 69
Chlorine 36	*Phosphorus 32	

This list contains 20 of the 90 radioactive elements now regularly available for distribution within the United States. It includes those which have been proved most widely useful for research particularly in the biological and medical sciences, and for therapy, and which have been most frequently requested by foreigners. Rare earth isotopes are excluded as well as isotopes of peculiar interest to the Commission's major activities.

The radioisotopes listed above are radioactive forms of ordinary elements which are found in nature in stable form. The Department of State will be notified in advance of any proposed deletions from, or additions to, the list.

A question which must be most carefully weighed is: Will such distribution aid foreign development of atomic energy or utilization of fissionable materials? If the conditions laid down in the proposed program are adhered to, it could safely be said that such developments would not be aided. It cannot be assumed, however, that these conditions will be carried out in all cases, for some shipment abroad might fall into the hands of capable persons who wish to develop atomic weapons. The problem then becomes purely a technical problem: what is the probability that these persons will find the proposed shipments useful to this end? The following facts, some of which have already been mentioned, bear on this problem:

(a) The radioisotopes proposed for distribution are in no way different from those which have been and still are available to foreigners from cyclotron sources abroad.

(b) The quantities it is proposed to distribute can be controlled and can be made less than a concentrated national effort with cyclotrons or other sources would produce.

\*The isotopes marked with an asterisk will be distributed in "separated" form, i. e., obtained by chemical separation from material which has been irradiated in the pile. The other isotopes will be distributed in the form of "irradiation units," i. e., obtained by irradiating specified quantities of material in the pile without subsequent chemical separation.

(c) None of the radiations emitted by these radioisotopes is unfamiliar; they are all available to foreign workers from natural radioisotopes, cyclotron-produced isotopes, or X-ray machines.

(d) None of the radioisotopes proposed for distribution was significantly useful in the development of atomic weapons in the United States.

(e) The quantities are far too small to be of practical use as radioactive poisons; they could be used for certain studies of radiation hazard, but the natural radioisotopes already available abroad are equally good (in some respects better) for such studies.

(f) The radioactive strength of the materials decays with time, the radioisotopes transforming to stable isotopes which are already abundant abroad and are of no special value in atomic energy developments. The radioactivity is a transient effect, and must be used before it is gone. In the few cases where the decay is very slow the initial strength of the sample is by nature correspondingly low. Stock piling, in short, is not feasible.

It appears from these facts that the proposed distribution is not likely to aid directly any foreign nation in the development of atomic energy.

On the other hand, the proposed distribution will entail certain general results which must be mentioned and considered:

(a) More foreign scientists will be encouraged to skill themselves in the techniques of handling radioisotopes. A large supply of scientists trained in this field is an asset to any nation contemplating development of atomic energy. However, it is to be noted that such training can be acquired equally well with the natural radioisotopes, and a nation intent on developing quickly a supply of technicians skilled in these matters would not be at all dependent upon the shipments from this country.

(b) Significant discoveries in general science and in medicine will be expected to be made abroad, as they have been made in this country, by use of the radioisotopes. The prosperity and well-being of foreign nations will presumably be increased by such discoveries, and their military potential will be increased accordingly. However, the military advantage foreign nations will gain in this fashion is obviously less direct, less predictable, less immediate, and less disadvantageous to the United States than the advantage they will gain by accepting our exports of foods, lathes, and bulldozers.

(c) There is some small risk that a major discovery of great military importance will be made abroad by use of the radioisotopes. No such discovery is foreseeable now in this country. On very general grounds, it can be argued that experiments with cosmic rays or microbes (neither of which is controllable by the Commission or the United States) are equally likely to yield such a major discovery. In short, this risk, while it exists in principle, cannot be thought substantial.

This program will not enable persons abroad to obtain significant information on classified production processes in use in the United States. In this connection:

(1) The proposed program will exclude from foreign distribution all but two of those radioisotopes which are "fission products," that is, which result from fission. (The exceptions, Iodine 131 and Strontium 89, are discussed later.) In consequence, users abroad will have no opportunity whatever to divert radioisotopes, even in minute quantities, for use in studying means of separating fission products in any test plutonium production process they might attempt.

(2) Iodine 131, which has proved its importance in the treatment of thyroid conditions, will be distributed abroad under this program. This radioisotope is producible both by uranium fission and by the transmutation of tellurium. In the plutonium separation process, the Iodine 131 is evolved as a gas and its separation presents no technical problem. The possession of Iodine 131 will not assist any foreign government or any person abroad in studying the technical problems of separation inherent in any plutonium production process.

(3) Strontium 89 is readily made with cyclotron and was so made before the war. Its properties are well known. It is simply more convenient to obtain Strontium 89 by separation from the fission products than by other means.

#### SUMMARY

The radioisotopes now proposed for foreign distribution are all isotopes of elements used significantly in the human body or in studies of therapeutic agents. The possibilities of diversion from the use certified in the application are remote and in any event would create no significant hazard: (1) Only very limited quantities would be sent abroad, (2) they would be sent to a large number of dif-

ferent users, (3) much of the material remains radioactive for only a short time, and is expended in the process of the research, (4) reports of the work done will in large part disclose the uses to which they actually have been put, and (5) United States scientists will be able to visit the institution where the materials are used and observe the methods and results of such use.

The contributions of this program toward assuring the common defense and security of the United States are believed to be substantial though indirect. Among scientists and medical men abroad there has been growing dissatisfaction from the withholding of all radioisotopes from foreign distribution. The scientists and medical men in this country share the dissatisfaction of their foreign colleagues and are generally sympathetic toward some program of foreign distribution. Our own people's concern often takes the form of fear lest the national program for atomic energy place restrictions on scientific research far beyond what is wise in the interests of our national security, which depends upon continued progress in this field. It is believed that the program under consideration will make it generally easier for the Commission to enlist the wholehearted support of United States scientists and medical doctors for our national program for atomic energy and that such support will add strength to our common defense and security.

The results of foreign researches with radioisotopes, when published in accordance with the undertakings, will be available to the United States for whatever exploitation they suggest. With its superior technological potential, the United States can expect to profit more quickly and more fully than any other nation from exploitation of published scientific findings—this has been the fact with many past discoveries, including the discovery of nuclear fission.

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### EXHIBIT 14

(See also Exhibits 12 and 13)

(Referred to on p. 271, pt. 6, June 9, 1949)

**ATOMIC ENERGY COMMISSION—MEMORANDUM FOR INFORMATION—FOREIGN DISTRIBUTION OF RADIOISOTOPES—MEMORANDUM BY THE GENERAL MANAGER, OCTOBER 10, 1947**

Attached is a memorandum from the Manager of Oak Ridge Operations authorized the procedure for the handling of foreign requests for radioisotopes.

On September 30, 1947, the procedure outlined was approved with the understanding that, until further notice, foreign distribution will be limited to the isotopes listed in the September, 1947, catalogue and price list issued by the Isotope Branch, entitled "Radioisotopes for International Distribution". Copies of this catalogue and other referenced material are available from the Secretariat files upon request.

SEPTEMBER 26, 1947.

To: Carroll L. Wilson, General Manager.

From: John C. Franklin, Manager, Oak Ridge Operations.

Subject: Procedure for handling foreign requests for radioisotopes.

On September 18, 1947, a meeting was held in the Washington office to discuss and plan the detailed procedure for international distribution of radioisotopes. In attendance were: R. B. Snapp, Jr., and W. S. Trueheart, representing the Washington office; Dr. Paul C. Aebersold, and T. R. Jones, representing the Isotopes Division, Oak Ridge operations.

The official announcement of foreign distribution and a statement of general policy is contained in a statement, "Foreign Distribution of Radioisotopes, Information for Foreign Governments Concerning Procedure for Obtaining Radioisotopes." The statement was issued September 4, 1947, by the Commission and distributed by the State Department to recognized diplomatic missions.

As agreed in the Washington meeting the Isotopes Division has prepared an outline of the procedure to be followed in the processing of foreign requests for radioisotopes:

1. Copies of diplomatic notes, including the name of the designated representative, filed by a foreign government with the State Department pursuant to paragraph 3 of the September 4 announcement, will be obtained by Mr. Snapp and forwarded to the Isotopes Division in Oak Ridge. Copies of the reply of the

State Department to the foreign government will be forwarded in the same manner.

2. On receipt of the above the Isotopes Division will forward a letter to the designated representative of the foreign government which will include:

- (a) Acknowledgment of his appointment.
- (b) Name of the official liaison officer to be contacted in the Isotopes Division on radioisotopes procurement matters.
- (c) Instructions for obtaining a license for export of radioisotopes from the Department of Commerce.
- (d) Information on the circulars concerning isotope procurement and health protection which may be obtained from the Isotopes Division.

(e) Request for the names of the advisory committees and subcommittees which may be authorized to screen requests for the foreign government.

3. An application received directly from a scientist of a foreign country which has established channels for procurement will be forwarded to the official representative of his country for resubmission through approved channels.

4. An application received from a national of a foreign country which has not filed undertakings or has not appointed an agent will be returned to the applicant with the suggestion that he return the request through official channels which may be established by his government.

5. Each request will be checked for the following particulars:

- (a) Name and item number of radioisotope desired (as listed in the catalog).
- (b) Quantity desired.
- (c) Desired time and rate of deliveries.
- (d) Names and experience of persons who will use materials furnished.
- (e) Name of institution at which materials will be used.
- (f) Purposes for which materials will be used.
- (g) Health and safety measures to be employed.

6. Each request will be checked for inclusion of the following statements:

(a) That, (1) at intervals of 6 months after delivery of each shipment of radioisotopes to the representative of a foreign government for forwarding to an investigator in the country he represents, three copies of a progress report on the results of the investigation will be furnished to the United States Atomic Energy Commission, and (2) the results of such investigation if publishable by nature either will be published by the author in an appropriate technical or scientific publication or permission to arrange for publishing such results will be granted to the Commission.

(b) That the materials will not be used in a manner other than as disclosed in the request.

(c) That qualified scientists irrespective of nationality will be permitted to visit the institutions where the materials will be used and to obtain information freely with respect to the purposes, methods, and results of such use, in accordance with well-established scientific tradition.

7. Each request will be reviewed for technical details in the same manner as prescribed for domestic requests.

8. Before final affirmative action is taken on requests from Russia or Russian-dominated countries the matter will be referred to the general manager.

9. The Isotopes Division will maintain records of individual requests received and action taken, including: Isotope ordered, quantity shipped, purpose or use of isotope, receipt of progress reports.

10. Summary or detailed reports will be available at the request of the general manager.

11. A printed application form designed to provide information required in section 5 above will be made available to designated agents. Statements required under section 6 above will also be printed on the application form as an added convenience and to avoid misinterpretation or misunderstanding.

Copies of the following are attached for your information:

1. Foreign Distribution of Radioisotopes, a statement prepared by the Commission, dated September 4, 1947.

2. List of diplomatic missions which have received copies of the above statement.

3. Radio isotopes for International Distribution, a catalog and price list issued September 1947.

The above procedures have been considered by this office. They are forwarded with our recommendation for your approval.

JOHN C. FRANKLIN.

EXHIBIT 15

(Referred to on p. 347, pt. 8, June 15, 1949.)

NUCLEONICS PROJECT,  
GENERAL ELECTRIC Co.,  
*Schenectady 5, N. Y., July 11, 1949.*

JOINT COMMITTEE ON ATOMIC ENERGY,  
*Senate Office Building, Washington, D. C.*

GENTLEMEN : On June 15 at the hearings held before your committee, we agreed, as set forth on pages 346 and 347 of the printed hearings, to furnish information concerning the portion of the total 234-5 project costs which was involved in the unique type of equipment and facilities that go into the building. Mr. Winne has asked me to transmit to you the attached tabulation.

This tabulation shows that we estimate that approximately 65 percent of the construction cost of this project was accounted for by the unique type of equipment and facilities required.

Yours very truly,

R. S. NEBLETT,  
*Assistant General Manager, Nucleonics Department.*

*Total 234-5 project costs*

	Amount	Ratio to direct construction cost
		<i>Percent</i>
Direct cost of "unique type of equipment and facilities".....	\$11, 253, 009	65
Direct cost of main building structure.....	3, 548, 772	21
Direct cost of temporary construction, site work, utilities, and structures other than the main building.....	2, 365, 735	14
Total direct construction cost.....	17, 167, 516	100
Indirect construction cost.....	6, 840, 821	-----
Total construction cost.....	24, 008, 337	-----
Design cost.....	941, 721	-----
Total project cost.....	24, 950, 058	-----

EXHIBIT 16

(See also Exhibits 24 and 35)

(Referred to on pp. 457 and 476, pt. II, June 20, 1949)

UNITED STATES ATOMIC ENERGY COMMISSION,  
*Washington, D. C., July 14, 1949.*

Mr. WILLIAM L. BORDEN,  
*Executive Director, Joint Committee on Atomic Energy,*  
*Washington, D. C.*

DEAR MR. BORDEN : The following material is supplied with reference to Mr. Elston's request of Mr. Pike at the June 20 hearings (p. 457 of the printed hearing) regarding formal action taken by the Commission in connection with the Joint Committee Report on the Natural Gas Pipe Line.

As indicated in the Commission's press release of May 28, a copy of which is attached, the report of the subcommittee was given careful attention by the Commission. Shortly after the report was issued, the Director of Production was directed to prepare a report to the Commission on the matter. Formal action was taken by the Commission at Meeting 278 on June 13, 1949, at which the following Commissioners were present :

David E. Lillenthal  
Sumner T. Pike  
Lewis L. Strauss  
Henry D. Smyth

On the following day at Meeting 279 on June 14, 1949, the matter was again discussed. The following Commissioners were present:

David E. Lillenthal  
Sumner T. Pike  
Lewis L. Strauss  
Henry D. Smyth  
Gordon E. Dean

At the meeting on June 13 the report of the Director of Production, the report of the subcommittee and the action taken by the full committee were reviewed by the Commission. It was decided that further discussion with the Joint Committee should be proposed. At the second meeting, after further review, a draft letter to the Joint Committee was considered and its use as a basis for discussion with the Committee was approved. It was further noted that no change would be made in the present plans to bring natural gas to Oak Ridge.

As indicated in the record of the hearings this letter was never sent to the Committee since the Commission then learned that the matter was to be taken up within a few days in the course of the present hearings.

Sincerely yours,

Carroll L. Wilson,  
CARROLL L. WILSON, *General Manager.*

Enclosure: May 28 press release.

UNITED STATES ATOMIC ENERGY COMMISSION,  
*Washington 25, D. C.*

(Information for the press. For immediate release. No. 179, May 28, 1949)

The Atomic Energy Commission has received from a special Subcommittee of the Joint Congressional Committee on Atomic Energy a report on the action taken by the Commission to secure natural gas as a fuel for the power plant at the Oak Ridge installation which produces uranium 235, one of the two fissionable materials on which the atomic energy program is based. The report is under study by the Commission.

In response to press requests for comment on the matter, the Commission calls attention to the letter of May 9, 1949, from Acting Chairman Sumner T. Pike to the Chairman of the Subcommittee (appearing on page 3 of the Subcommittee report) which points out that \* \* \* "Our action to obtain natural gas for the K-25 plant may be viewed as an excess of caution. We firmly believe however the position of the K-25 plant in the atomic energy program and the vital necessity of the plant's continuous operation warrants and demands the present plan of having both a stock pile of coal and a supply of natural gas available at Oak Ridge. In summary we believe that by having both coal and natural gas, we have, in effect, 'two strings to our bows' and as a result have materially increased the security of the plant at less cost to the Commission than if we relied solely on coal."

In connection with the matter of costs, Walter J. Williams, Director of Production, pointed out that the Commission will not incur any capital expenditure save for \$240,000 to convert the boilers to the use of natural gas instead of coal. Mr. Williams said further, as he had previously stated in testimony before the Federal Power Commission, that at current prices for both fuels, the use of natural gas will bring about a saving to the government of about \$1,200,000 per year.

UNITED STATES ATOMIC ENERGY COMMISSION,  
*Washington 25, D. C., July 11, 1949.*

Mr. WILLIAM L. BORDEN,  
*Executive Director, Joint Committee on Atomic Energy,*  
*United States Capitol, Washington, D. C.*

DEAR MR. BORDEN: Reference is made to Mr. Cole's request on page 476 of the printed hearings (June 20, 1949) for information concerning the corporate structure, the incorporation, the incorporators, and the stockholders of the East Tennessee Natural Gas Co.

The information given below was furnished us by the law firm of Whitaker, Hall & Haynes of Chattanooga, Tenn.

The East Tennessee Natural Gas Co. is not owned or controlled by any other corporation and no substantial stock interest is held in it by any other corpora-

tion. Tennessee Natural Gas Lines, Inc., which supplies gas to Nashville, Tenn., and which was formed by a number of the same group that later formed the East Tennessee Natural Gas Co., holds 24,582 shares of the common stock of East Tennessee. The capital structure of East Tennessee is as follows: The company has outstanding at the present time 400,000 shares of common stock of a par value of \$1 per share. It also has outstanding two series of interim notes. Series A of interim notes is in the principal amount of \$1,900,000 and series B is in the principal amount of \$440,000. The notes are payable December 31, 1950. The series A notes are dischargeable in preferred stock of the company which is in turn convertible into common stock of the company, and the series B notes are dischargeable in common stock of the company. The company has outstanding first-mortgage bonds in the principal amount of \$7,700,000. These bonds are owned as follows: Metropolitan Life Insurance Co., \$4,500,000; New York Life Insurance Co., \$1,200,000; and Mutual Life Insurance Co. of New York, \$2,000,000. Series A notes of the company referred to above are held by a group of 16 individuals and companies located in New York and other States. Each of them made certificates that they were acquiring the notes for investment and not for resale. The series B notes are held chiefly by stockholders of the company.

Eighteen thousand shares of the common stock were purchased by White, Weld & Co., and F. S. Moseley & Co. who handled the financing. The original East Tennessee Natural Gas Co. was organized April 16, 1947. The purpose was to obtain a certificate from the Federal Power Commission on the basis of which the company would serve Chattanooga and Knoxville and intervening areas with natural gas. Its incorporators were Dawson Hall, William W. Haynes, Phil B. Whitaker, Garrison Elder, D. B. Harris, and Felix G. Miller. The first three above-named incorporators are members of the law firm of Whitaker, Hall & Haynes of Chattanooga, Tenn. Mr. Elder is a member of Elder & Co., a stock brokerage firm of this city. Mr. Miller is the owner and operator of Miller Bros., the largest department store in Chattanooga.

Immediately after incorporation the stock was issued to a group of individuals including the above-named incorporators most of whom were citizens and residents of Tennessee. There follows a list of the principal original shareholders with their business associations:

Wade V. Thompson, Nashville, Tenn., who was previously interested in the natural gas business.

Rhoton P. Clift of Chattanooga, Tenn., coowner and president, Clift-Smith Co., International trucks, Farmall tractors, McCormick Deering farm equipment, Chattanooga, Tenn.

F. M. Cantrell, chairman, board of directors, Citizens' National Bank, Athens, Tenn.; president, Cantrell Banking Co., Etowah, Tenn.; executive vice president, Tennessee Natural Gas Lines, Inc., Nashville, Tenn.; president, Etowah Trust Co., Etowah, Tenn.

H. S. Walters, president, Hamilton National Bank, Morristown, Tenn., and contractor, Walters & Prater, Morristown, Tenn.

J. Carmichael Greer, president, Bacon Hosiery Mills, Lenoir City and Loudon, Tenn.

O. L. Garrison Elder, partner in investment brokerage company, Elder & Co., 61 Broadway, New York, N. Y., and James Building, Chattanooga, Tenn.

Thomas W. Goodloe, vice president, Equitable Securities Corp., Nashville, Tenn.; secretary, Tennessee Natural Gas Lines, Inc., Nashville; vice president, Nashville Gas & Heating Co.; member, executive committee and director of the Alabama Mills Co., Alabama.

Felix G. Miller, president, Miller Bros. Co., Chattanooga; secretary treasurer, Miller-Smith Hosiery Mills, Inc., Chattanooga; president, Kuttner's, Inc., Rome, Ga.; president, Broad Street Garage, Chattanooga; president, Broad Street Co. (real estate), Chattanooga; secretary-treasurer, Miller Investment Co., Chattanooga; president, Comet, Inc. (restaurant), Chattanooga; director, Standard Coosa-Thatcher Co., Inc. (yarn manufacturing), Chattanooga; director, Hamilton National Bank, Chattanooga.

Dawson B. Harris, president, Hamilton National Bank, Chattanooga; president-director, Hamilton Association, Chattanooga; director, Hamilton National Bank, Knoxville; director, Tennessee Natural Gas Lines, Inc., Nashville; director, Interstate Life & Accident Co., Chattanooga; director, Title Guaranty & Trust Co., Chattanooga.

Phil B. Whitaker, attorney at law, senior member of firm of Whitaker, Hall & Haynes, Chattanooga, Tenn.

These stockholders have remained stockholders and principal figures in the operation of the company to the present time.

Sincerely yours,

CARROLL L. WILSON, *General Manager.*

### EXHIBIT 17

(Referred to on p. 546, pt. 13, June 22, 1949)

(At the request of Senator Eugene Millikin, the following extracts are taken from the AEC General Manager's Bulletins)

GM-43 (Sept. 2, 1947), Office of Hanford Directed Operations:

"\* \* \* The Office, under the direction of the Manager of Hanford Directed Operations responsible to the General Manager, is authorized and directed to administer the functions indicated below in accordance with approved programs and policies and subject to such controls and staff supervision as the General Manager and Commission shall establish.

"The Manager of Hanford Directed Operations participates as a member of the General Manager's staff in the review of the AEC program to assure the soundest development of policy and the most effective and economical administration of direct and contract activity. \* \* \*

#### "I. MAJOR OPERATING FUNCTIONS

"In connection with the functions indicated below, the office of Hanford Directed Operations shall: (a) negotiate or participate in the negotiation of contracts, (b) assist prime contractors in carrying out Commission approved programs by aiding them in securing scientific and technical assistance and legal, budgetary, personnel, and other management services of the Commission, equipment and materials, subcontractors' services, and such other facilities as will aid them in discharging their responsibilities, and (c) assure compliance by the contractors with the general policies and with the security, fiscal, personnel, budgetary, and other controls established by the General Manager and the Commission.

"The principal functions carried out under the authority of the Office of Hanford Directed Operations are:

- "1. \* \* \*
- "2. \* \* \*

"3. The construction of new and the operation and maintenance of existing production, research, and community facilities at Hanford.

#### "II. DELEGATIONS AND INSTRUCTIONS

"1. *Make and administer contracts.*—Make purchases and enter into, extend, and modify contracts, except that each purchase, new contract, extension, or modification in excess of \$5,000.00 shall be subject to the approval of the General Manager; and act as the representative of the Commission for the administration of contracts executed under his authority or assigned for administration to the office of Hanford Directed Operations.

"2. *Establish positions and make appointments.*—Establish positions and appoint officers and employees.

"*Instructions.*—The employment and promotion of persons appointed to the following positions shall have prior approval of the General Manager: (a) All persons appointed to positions involving principal supervisory responsibilities for major functional units, (b) \* \* \*, (c) all persons appointed by contractors to positions at annual salaries of \$15,000 or above."

Bulletin GM 128 (March 15, 1949):

"Supervision of Construction and Related Activities:

"1. *Purpose.*—The purpose of this Bulletin is to spell out more distinctly the specific responsibilities of the Operations Office and Washington Divisions with regard to construction programs and related engineering, and to establish certain fundamental requirements for effective administration of these activities.

"2. *Background* \* \* \*

"3. *Division of Responsibilities.*

"(a) Responsibilities of Operations Offices: the Managers of Operations have prime responsibility for determining and carrying out construction and related engineering programs required to perform their assigned operating programs. Included as necessary parts of this responsibility are the functions of:

"(1) Initial study and the establishment of the functional requirements of the facilities and structures to be designed and built;

"(2) The development of construction programs, budgets, and work schedules;

"(3) The execution of construction programs in accordance with applicable policies, standards, budgets, and work schedules;

"(4) The submission of the above matters for approval when required; and

"(5) Providing the appropriate Washington Division with timely information on significant work programs, projected or in progress, so that their respective responsibilities can, in turn, be carried out."

Bulletin GM 125:

"Contract Manual for Engineering and Construction Services \* \* \* Contract Boards:

"1. *Purpose*.—The purpose of this Bulletin is to make effective the contract manual for construction and associated engineering services and to provide for the establishment of Contract Boards in the several Offices of Operations.

"2. *Contract Manual*.—The Contract Manual provides the policies, practices, and procedures to be followed by the Commission and its field offices in contracting for construction and associated architectural engineering services."

## EXHIBIT 18

(Referred to on p. 565, pt. 13, June 22, 1949)

MAY 23, 1949.

INVITATION—COMMERCIAL FACILITY—LOCAL NEWSPAPER—RICHLAND, WASHINGTON

I. Bids are hereby invited for the use of land as a site for plant and offices and use of utilities and other services necessary in the operation of a newspaper or newspapers for general circulation, to be located, published and printed at an acceptable business site or sites in Richland, Washington. Sites will be made available to any number of responsible newspaper publishers who wish to enter the field in Richland.

II. It is proposed that the successful bidder(s) will construct building(s) at bidder's expense on land owned by the Government. (If any items in the Invitation to Bid, Bid and Lease Form are not clearly understood, Bidders are invited to contact the General Electric Commercial Facilities Division in person or on phone Richland 384.)

III. The town of Richland is located entirely on land owned by the United States, and is operated by the General Electric Company (hereinafter referred to as General Electric) as prime contractor for the Atomic Energy Commission (hereinafter referred to as the Commission) under Contract W-31-109 Eng.-52, dated May 15, 1946, and subsequently amended. The information contained in the attached brochure is supplied for Bidders' convenience only, and neither General Electric nor the Commission makes any guaranty or warranty, express or implied, as to matters presented.

IV. Bidders are invited to study the business prospects of the Richland Area. The successful bidder(s) shall assume the risk of all developments and changes in the community of Richland.

V. Bids will be submitted in quadruplicate, in an inner and outer envelope, on the attached form of Bid. The inner and outer envelopes, which shall contain the Bid, shall be sealed, shall clearly indicate that they contain a Bid for this facility, and shall bear a return address. The outer envelope shall bear the following address:

Personal—Mail Room, Do NOT OPEN.  
General Electric Company,  
Richland, Washington.

Attention: Commercial Facilities Division—Bldg. 761.

Bids will be received at the above address until (2:00 P. M. Standard Time, Tuesday, July 12, 1949, at which time they will be opened in the presence of any of the

Bidders who desire to appear. Notification of the Successful Bidder(s) will be made as soon thereafter as practicable.

VI. The Successful Bidder(s) will be required to proceed with the construction of the building(s) and operation of business in strict accordance with the terms and conditions contained in the Bid and in the Lease Form attached hereto, and by this reference, made a part hereof, and prior to the commencement of any work hereunder, will enter into a Lease with General Electric subject to the approval of the Commission. Note ARTICLE XXVI of Lease Form, which provides that "The Lessor reserves the right to grant leases to others to operate similar or identical businesses at the Hanford Works, or to permit the conduct of similar or identical businesses under any other arrangement."

VII. The monthly payments which will be payable to General Electric under the Lease will be as outlined by the Bidder(s) in Article III of the attached Bid Form. No bid will be considered unless: (1) the lease payments offered under Article III of the attached bid form are sufficient in the opinion of General Electric and Atomic Energy Commission to cover utilities and services furnished and a reasonable payment for the use of the land; (2) adequate evidence is submitted to demonstrate the financial responsibility of the Bidder(s) to construct and equip the building.

VIII. Attention is invited to the policy and objectives of the Commission and the General Electric Company to the effect that the purpose of competitive bids on the publication of newspapers in the town of Richland is to obtain under equitable conditions a locally produced newspaper or newspapers for the town of Richland and to insure fairness to all interested parties in the assignment of sites for places of business. This is not an invitation to bid for the exclusive privilege of operating a newspaper in the town of Richland. Any and all bidders who meet the terms of this invitation and bid form may, if they choose, operate a newspaper in the town of Richland.

IX. Six sites are available for the location of newspaper plants in Richland and are shown on town maps which may be obtained at the office of the Commercial Facilities Division, General Electric Company, Richland, Washington. Bidders may bid on any one or all of the sites. The sites which have been made available include two sites on the primary traffic artery in areas zoned "Commercial", two sites on a secondary traffic artery in the areas zoned "Commercial", and two sites in areas zoned for "Light Industrial". Each successful bidder will be assigned one site only. A bidder who submits the highest bid on more than one type of site may select the type of site he desires, with selection limited, however, to the type upon which he has bid, and the award for the site which he elects not to take may be made to the second highest bidder.

X. Bidders shall complete the Bid Form in detail and shall specifically set forth:

A. A statement of the maximum number of calendar days after date of receipt of notice to proceed in which Bidder will complete the construction of the building(s), install equipment and be ready to begin the operation.

B. Information as to type, dimensions and design of the building(s) to be constructed.

C. Information as to the type of services to be furnished.

XI. Building(s) shall be constructed entirely at the expense of the Successful Bidder(s), and neither General Electric nor the Commission will assume any financial or other responsibility for the construction or maintenance of the building(s) or for the operation of the business.

XII. Since the primary purpose of this invitation to bid is the establishment of representative newspaper or newspapers for the town of Richland, locally edited, printed and published, it is expected that successful bidders will devote a reasonable amount of news column space to report news of direct local interest.

Very truly yours,

R. J. PEDERSON,  
*Superintendent, Commercial Facilities Division.*

RJP: bls.

Registered Mail.

Return Receipt Requested.

LEASE FORM

#### COMMERCIAL FACILITY LEASE—NEWSPAPER

THIS LEASE, entered into this \_\_\_\_\_ day of \_\_\_\_\_, 19\_\_\_\_, by and between GENERAL ELECTRIC COMPANY, a corporation organized and existing under

the laws of the State of New York with principal offices in the City of Schenectady, New York (hereinafter referred to as LESSOR), and -----

-----  
 a corporation organized and existing under the laws of the State of -----,  
 a partnership consisting of -----,  
 an individual trading as -----  
 of the City of -----, in the State of -----,  
 (hereinafter referred to as LESSEE) :

**WITNESSETH THAT:**

WHEREAS Lessor, as a Pure Cost Contractor, has heretofore, to wit, on the 15th day of May, 1946, entered into a contract (W-31-109 Eng. # 52) which has been subsequently amended, and as amended, is hereinafter called the "principal contract" with the United States of America, hereinafter called the "Government", represented by the United States Atomic Energy Commission, hereinafter called the "Commission", to operate, expand and maintain the Hanford Works including the Community of Richland, Washington; and,

WHEREAS pursuant to such contract, Lessor with the approval of the Commission invited Bids for the construction and operation of ----- (hereinafter referred to as the "Facility"), upon land owned by the Government, and the Lessee was the successful bidder;

Now, THEREFORE, the Lessor hereby leases to Lessee and Lessee hereby leases from the Lessor, subject to the conditions and covenants hereinafter set forth in Articles I to XXXVI, inclusive, the following described premises: -----

**ARTICLE I. TERM**

The term hereof shall be ----- years, commencing -----, 19--,  
 and ending -----, 19--, unless sooner terminated pursuant to the provisions of Article XII. At the expiration of this Lease the Lessee shall have the option of renewing the Lease for a term of ----- years upon the same terms and conditions as are contained herein, except that the amount of the payments payable under the renewed Lease shall be renegotiated. The Lessee shall exercise his option to renew in accordance with the preceding sentence by giving written notice of intention so to do not less than six months prior to expiration. Failure of the Lessor to receive such written notice shall be deemed to be conclusive evidence of the Lessee's intention not to exercise renewal option.

**ARTICLE II. USE OF PREMISES**

The demised premises shall be used by the Lessee for the construction, maintenance, and operation of -----  
 and for no other purpose, unless the Lessor authorizes other and/or additional uses in writing in advance.

**ARTICLE III. RENT**

Lessee shall pay to Lessor at Lessor's office at Hanford Works, Richland, Washington, or elsewhere, as designated from time to time by Lessor, the following amounts as rent for the use of the premises herein demised:

1. During the course of construction, a fee sufficient to cover cost of building permit, inspections, and water and electricity used during course of construction, to be established by Lessor.

2. From and after -----, monthly rental in the amount of \$-----, in return for utilities, services, and ground use; such payments to be made on or before the 15th day of the next succeeding calendar month.

3. Interest computed at ---% per annum from due date of each payment, and upon each defaulted obligation, until paid.

**ARTICLE IV. TITLE TO BUILDING(S)**

It is understood and agreed that the premises demised hereunder are owned by United States of America; that the Lessor is entering into this Lease pursuant to the principal contract; and that any building(s) to be erected hereunder by the Lessee shall be and remain, during the term of this Lease and any renewal hereof, the property of the Lessee, irrespective of the manner in which the building(s) may be affixed to the land.

## ARTICLE V. ENCUMBRANCES AND ASSIGNMENTS

1. Except with the prior written approval of the Lessor, which approval shall not be unreasonably withheld, the Lessee shall not sell, assign, mortgage, lease, sublease, license or otherwise dispose of or encumber, in whole or in part, the leasehold estate hereby created or the building(s) to be erected hereunder, nor suffer any voluntary or involuntary transfer or disposition of title or encumbrance to be made, and the Lessee will indemnify and keep indemnified the Lessor and the Commission against losses resulting from the payment of any lien, charge or encumbrance. Nothing herein contained shall empower Lessee to do any act which can, may or shall cloud or encumber the Government's title to the land.

2. If, pursuant to the written consent of the Lessor, Lessee shall mortgage, pledge or otherwise encumber the leasehold estate hereby created or the building(s) to be erected hereunder, then no termination provided for under Article XII, Section 1, of this Lease shall impair the validity of any such lien or encumbrance. Any notice of default on the part of the Lessee or intention on the part of Lessor to terminate or revoke this Lease shall be mailed to the agent designated by the mortgagee, pledgee, or other encumbrance-holder; provided, however, that no notice of such default or intention to terminate shall be required to be given to said mortgagee, pledgee or other encumbrance-holder, if he fails to designate such an agent.

## ARTICLE VI. CONSTRUCTION

The Lessee agrees that he will, at his own cost and expense and pursuant to the following provisions, commence and complete construction of the building(s) to be utilized in the operation of the Facility:

1. The Lessee, before proceeding with the construction of the proposed building(s), shall submit to the Lessor, for inspection and approval by the Lessor, three copies of the completely executed contract between the Lessee and his architect and builder and three copies of completed drawings and specifications covering the proposed building(s).

2. The Lessee shall furnish the Lessor with one set of "as built" reproducible plans pertaining to the original building(s) and to any subsequent additional building alterations or additions, immediately following approval by Lessor and Commission of completed work.

3. Work on the building(s) shall be commenced as soon as practicable after receipt by Lessee, from Lessor, of notice of approval of the executed contract, drawings and specifications, and work shall be completed in accordance therewith not later than \_\_\_\_\_, 19\_\_\_\_, or as this time may be extended by the Lessor because of delays beyond the control of the Lessee.

4. Whenever an actual or potential labor dispute or work stoppage arising therefrom, is delaying, or threatens to delay, the timely performance of work in connection with such building(s), the Lessee shall give immediate notice thereof to the Lessor. Such notice shall include all relevant information with respect to such dispute.

5. The Lessee, shall procure or cause to be procured, all licenses, permits, franchises, easements, rights of way, or other interests in real property necessary for the performance of work in connection with the construction of building(s).

6. In the construction of the building(s) hereunder, the Lessee covenants that he will not pay, or allow to be paid, any wages or allowances in excess of those prevailing at Hanford Works.

7. The Lessor shall extend existing water, electrical and sewer facilities to an agreed point near the building wall, at no additional cost to the Lessee.

8. The Lessor and the Commission shall have the right to inspect, in such manner and at such times as are reasonable, the work in process of construction.

9. The Lessee shall, at the discretion of the Lessor, require any or all of his contractors to furnish adequate performance and payment bonds.

## ARTICLE VII. OPERATION OF THE FACILITY

The Lessee shall, at his own cost and expense, and pursuant to the following provisions, operate the Facility on the demised premises:

1. The Lessee shall maintain such stocks of merchandise, provide such services, employ sufficient personnel, furnish and install such fixtures and equipment and do all things necessary to render efficient and convenient service to customers.

2. The Lessee shall keep the premises open and available for business activity therein during all usual days and hours for such business in the community except when prevented by strikes, fire, casualty or other causes beyond Lessee's control and except during reasonable periods for repairing, cleaning, decorating, and for such other purposes as may be approved by the Lessor.

3. The Lessee shall include the address and identity of the Facility and the demised premises in all advertisements made by Lessee in which the address and identity of any other similar business conducted by Lessee in the vicinity of Richland, Washington, shall be mentioned, and shall not divert elsewhere any trade, commerce or business which ordinarily would be transacted by Lessee in or from the demised premises, either during the period of construction of the building(s) hereunder or after completion thereof.

4. The installation, display, painting, affixing, or maintenance of signs, notices, pictures, billboards or other advertising material outside the building(s) shall be subject to the approval of the Lessor, and the Lessee shall remove all such signs, notices, pictures, billboards or other advertising matter from the building(s) and premises at any time when directed by the Lessor so to do.

5. The Lessee shall not place nor permit any radio antennae, sound amplifiers, or similar devices on the roof or outside of the building(s) except with the written approval of the Lessor.

6. The Lessee shall keep the demised premises, the building(s), and all equipment therein, in good condition and repair. No additions to, or alterations of the building(s) shall be made, nor shall any additional building(s) be erected without the prior written approval of Lessor, which shall not be unreasonably withheld, nor shall any substantial change in the terrain of the premises be made without such approval.

7. The Lessee shall pay all charges assessed for the installation of telephones and the use of the telephone system.

8. The Lessee shall pay any and all taxes imposed by the Federal Government, the State or any political subdivision thereof.

#### ARTICLE VIII. UTILITIES

Electricity (for purposes other than heating) and water for the construction, maintenance, and/or operation of the Facility shall be furnished by the Lessor, and trash and garbage placed in container furnished by the Lessee, shall be removed by the Lessor. The aforesaid utilities and services shall be furnished by the Lessor at no additional cost to the Lessee, except that separate billing may be rendered therefor: provided, however, that neither the Lessor nor the Commission, nor any of their contractors, shall be liable at any time for any loss or damage due to interruption or failure in the furnishing of such services or utilities for any reason whatsoever; and provided further, that in the event the furnishing of said utilities and services is taken over by others than the Lessor, the Lessor shall be relieved of its obligations under this Article and the Lessee shall make payment directly to the persons, firms, or corporations furnishing any or all of said utilities or services, and in such event the Lessee's payments shall be equitably adjusted.

#### ARTICLE IX. SAFETY AND ACCIDENT PREVENTION

All activities in connection with the construction, maintenance, and/or operation of the Facility shall conform to all health and safety requirements and regulations of the Lessor and/or the Commission regardless of whether such activities be those of the Lessee or any of his contractors, or the officers, employees, or agents of the Lessee or of any of his contractors; and the Lessee shall take, or cause to be taken, all reasonable steps or precautions to protect health and minimize danger from all hazards to life and property, and shall make, or cause to be made, all reports and permit all inspections as provided in such regulations and requirements.

#### ARTICLE X. INDEMNITY AND INSURANCE

1. The Lessee shall indemnify and hold harmless the Lessor and the Commission from any and all liability whatsoever for injury to or death of persons or loss of or damage to property caused by or arising out of activities or non-feasance in connection with the construction, maintenance, and/or operation of the Facility, whether such activities be those of the Lessee or any of his con-

tractors, or the officers, employees, or agents of Lessee or of any of his contractors.

2. The Lessee shall maintain or shall cause to be maintained insurance in at least the following amounts: Public Liability for Bodily Injury, \$50,000/\$100,000; Public Liability for Property Damage, \$5,000; Automobile Public Liability for Bodily Injury, \$50,000/\$100,000; Automobile Public Liability for Property Damage, \$5,000, for purposes of providing protection against claims which may arise from activities in connection with the construction, maintenance, and/or operation of the Facility, whether such activities be those of the Lessee or any of his contractors, or the officers, employees, or agents of the Lessee or any of their contractors, and such other or additional insurance as will furnish reasonable protection against such claims, or other claims normally insured by newspaper publishers. Certificates of such insurance shall be filed with the Lessor, and the Lessor shall be given ten (10) days advance notice by mail of changes in or cancellation of any such insurance.

#### ARTICLE XI. COMPLIANCE WITH LAWS

The Lessee shall comply with The Industrial Insurance Act and the Medical Aid Act of the State of Washington, all Federal and State Social Security laws and all other Federal, State, and local laws, rules and regulations applicable to the construction, maintenance, and/or operation of the Facility, or to the Lessee as an owner or employer, and shall comply with such rules and regulations as the Lessor or the Commission may from time to time establish pertaining to the construction, maintenance, and/or operation of the Facility, or to the Lessee as an owner or employer, or to the health, sanitation, fire protection, and safety of the community; and the Lessee shall take the necessary steps to require compliance by his contractors and their officers, agents, and employees, with the foregoing laws, rules, and regulations.

#### ARTICLE XII. TERMINATION OR EXPIRATION

1. This Lease or any renewal hereof may be terminated by the Lessor, with the approval of the Commission, for the following reasons:

(a) Default in the payment of rent, when the Lessee is in default longer than ten days from the date the rent is due hereunder; or, default in the performance by the Lessee, his agents, contractors, or employees in respect to any of the terms, conditions or covenants of this Lease, whether or not such default is expressly declared to be a cause for termination elsewhere in this Lease; provided, however, that this Lease shall not be terminated for default (other than nonpayment of rent) if such default is remedied within ten days after written notice thereof has been given to the Lessee by the Lessor.

(b) The filing of a petition or similar proceeding under any bankruptcy or insolvency laws, either by or against the Lessee; the appointment of a receiver of the property of the Lessee; or the making by the Lessee of a general assignment for the benefit of his creditors.

(c) Abandonment of the premises by the Lessee.

(d) A radical change in the control, management, or composition of a corporate or partnership Lessee resulting in an operation, which, in the opinion of the Commission, is contrary to the Interest of the common defense and security.

2. In the event of termination or revocation by the Lessor for any of the reasons stated in Section 1 of this Article:

(a) The Lessee will be permitted to sell or otherwise dispose of the building(s), in place, for continued operation, within \_\_\_\_\_ days or as this time may be extended by the Lessor, to such person or persons, and upon such terms and conditions, (including protective conditions to insure payment by Lessee of damages, if any, under Paragraph (c) of this Section), as the Lessor and the Commission may approve in writing in advance.

(b) In the event that the Lessee does not sell or otherwise dispose of the building(s) under Paragraph (a) immediately preceding, title to the building(s) shall vest in the Government, without any compensation therefor.

(c) If termination is for any of the reasons specified in Section 1 of this Article, the Lessee shall be liable to the Lessor and/or the Commission for liquidated damages in an amount equal to the average of the monthly payments for the six-month period preceding the termination, multiplied by the

number of months not to exceed six (6) from and after the date the demised premises are vacated or abandoned by the Lessee until another Lessee takes possession thereof.

3. In addition to the right of the Lessor to terminate this Lease or any renewal thereof, under Section 1 of this Article, the Commission, through notice given by the Lessor, may revoke this Lease whenever in the opinion of the Commission, such termination is essential in the interest of the common defense and security.

4. In the event that revocation is effected under the provisions of Section 3 of this article and the Lessee is not in default of the provisions of this Lease or in violation of any law or regulation, which violation is the basis for such revocation, the Lessor, for and on behalf of the Commission, hereby agrees to purchase the Lessee's building(s) and the Lessee hereby agrees to sell said building(s) to the Lessor at the fair value thereof, as that term is hereinafter defined, provided, however, that the Lessor reserves the right to pay such sums as may be due hereunder to any holder of a valid lien, mortgage or encumbrance.

5. Upon expiration of the term of the Lease, or any renewal thereof, title to the building(s) erected upon the demised premises shall vest in the Commission, and the building(s) shall thereupon become part of the realty.

6. The term "fair value" as used in this Lease shall mean the actual original cost of the Lessee's building(s) to be purchased by the Lessor, less depreciation computed at ----- % per annum of the actual cost of the original building(s); and plus the actual cost of any authorized additional building(s) to be so purchased, less depreciation at fixed percentages per annum to be agreed upon in advance in writing by the parties hereto with respect to any such authorized additional building(s). The rate of depreciation provided for herein is based on the understanding and agreement of the parties hereto that the actual cost of the building(s) now contemplated for construction by Lessee shall be totally and completely amortized within a period of ----- years, and that any authorized additional building(s) shall be deemed totally and completely amortized within the period agreed upon pursuant to the provision of Section 7 of this Article. In the event that this period of amortization is changed at any time by written agreement of the parties hereto, the depreciation figure will be revised so that the total depreciation will be prorated on a per annum basis for the period of amortization.

7. At the time the Lessee submits the drawings, plans, and specifications of the original building(s) to the Lessor for approval, pursuant to Article VI, Section 1, the Lessor and Lessee shall agree in writing, subject to the approval of the Commission, upon the items which properly may be included in the actual cost of said building(s), and within ----- days after completion of said building(s), or as this time may be extended by the Lessor, the parties hereto shall agree in writing, subject to the approval of the Commission, as to the amount of the actual cost of said building(s); at the time approval is obtained to construct any additional building(s) pursuant to Article VII, Section 7, the Lessor and Lessee shall agree in writing, subject to the approval of the Commission, upon the items which properly may be included in the actual cost of said additional building(s), and within ----- days after completion of said additional building(s), or as this time may be extended by the Lessor, the parties hereto shall agree in writing, subject to the approval of the Commission, as to the amount of the actual cost of said additional building(s) and as to the period within which said additional building(s) shall be totally and completely amortized.

8. In any case where the Lessor on behalf of the Commission purchases Lessee's building(s), or the title thereto is to vest in the Commission, the building(s) shall become part of the realty and shall become the absolute property of the Commission, at time that payment is made, if the transfer of title occurs prior to the expiration of the amortization period, or on the date fixed for termination or revocation, if no payment is to be made. The Lessee covenants to execute, acknowledge and deliver any and all documents of title and to take all necessary steps to transfer of title, free and clear of all liens, encumbrances and charges, other than those expressly authorized and validly existing under the provisions of Article V, Section 2.

9. Upon termination, revocation, or expiration of this Lease or any renewal hereof, the Lessee shall, at the request of Lessor, surrender possession and vacate the premises, remove all his property therefrom, and deliver possession of the premises to the Lessor, and hereby grants to the Lessor or the Commission full and free right to enter into and upon the premises in such event, with or

without process of law, and to take possession of the premises and to expel or remove Lessee and any others who may be occupying the premises and to remove any and all property therefrom using such force as may be necessary, without being deemed guilty of trespass, eviction or forcible entry or detainer, and without relinquishing Lessor's rights to payments or any other right given to Lessor hereunder or by operation of law.

#### ARTICLE XIII. LESSEE'S RIGHTS UPON SALE OF PREMISES

The Lessor hereby covenants that the demised premises will not be sold during the term of this Lease unless and until the Lessee shall have been given notice of the intention to sell said premises and shall have been given a period of \_\_\_\_\_ days in which to make an offer for said premises, and the Lessor further covenants that, in the event this offer is not accepted, no such sale will thereafter be made unless and until the Lessee shall have been notified of the best offer received by the Lessor or the Commission for said premises and shall have been given an additional period of \_\_\_\_\_ days in which to make a further offer.

#### ARTICLE XIV. LIMITATION

Lessor is not and never shall be liable to any creditor of Lessee or to any claimant against the estate or property of Lessee for any debt, loss, contract or other obligation of Lessee.

#### ARTICLE XV. DISPUTES

All disputes concerning questions of fact, which may arise hereunder and which are not disposed of by mutual agreement, may be referred to arbitration, in which event the Lessee and the Lessor and/or the Commission shall each designate or appoint an arbitrator, the two arbitrators to select a third arbitrator, and the ruling following such arbitration to be final and accepted by all parties. Pending decision of a dispute hereunder, the Lessee shall diligently proceed under this Lease as construed by Lessor, unless otherwise authorized by the Commission.

#### ARTICLE XVI. ACTS OF SOVEREIGN

Neither the Lessor nor the Commission nor any of their agents, employees nor contractors shall be liable for any interruption of the Lessee's business or interference therewith which may result from the repair, relocation, changing of grade or closing down or opening of any streets, roads, or highways.

#### ARTICLE XVII. FIRE OR OTHER CASUALTY

If the building(s) are totally or partially damaged or destroyed by fire, Acts of God or other casualty, the Lessee shall rebuild, repair, reinstall or rehabilitate the building (s) at the Lessee's expense, subject to the approval of the Lessor in accordance with the provisions of Article VI (Construction), in which event payment by the Lessee shall be equitably adjusted.

#### ARTICLE XVIII. NOTICES

In every instance where it shall be necessary or desirable for Lessor to serve any notice or demand upon Lessee, it shall be sufficient either (a) to deliver or cause to be delivered to Lessee a written or printed copy thereof, or (b) to send a written or printed copy thereof by United States registered mail, postage prepaid, addressed to Lessee at the demised premises, in which event the notice or demand shall be deemed for all purposes to have been served at the time the copy is mailed, or (c) to leave a written or printed copy thereof with any person residing on or in possession of the demised premises or to affix the same upon any door leading into any building upon the demised premises, in which event the notice or demand shall be deemed to have been served at the time the copy is so left or affixed.

#### ARTICLE XIX. MISCELLANEOUS

1. No receipt of money by the Lessor from Lessee after the termination of this Lease or after the service of any notice or after the commencement of any suit, or after final judgment for possession of the demised premises, shall renew, re-

instate, continue or extend the term of this Lease or affect any such notice demand or suit.

2. Failure of the Lessor to take any action with respect to any default by the Lessee hereunder shall not constitute a waiver of any of the Lessor's rights under this Lease, and no express waiver shall affect any default other than the default specified in the express waiver and that only for the time and to the extent therein stated.

3. The invalidity or unenforceability of any provision herein shall not affect or impair any other provision in this Lease.

4. Provisions inserted herein or affixed hereto shall not be valid unless appearing in the executed copy hereof in the possession of the Lessor, and in event of variation or discrepancy, Lessor's duplicate original shall control.

5. Except as otherwise herein provided, each provision hereof shall extend to and shall, as the case may require, bind and inure to the benefit of Lessor and Lessee and their respective heirs, legal representatives, successors and assigns.

6. The headings of Articles, Sections and Paragraphs are for convenience only and do not define, limit or construe the contents thereof.

#### ARTICLE XX. RESERVED RIGHTS

Lessor reserves the following rights:

1. To change the name of the street or address of the building(s) without prior notice thereof or liability to Lessee.

2. To enter the premises or any part thereof at reasonable hours to make inspections, to exhibit the premises to prospective tenants, purchasers or others, and to perform, consistently with this Lease, any acts related to the safety, protection, preservation, sale or improvement of the premises or the building(s).

3. To construct, operate, maintain, inspect, repair, relocate and remove any sewer, water, telephone, electrical and other utility and municipal service lines or installations, including the necessary poles and fixtures, with right of ingress and egress to and from the same on, over and through the premises herein demised.

#### ARTICLE XXI. DEFAULT UNDER OTHER LICENSE AGREEMENT OR LEASE

If the term of any License Agreement or Lease, other than this Lease, made by Lessee and Lessor, be terminated of terminable after the execution of this Lease because on any default by Lessee under such other License Agreement or Lease, the Lessor, at its option, may either terminate this Lease or add any sums due to Lessor under the other License Agreement or Lease to the amount payable under this Lease.

#### ARTICLE XXII. HOLDING-OVER

Lessee shall pay to Lessor, as liquidated damages, a sum equal to double the amount of the monthly payments as computed under the terms of this Lease or a sum equal to double the average monthly payments for the six-month period immediately preceding the date the holding-over begins, whichever is greater, for each month the Lessee retains unauthorized possession of the premises or building(s) in violation of the terms of this Lease. For any period of holding-over for less than a month, the amount of liquidated damages as above computed will be prorated on a per diem basis. Lessor's acceptance of any payments after holding-over begins does not renew this Lease. This provision does not waive Lessor's right of re-entry or any other right hereunder.

#### ARTICLE XXIII. LITIGATION COSTS

Lessee shall pay upon demand all of Lessor's costs, charges and expenses, including the fees of counsel, agents and others retained by Lessor, incurred in enforcing Lessee's obligations hereunder or incurred by Lessor in any litigation, negotiation or transaction in which Lessee causes Lessor, without Lessor's fault, to become involved or concerned.

#### ARTICLE XXIV. RENEGOTIATION

The Lessor or Lessee shall have the right to require renegotiation of the rent payable hereunder and adjustment of the amounts thereof at the end of each five-year period of this Lease or any renewal hereof. If the Lessor and the Lessee are unable to agree, after renegotiation, on the amounts, if any, by

which such payments should be adjusted, the question may be referred to arbitration under the provisions of Article XVI (DISPUTES) herein; provided, however, that pending the determination of such a dispute the Lessee shall pay as rent hereunder the amount fixed by the Lessor.

#### ARTICLE XXV. INTEGRATION CLAUSE

This Lease contains the entire understanding between the parties, and there are no understandings, representations, or warranties not set forth or incorporated by reference herein. No subsequent modification of this Lease shall be of any force or effect unless in writing, signed by the party claimed to be bound hereby.

#### ARTICLE XXVI. RIGHT TO OPERATE BUSINESS NOT EXCLUSIVE

The Lessor reserves the right to grant leases or licenses to others to operate similar or identical business at the Hanford Works, or to permit the conduct of similar or identical businesses under any other arrangement.

#### ARTICLE XXVII. ANTIDISCRIMINATION

The Lessee shall not discriminate against any employee or applicant for employment because of race, creed, color or national origin.

#### ARTICLE XXVIII. COVENANT AGAINST CONTINGENT FEES

The Lessee warrants that no person has been employed to solicit or assist in obtaining this Lease upon any agreement for a commission, percentage, brokerage or contingent fee. This warranty shall not apply to commissions payable by Lessee upon contracts or sales secured or made through bona fide commercial or selling agencies maintained by the Lessee for the purpose of securing business.

#### ARTICLE XXIX. OFFICIALS NOT TO BENEFIT

No member of or delegate to Congress nor Resident Commissioner shall be admitted to any share or part of this Lease nor to any benefit that may arise therefrom, but this provision shall not be construed to extend to this Lease if made with a corporation for its general benefit.

#### ARTICLE XXX. SECURITY CLEARANCE AND EMPLOYEES

1. Lessee shall comply with all regulations and rules in effect on the Hanford Works regarding passes, badges, lists of employees and conduct on the property, and shall take the necessary steps to require compliance by his contractors and their officers, agents and employees with such rules and regulations.

2. The Lessee shall submit to the Lessor the names of all persons to be employed in connection with the construction of the building(s) and operation of the Facility. The Lessee shall also promptly notify the Lessor of all employee terminations. The Lessor may, with the approval of the Commission, refuse to allow the employment of any person, if, in the opinion of the Commission, such employment would be prejudicial to the interest of the common defense and security.

3. Unless otherwise authorized by the Lessor, all persons employed in the construction of the building(s) and operation of the Facility will be required to obtain security clearance before performing any work, and the Lessor, with the approval of the Commission, may require dismissal from the work of any employee whose employment is deemed prejudicial to the interest of the common defense and security, subject to right of appeal by the Lessee to the Commission for reinstatement of any such employee in the event such action shall be taken.

#### ARTICLE XXXI. APPROVAL OF COMMISSION

This Lease shall be subject to the written approval of the Commission and shall not be binding until so approved.

#### ARTICLE XXXII. DEFINITIONS

1. As used in this Lease, the terms "United States Atomic Energy Commission" and "Commission" shall mean the United States Atomic Energy Commission or its duly authorized representative or representatives.

2. The term "building(s)" as used herein shall mean all structures, tenements, and appurtenances constructed on the demised premises and such fixtures as are affixed thereto so as to become a part thereof, and not be severable wholly or in any portion without material injury to the freehold.

ARTICLE XXXIII. AVAILABILITY OF FUNDS

Any contingent liability or obligation for future payments assumed hereunder by the Lessor and/or the Commission shall be subject to the availability of funds appropriated by Congress, for the discharge of said obligation.

ARTICLE XXXIV. ASSIGNMENT TO COMMISSION

This Lease may be assigned at any time by the Lessor to the Commission or its designee and by such assignment the Lessor is relieved from all liability to the Lessee under this Lease.

ARTICLE XXXV. FREE PRESS

Nothing herein contained shall be construed to authorize the Lessor or Commission to control Lessee's editorial policy in any way, or to restrict Lessee's right to publish any information or other matter, disclosure of which is not prohibited by law.

ARTICLE XXXVI. ALTERATIONS

The following changes were made in this Lease before it was signed by the parties hereto:

IN WITNESS WHEREOF the parties have caused this Lease to be executed on the day and year first hereinbefore written.

By \_\_\_\_\_  
GENERAL ELECTRIC COMPANY.  
Assistant to General Manager

By \_\_\_\_\_  
LESSEE:  
Title

ATTEST:  
\_\_\_\_\_  
Assistant Secretary  
WITNESS OR ATTEST:  
\_\_\_\_\_  
\_\_\_\_\_

APPROVED:

UNITED STATES ATOMIC ENERGY COMMISSION,

By \_\_\_\_\_  
Manager, Hanford Operations Office

Date\_\_\_\_\_

BID—COMMERCIAL FACILITY—LOCAL NEWSPAPER, RICHLAND, WASHINGTON

I. In compliance with your Invitation to Bid, dated\_\_\_\_\_, 1949, and subject to all the terms and conditions thereof, we submit on the following consecutively numbered pages this Bid for a lease to construct and equip the necessary building(s), and to edit, publish, and print a local newspaper in Richland, Washington.

II. We will construct the building(s) at our expense, in accordance with the terms and conditions contained in the Invitation to Bid, the Lease form, and in a manner prescribed by General Electric.

III. A. We will pay General Electric, from and after the date fixed for commencement of operations as specified in Article IX of this Bid, monthly compensation in return for ground use, water, electricity (for all purposes other than heat), and for other services to be provided by General Electric as outlined in the Lease form, as follows:

B. In addition to monthly compensation set forth in Section A immediately preceding, we will pay reasonable building permit and other construction fees, payable to General Electric upon receipt of building permit, to cover the cost to General Electric of furnishing electricity and water during the course of con-

struction of the building(s), inspecting drawings and specifications, and making inspections during course of construction to assure compliance with all building codes and zoning regulations specified by General Electric and the Commission.

IV. We request that the tenure of the Lease be for the following period:

Check (x) one only:

1. 10 years -----
2. 15 years -----
3. 20 years -----
4. -----

We request that we be given an option to renew the Lease for a term of ----- years, which period shall not exceed the original period.

V. Information on the building(s) we propose to construct at our expense is provided below:

A. Type of Construction (Must conform to requirements of Uniform Building Code, 1949 Edition, Pacific Coast Building Officials Conference; National Electrical Code & State of Washington Electrical Code, as revised locally; and Uniform Plumbing Code, 2nd Edition, Western Plumbing Officials Association, all of which are on file in the General Electric Community Engineering Office at Richland):

B. Building Dimensions (attach rough perspective pencil drawing and sketch indicating lay-out and plot plan):

C. Estimated Construction cost:

VI. (List below, or on attached pages, type and capacity of equipment which you would propose to install, together with approximate cost):

VII. (Submit specific information as to your ability to obtain necessary equipment to meet the completion date set by you):

VIII. (List below, or on attached pages, any special services proposed, in addition to publishing the newspaper, such as commercial printing, sale of stationery and office supplies, or subrental space.)

IX. In the event we are awarded this Bid, we will construct the building(s) within a maximum of ----- days after receipt of formal notice to proceed, and we will commence operations within ----- days from the time the building(s) are completed by us.

X. In the event we are awarded this Bid, the business will be operated under the name of -----

XI. In the event we are awarded this Bid, we agree to procure all necessary licenses and permits and comply with all Federal, State, and local laws applicable to the business or to the operation thereof, or to us as an owner or employer, and to abide by such rules and regulations as General Electric or the Commission may from time to time establish pertaining to the health, sanitation, fire protection, and safety of the residents of Richland.

XII. In the event we are awarded this Bid, we agree promptly to execute a Lease with General Electric, containing substantially the same provisions as those in the accompanying instrument. It is understood that all agreements entered into by and between the Successful Bidder and General Electric shall be subject to the written approval of the Commission.

XIII. In the event we are awarded this Bid, our sources of loan for construction of the building(s) will be as follows: -----

XIV. In the event we are awarded this Bid, the business will be operated as:

A. An individual enterprise ( ).

B. A Partnership ( ). If a partnership, show names and addresses of partners: -----

C. A corporation ( ). If a corporation, show names and addresses of proposed officers: -----

(Attached hereto and made a part hereof is a "Declaration of Ownership" form to be executed and returned by the Bidder.)

XV. We attach hereto and make a part hereof a current financial statement as of -----, 1949.

Bidder -----

By -----

Signature -----

Title -----

Date -----

(RICHLAND COMMERCIAL FACILITIES)

DECLARATION OF OWNERSHIP

1. State the name under which the business is now being conducted: \_\_\_\_\_  
 Has this business name been filed or registered with civil authority? Yes ( )  
 No ( ). If so, state date and place of filing: \_\_\_\_\_
2. Is the business now being conducted by an individual, partnership, association or a corporations? \_\_\_\_\_
  - a. If an individual, state name and address: \_\_\_\_\_
  - b. If partnership, state names and addresses of partners and also attach a certified copy of partnership agreement: \_\_\_\_\_
  - c. If association, state names and addresses of members and also attach a certified copy of agreement between members: \_\_\_\_\_
  - d. If corporation, state names and addresses of principal officers and also attach certified copy of Articles of Incorporation.  
 If Foreign Corporation, attach evidence of qualification in State of Washington \_\_\_\_\_
  - e. If any person, firm, partnership, association or group other than as listed under #2a, b, c, or d has any interest in the business, state name and describe the nature of the interest. \_\_\_\_\_

\_\_\_\_\_ (Signed) \_\_\_\_\_  
 Date \_\_\_\_\_ Title \_\_\_\_\_  
 State of \_\_\_\_\_ }  
 County of \_\_\_\_\_ } ss.:  
 Sworn to before me a Notary Public in and for said County and State  
 this \_\_\_\_\_ day of \_\_\_\_\_ 1948  
 \_\_\_\_\_  
 Notary Public

EXHIBIT 19

(See also Exhibits 26 and 31)

(Referred to on p. 606, pt. 14, June 23, 1949; p. 751. pt. 17, June 29, 1949; p. 796, pt. 20, July 7, 1949)

UNITED STATES ATOMIC ENERGY COMMISSION,  
 Washington 25, D. C., June 24, 1949.

HON. BRIEN McMAHON,  
 Chairman, Joint Committee on Atomic Energy,  
 Senate Office Building, Washington 25, D. C.

DEAR SENATOR McMAHON: Enclosed is the salary data requested by Senator Knowland in the hearings on June 23, 1949.

Sincerely yours,

UNITED STATES ATOMIC ENERGY COMMISSION,  
 CARROLL L. WILSON, General Manager.

Enclosure: Salary data (2).

Contractor personnel receiving payments of \$14,000 or more per year reimbursed by AEC (data as of close of pay period immediately prior to June 23, 1949)

Contractor	Name	Position title	Yearly payment
New York:			
Associated Univ., Inc.¹	L. J. Haworth	Laboratory Director	\$16,000
Do.	Lee Farr	Chairman, Medical Dept.	15,000
Do.	M. G. White	Senior Scientist	15,000
Do.	D. D. Van Slyke	Asst. Dir., Medical Dept.	15,000
H. K. Ferguson Co.	W. N. Thompson	Project Director	20,000
Do.	C. T. Cohen	Technical Director	16,000
Kellex Corp.¹	Hugh Willis	Division Engineer	18,000
Do.	R. A. North	do.	15,000

See footnotes at end of table.

*Contractor personnel receiving payments of \$14,000 or more per year reimbursed by AEC (data as of close of pay period immediately prior to June 23, 1949)—Continued*

Contractor	Name	Position title	Yearly payment
Schenectady: General Electric Co.	K. H. Kingdon.....	Dir., Knolls Laboratory.....	16,000
Oak Ridge: Carbide & Carbon Chemicals Corp.	Clark Center.....	Superintendent.....	14,000
Chicago:			
Westinghouse Electric Co.	C. H. Weaver.....	Mgr., Atomic Power Div.....	15,670
Voorhees, Walker, Foley & Smith.	C. S. Haines.....	Project Manager.....	15,000
Do.....	H. T. Gerardi.....	Resident Project Mgr.....	14,000
Do.....	T. D. Christiano.....	Chief Design Engineer.....	14,000
Argonne National Laboratory.	W. H. Zinn.....	Laboratory Director.....	16,500
Do.....	N. Hillberry.....	Assoc. Laboratory Director.....	14,000
Los Alamos:			
University of California <sup>1</sup> .	N. E. Bradbury.....	Laboratory Director.....	14,000
Zia Company	Dr. Dan Gill.....	Surgeon.....	15,000
	Dr. Wm. C. White.....	Hospital Director.....	15,000
Hanford: General Electric Co. <sup>4</sup>	F. R. Creedon <sup>5</sup> .....	Mgr., Design & Construction.....	36,000
Do.....	R. S. Neblett.....	Asst. General Manager.....	<sup>6</sup> 15,570
Do.....	A. B. Greninger.....	Manager, Technical.....	<sup>7</sup> 14,000
Do.....	C. N. Gross.....	Manager, Manufacturing.....	<sup>8</sup> 14,000
Do.....	W. D. Norwood.....	Manager, Medical Div.....	<sup>9</sup> 14,100
Do.....	F. E. Baker.....	Comptroller.....	<sup>10</sup> 12,500
Do.....	O. H. Greager.....	Asst. Manager, Technical.....	<sup>11</sup> 12,000
Do.....	G. G. Lall.....	Asst. to General Mgr.....	<sup>12</sup> 13,200
Do.....	H. M. Parker.....	Mgr., Health Instruments.....	<sup>13</sup> 13,000
Do.....	E. L. Richmond.....	Mgr., Community Div.....	<sup>14</sup> 12,000
Do.....	W. R. McKenna.....	Asst. Project Engr., Design Division.....	<sup>15</sup> 11,520
Do.....	R. C. Stanton.....	Spec. Asst. to Field Supt., Constr. Div.....	<sup>16</sup> 11,520
Washington:			
Bendix Aviation Corp.	H. K. Morgan.....	Div. of Engr.....	15,000
Do.....	Willard B. Faine.....	Gen. Mgr.....	15,000

<sup>1</sup> In addition to those listed whose salaries are reimbursed directly, the salary of Eldon Shoup, Exec. Vice Pres. of the Corporation, is reimbursed through the overhead account for time actually worked. Reimbursed on the basis of a full-time rate of \$15,000 per year.

<sup>2</sup> In addition to those listed, A. L. Baker, Exec. Vice Pres. of the Corporation is reimbursed directly for all time on AEC work while in travel status and indirectly through the overhead account for all other time on AEC work. Reimbursed on the basis of a full-time rate of \$30,000 per year.

<sup>3</sup> Increase under consideration by University of California (employer) recommended by AEC Manager, Los Alamos.

<sup>4</sup> In addition to those listed, salaries of certain corporate officers, such as the president, are indirectly reimbursed through the overhead account for time spent on AEC work if the amount of time is in excess of 10% during the year.

<sup>5</sup> In addition to base salary shown, receives expense allowance of \$250.00 per month.

<sup>6</sup> \$5,000 bonus—home-office policy.

<sup>7</sup> \$4,000 bonus—home-office policy.

<sup>8</sup> \$2,000 bonus—home-office policy.

<sup>9</sup> \$3,000 bonus—home-office policy.

<sup>10</sup> \$2,600 bonus—home-office policy.

<sup>11</sup> \$3,440 bonus—home-office policy.

#### Area :

#### New York :

Associated Universities, Inc.—Research.

H. K. Ferguson Company—Architect, Engineers, Construction.

Kellex Corporation—Engineering, Development.

Schenectady: General Electric Company—Research & Development.

Oak Ridge: Carbide & Carbon Chemical Corporation—Production.

#### Chicago :

Westinghouse Electric Company—Research & Development.

Voorhees, Walker, Foley & Smith—Architect Engineers.

Argonne National Laboratory—Research and Development.

#### Los Alamos :

University of California—Research, Development, and Production.

Zia Company—Maintenance & Service.

Hanford: General Electric Company—Production, Maintenance, and Service.

Washington: Bendix Aviation Corp.—Production.

UNITED STATES ATOMIC ENERGY COMMISSION,  
Washington 25, D. C., June 27, 1949.

Hon. BRIEN McMAHON,  
*Chairman, Joint Committee on Atomic Energy,  
Senate Office Building, Washington, D. C.*

DEAR SENATOR McMAHON: The salary information for AEC Government employees earning \$14,000 or more requested by Senator Knowland on June 23, 1949, is transmitted herewith.

Sincerely yours,

UNITED STATES ATOMIC ENERGY COMMISSION,  
FLETCHER C. WALLER,  
*Director of Organization and Personnel.*

Enclosure: As above (in duplicate).

*AEC Government employees earning \$14,000 or more*

Position title	Incumbent	Actual salary
Washington:		
Chairman.....	D. Lillienthal.....	\$17,500
Commissioner.....	S. Pike.....	15,000
Do.....	G. Dean.....	15,000
Do.....	L. Strauss.....	15,000
Do.....	H. Smyth.....	15,000
General Manager.....	C. Wilson.....	15,000
Deputy General Manager.....	C. Shugg.....	18,000
Director of Military Applications.....	J. McCormack.....	14,000
Director of Production.....	W. Williams.....	14,000
Director of Research.....	K. Pitzer.....	14,000
Director of Engineering.....	R. Warner.....	14,000
Director, Biology & Medicine Division.....	S. Warren.....	14,000
Director, Raw Materials Division.....	J. Gustafson.....	14,000
Director, Reactor Development Division.....	L. Halstad.....	14,000
New York: Manager.....	W. Kelley.....	14,000
Oak Ridge: Manager.....	J. Franklin.....	18,000
Santa Fe: Manager.....	C. Tyler.....	14,000
Hanford: Manager.....	F. Schlemmer.....	18,000

EXHIBIT 20

(Referred to on pp. 626 and 636, pt. 15, June 24, 1949)

W. P. PAYNE CO.,  
PLUMBING AND HEATING CONTRACTORS,  
Van Nuys, Calif., January 27, 1949.

The Honorable CARL HINSHAW,  
*Representative of Twentieth District, California,  
House of Representatives, Washington, D. C.*

DEAR MR. HINSHAW: It is with some hesitancy that we come to you with our problem, realizing the pressure which you are under in so faithfully discharging your duties as our Representative in Washington. Yet, we feel that you may be in a better position to render us service and possibly suggest a course of action in the matter which we wish to present to you.

In order that you may have as thorough a background as possible of our situation, I will outline briefly the events leading up to the problem on which we are asking your advice.

The W. P. Payne Co. entered into a plumbing contract as a subsubcontractor in connection with housing at the Hanford Works in September, 1947. During our operations at that time, we became acquainted with several Atomic Energy Commission and General Electric Company officials, among whom was Mr. Carlton E. Shugg, who is now Deputy General Manager of the Commission in Washington. Through these acquaintances we learned that the Commission and General Electric Company were thinking very seriously of making changes in their operational set-up, particularly concerning the plumbing and heating services within the town site of Richland.

There were several reasons why these changes were being considered. One of the most pressing was the fact that the plumbers and steam fitters working

in the Richland area were being paid travel time and expenses, which amounted to approximately \$3,000.00 per day. It was felt this expense could be eliminated if the changes contemplated were made.

In February, 1948, the W. P. Payne Co. organized a subsidiary known as the Richland Plumbing and Heating Co., a Washington corporation, for the express purpose of operating within the Richland area of the Hanford Works.

On March 5, 1948, we submitted a proposal to the General Electric Company for the operation of such a facility, to which we received a reply on March 12, 1948. As you will notice, in the attached letter of proposal which we submitted to General Electric Company, it was proposed that we would lease certain property consisting of a quonset hut in a certain group of warehouses.

Before our lease agreement was entered into, and at Mr. Shugg's suggestion, it was requested that we change our location to larger quarters, which would be more suitable, in Mr. Shugg's opinion, for our operations. This was done without any further communication. The lease agreement which we entered into with the Commission and General Electric Company was dated the 26th day of March, 1948. As you will notice by the speed with which these communications took place, it is apparent that time was the essence of this transaction.

Throughout our conversations with certain employees of the General Electric Company, it was brought out that it was the intent of the General Electric Company to give up the plumbing and heating maintenance of facilities within the Richland area because of the unreasonable expenses involved through their own management. Also the establishment of a plumbing and heating business within the Richland area would eliminate the necessity of them paying travel time, as mentioned previously, to the plumbers and steam fitters. These officials realized that there would be very little business on which a plumbing and heating business could survive within the Richland area unless the work was provided by the General Electric Company. It was with this thought in mind that a purchase order contract was awarded to us on which we were to begin operation April 1, 1948.

The foregoing actions and conversations outlined above led us to the conclusion that we would be justified in continuing our plans in the Richland area which consisted of the erection and equipping of a complete plumbing and heating service shop. We have built a steel building 30 feet by 100 feet, at a cost of approximately \$25,000.00, on the land covered by our lease agreement. We have supplied it with tools and other equipment necessary to maintain our proposed operations. Our investment in this set-up to date is approximately \$45,000.00. Although we have done a very small amount of work of our own procurement, as yet nothing has been forthcoming from the General Electric Company as outlined in our talks.

Several times during the construction of our building, verbal inquiry was made concerning the possibility of our being ready for full operation on specific dates. The only formal reply to these inquiries was made on June 7, 1948, a copy of which is attached. Also attached is a résumé of our conversations held with General Electric officials, which was made up by our Manager, Mr. E. T. Coppin. This also may be of interest to you. To further complicate matters, Mr. C. D. Barker, Labor Relations Manager of General Electric Company, sent a letter to the local Plumbers and Steam Fitters Union, stating that a business had been established within the territory of Richland and that effective April 1, 1948, no further travel time or expense allowance would be paid to the plumbers and steam fitters. This letter of Mr. Barker's caused much commotion among the labor unions. However, no strike was called and a new agreement was eventually reached which eliminated the travel expenses paid to the plumbers and steam fitters. With their purpose accomplished in this matter and no further need of a plumbing service in Richland or in connection with this plant, we were placed in the position of being established with very little, or nothing to do.

You will notice from the letters attached, it was suggested that we contact Mr. Schlemmer, the Project Manager for the AEC, concerning our situation. A conference was held with Mr. Schlemmer in his office in Richland on January 10, 1949, at which time it was brought out that both AEC and G. E. felt the Richland Plumbing and Heating Company should have been doing all of the plumbing and heating contract work in the Richland area whether or not they would have realized a profit on the work performed.

Working within the Richland area is an extremely expensive operation and the majority of the outside contractors working within that area complete their

work at a very small profit, if any, and more often at a loss. We cannot afford to do work for less money than it costs us regardless of other situations. However, Mr. Schlemmer agreed to make an investigation of our situation and the circumstances under which we were brought into the Richland area and make a report before February 10.

We are attaching copies of our communications with General Electric Company so that you will have a more complete picture of our situation.

Mr. Hinshaw, we realize that the possibility of your doing anything for us in this matter may be very limited. However, because of your many years of experience in connection with such matters, we feel that you will be able to advise us as to a course to follow in the solution of our problem. We are not asking for any free ride or favors. We feel that if the AEC or G. E. officials are not going ahead with their original line of thinking, for which purpose we were given an opportunity to come into Richland, and if their purpose was to eliminate the \$3,000-a-day expenses which they were paying to the plumbers and steam fitters, we at least should expect to be reimbursed for our capital expenditures made to the property.

The facts as stated and the accompanying correspondence may not be enough to give you the complete details but I am sure that it will give you enough to see the position in which we find ourselves and will enable you to advise a course of action.

May we again thank you for the help and assistance which you have given us.

Sincerely yours,

W. P. PAYNE Co.,  
W. P. PAYNE, *President.*

WPP: lj.  
enclosures.

#### RECAPITULATION OF CONVERSATIONS WITH GENERAL ELECTRIC OFFICIALS

##### *About May 20, 1948*

Conversation with Mr. Poe of G. E. Facilities Department near the Richland Hardware Store. Mr. Poe stated that General Electric was definitely planning to stop maintenance and repair calls to Richland homes on July 9, 1948. He wondered if we would be ready. I assured him that we would. He requested a letter to the effect that we would be ready by July 1. (See letter.)

##### *About June 4, 1948*

Mr. W. P. Payne and I called on Col. Barker in his office. We discussed the labor situation and Col. Barker suggested that we run an open shop. Mr. Payne said he was reluctant to do this because it might have serious effects on his California operations. We requested that Col. Barker help us get houses for our men which would indicate to Vincent Larish that General Electric Company was sincere in their plans to employ a regular plumbing and heating company to do some of the maintenance work in the village. At the time we talked with Col. Barker he said that the need for housing for our men could be justified because there would be emergency calls during irregular hours which our men would have to take care of, therefore, it was necessary that houses be made available to them. Several days later I called C. W. Weeks and he informed me that two houses were being made available to us for our men. Two houses were made available to the Richland Plumbing and Heating Co. on June 8, 1948.

##### *About June 15, 1948*

Talked with C. Lang & J. Heffner about maintenance work, in Mr. Heffner's office. We discussed the approximate amount of work involved which was then being done by General Electric Company but which they wanted to release as soon as they could. This work involved unstopping drains, repairing faucets, etc. It was pointed out by Mr. Heffner that General Electric would continue to do all service work on water mains, breaks in sewer lines, etc. Both Mr. Lang and Mr. Heffner stated that General Electric wanted to get rid of the house and facilities maintenance as soon as possible because they did not have enough men to handle the job and they did not want to hire more men. Mr. Heffner also stated that a program of publicity would have to be worked out to tell the people of Richland that they would have to pay part of the maintenance cost on the houses in which they lived.

*About June 22, 1948*

Mr. Payne and I talked with Mr. Pederson of General Electric Company. Mr. Pederson assured us that the maintenance on houses and village facilities was being discontinued by General Electric Company and the people would have to take care of plumbing difficulties themselves. Mr. Payne asked if special arrangements could be worked out for collections. Mr. Pederson said we would have to work out our own methods of collections and that we could employ any legal means that is used elsewhere. He also stated that because of the wording in the lease agreement with the tenants, an addenda would have to be worked out which would make the tenants responsible for plumbing maintenance instead of General Electric Company. Mr. Pederson said that Mr. Carl Weeks was working on the lease change and would put it into effect very shortly.

*About July 15, 1948*

E. T. Coppin talked with Mr. Pederson about village maintenance. Mr. Pederson said that they had run into some difficulties because of the lease to the tenants. He suggested that I see J. Heffner about it. Mr. Coppin talked with Jack Heffner about when the maintenance work on houses would be discontinued by General Electric Co. and he said it couldn't be before September 1, 1948, because changes had to be worked out in the lease by the legal staff before the announcements could be made. Announcements were to be made in the local paper that certain phases of maintenance were to be discontinued. Mr. Coppin told him that we planned to start an advertising campaign about the same time.

*August 4, 1948*

E. T. Coppin talked with Jack Heffner about when the village maintenance work would be turned loose and he said he didn't know at that time because they had enlarged their plan to include many other things and they wanted to complete the plan and announce all of the changes at the same time. He said the lease changes, etc., were in the hands of the attorneys but no word had been received as to how it would be handled. E. Richmond, the city manager, came in about that time and they walked up the street together. He said he didn't think that they could get the details worked out until about October 1. Mr. Richmond stated that he was sure that by October 1, their plans would be completed, the announcements would have been made in the papers and that we could figure on maintenance work after that date.

*About August 13, 1948*

Mr. Payne and Mr. Coppin talked with Mr. Frank Creedon about doing the maintenance work at North Richland. He seemed very interested in a proposal which would include the plumbing, heating, refrigeration, and air conditioning maintenance of the North Richland construction camp. He requested that we talk to his assistant, Mr. J. W. Kelley. Thereafter several proposals were made to Mr. Kelley and Mr. Creedon, all of which were rejected.

*About September 11, 1948*

Mr. Payne and Mr. Coppin met with Mr. Richmond in his office (Saturday morning), to discuss the release of village maintenance work by General Electric Company. He stated that G. E. and AEC officials were very anxious to be relieved of the maintenance work, however, he stated they were working out a program which would increase rents and pass certain charges for maintenance and operations of the village on to the people. He was not sure when the program would be completed. He stated that rapid strides were being made in the necessary paper work, lease changes, etc., so he felt sure the completed program would be in effect soon.

*About September 15, 1948*

At a meeting in Mr. Richmond's office, with Mr. Richmond, Mr. Heffner, Mr. Binns, Mr. Payne, and Mr. Coppin, we brought out the fact that the delay in the release of maintenance work by General Electric Company was causing serious financial difficulties for the Richmond Plumbing and Heating Company. Mr. Richmond pointed out that they were experiencing more delays than they had anticipated because the legal department had not completed working out a proper lease for the tenants. He stated that there was no reason why maintenance work in the village facilities, which would include all stores, gas stations, schools, churches and other public buildings, other than those offices, shops, and warehouses which are occupied by General Electric Company, should not be turned

over to Richland Plumbing & Heating Company immediately. Mr. Payne proposed that we enter into a cost-plus-fixed-fee contract with General Electric Company on this work from the present date until General Electric Company had completed their studies and programming and were ready to actually shift the maintenance load to the tenants. Mr. Richmond instructed Mr. Heffner to prepare a scope of work which would include the plumbing and heating maintenance on all village facilities, schools and churches, and have it ready by the following Tuesday morning, September 21, 1948, at which time the same people would meet in Mr. Richmond's office to go over the scope of work and discuss a fee for this work. Mr. Richmond and Mr. Heffner said it would be a great help to General Electric Company to get rid of this work because their maintenance crews were about 60 days behind in their work.

#### *About September 21, 1948*

At a meeting in Mr. Richmond's office with Mr. Richmond, Mr. C. W. Weeks, Mr. H. A. Root, Mr. Jim Delong, Mr. Jack Heffner, Mr. Binnes, Mr. Payne, and Mr. E. T. Coppin, a detailed discussion was held about the plumbing and heating maintenance of the village facilities. Mr. Heffner presented the results of a survey of maintenance work on commercial facilities, schools, clubs, churches, etc., which gave a complete list of maintenance calls and the time spent on repair. From this survey it was determined that a 10- or 11-man crew would be required to do this work. Mr. Heffner pointed out that his office would have to have an inspector who could inspect the work of our men to be sure it was up to the standards required by General Electric Company. Mr. Root pointed out that there would have to be some bookkeeping procedure worked out so that his department could make the proper charges. Mr. Heffner also stated that it would be necessary that we keep complete maintenance records of all motors, compressors, and other mechanical equipment. Mr. Richmond stated that these questions which were raised were details which could be worked out by the parties involved. Mr. Richmond also stated that General Electric Company was planning on making a change in the maintenance set-up in North Richland and that he might be able to work something out with Mr. J. Kelley which would include the mechanical maintenance of Richland facilities, schools, churches, and clubs and everything in North Richland. The meeting broke up with the assurance from Mr. Richmond that a cost-plus-fixed-fee contract would be worked out on the maintenance of mechanical equipment, plumbing, and heating between General Electric Company and the Richland Plumbing and Heating Company; when final arrangements had been made we would be notified. The contract was to run only until General Electric Company had worked out the details of their new leases and then the responsibility for mechanical maintenance would be shifted to the facility operators.

At least once each week from September 20 until November 29, Mr. Richmond has assured me that he was working on the problem and felt sure that something could be worked out. He said Mr. Kelley had proposed that General Electric Company perform their own maintenance in North Richland and had proposed that they hire 400 employees in all crafts, to do the job.

#### *November 27, 1948*

On November 27, a meeting was held in Mr. Richmond's office with Mr. E. Richmond, Col. Barker, Henry Thurston, Mr. W. P. Payne, and Mr. E. T. Coppin. Mr. Payne started the discussion by stating that the maintenance work which General Electric Company had proposed for the Richland Plumbing & Heating Company had not started, that he had invested \$50,000.00 in improvements and materials for the company and he would like to know what the present planning was so he could plan accordingly. Mr. Thurston said that Mr. Shugg had originally planned to pass the maintenance cost on to the tenants but that he was not familiar with the situation at this time. Col. Barker stated that he had seen our proposal for the maintenance work of North Richland and it was too high. He also stated that he did not know what it included or the basis of the proposal. Mr. Richmond presented the conclusions of the rent survey which had been conducted and explained what their planning was for the future. He said that at present General Electric Company planned to continue to service the tenants with all types of maintenance service, but that the rents would be raised to pay for these services. No indication was given that they planned to make any changes in their present methods. Mr. Richmond requested that Mr. Payne and Mr. Coppin meet in his office with Mr. Heffner and Mr. Bergdahl on Monday, November 29, 1948.

November 29, 1948

At a meeting in Mr. Richmond's office with Mr. Payne, Mr. DeLong, Mr. Blum, Mr. Bergdahl, Mr. Heffner, and Mr. Coppin, the situation was very bluntly stated by Mr. Heffner which is as follows:

"The present plumbing, heating and mechanical maintenance work could be broken down in four categories:

1. Normal plumbing maintenance to dwellings in Richland, which are being serviced by General Electric Company employees and would continue to be serviced by General Electric Company employees as far as they could see now.

2. General Electric Company was attempting to sell the installed equipment, which is now owned by the government, to the facilities' operators. When this was accomplished the operators would make their own arrangements for maintenance. They had been working on this plan for several months but hadn't sold any yet so it was hard to tell when this would be completed. This plan would not include selling the structure or the plumbing and heating, so General Electric Company would continue to service this part of the property.

3. New business establishments which were coming in were being constructed under contract and we were at liberty to work with any contractor in the area on that work.

4. From time to time the General Electric Company might have small jobs which they couldn't do with their present crews; they would be happy to work with us on these things when they came up.

Mr. Heffner further stated that their crews were getting more efficient all the time and they figured that they could do the work more economically than we could.

Mr. Payne and Mr. Coppin pointed out that this new plan was a complete reversal of previous statements and that it put the Richland Plumbing and Heating Company in a very rough spot because we had purchased tools and parts for maintenance work in accordance with General Electric Plans of going out of the maintenance business. Mr. Heffner stated that he was not aware that any firm commitments had ever been made along those lines.

Mr. Blum stated that he was not aware of the plans of the high General Electric officials when the Richland Plumbing and Heating Company was given its franchise. All he knew was that instructions were given to him to secure a plumbing and heating company to come into Richland as soon as possible.

(Signed) E. T. COPPIN,  
General Manager, Richland Plumbing & Heating Co.

P. O. Box 684,  
Richland, Wash., March 5, 1948.

Mr. R. J. PEDERSON,  
Chief Supervisor, Commercial Facilities, General Electric Co.,  
Richland, Wash.

DEAR MR. PEDERSON: In reply to your request for a proposal to operate a plumbing and heating facility in Richland, Wash., we are submitting the following information, which, we hope, will meet with your requirements.

The W. P. Payne Co., a California corporation, is the successor of the plumbing and heating business which was established by Mr. W. P. Payne in 1935. We are at present operating in the States of Washington, Arizona, and California, specializing in the repair, maintenance, and new construction fields, with an average of 150 employees. We are a member of the State Association of Master Plumbers of both Washington and California, as well as of the cities of Pasco, Kennewick, and Los Angeles.

The W. P. Payne Co., as of December 31, 1947, had an operating capital of \$55,339, and a net worth of \$78,284.

On February 3, 1948, the Richland Plumbing and Heating Co., a Washington corporation, was formed as a wholly owned subsidiary of the W. P. Payne Co., for the purpose of operating a plumbing and heating facility at Richland, Wash., with a capital of \$50,000.

The Richland Plumbing and Heating Co., proposed to rent from General Electric Co. the Quonset hut located in the group of warehouses south of Lee Boulevard, with necessary yard space, for the sum of \$30 per month; such rent to include the furnishing of 110-volt and 220-volt, 3-phase power, sewer and water

lines to within 5 feet of the building, and fencing of the necessary yard space. The Richland Plumbing and Heating Co. will provide the necessary sanitary facilities. Also, a telephone is to be made available to this firm at its own expense.

As soon as a site is available, Richland Plumbing and Heating Co. would prefer to erect its own building and shops.

The Richland Plumbing and Heating Co. proposes to provide the Richland area with complete services for the installation, repair, and maintenance of plumbing, heating, air conditioning, refrigeration, and sewer and water supply systems at the lowest possible prices consistent with good business. Also we will carry a complete stock of the mentioned supplies for sale at retail. We have on the site at the present time approximately a \$15,000 inventory of supplies, four completely equipped trucks, necessary shop equipment, and an adequate number of qualified employees.

Housing facilities would not be required by us for the management of this company as the company owns housing in Kennewick. However, housing for the other employees would be required. Dormitories or barracks undoubtedly would be satisfactory.

Should this proposal be accepted, we would be able to begin operations immediately upon notice.

For reference as to labor relations, may we suggest Mr. Vincent Larish, business representative, plumbers' union, Pasco, Wash. Other references: Mr. E. T. Coppin, General Electric Co., Richland, Wash.; Hughes & Co., Spokane, Wash.; Richland Branch, Seattle First National Bank, Richland, Wash., and California Bank, Van Nuys, Calif.

We wish to thank you for the opportunity of submitting this proposal and wish to assure you that should we be privileged to serve the community of Richland, we will do everything possible to render service of which you will be justly proud.

Very truly yours,

RICHLAND PLUMBING & HEATING Co.,  
(Signed) W. P. PAYNE, *President.*

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GENERAL ELECTRIC Co.,  
*Richland, Wash., March 12, 1948.*

RICHLAND PLUMBING AND HEATING Co.,  
*Richland, Wash.*  
(Attention: Mr. W. P. Payne.)

GENTLEMEN: You may consider this as a letter of award for the operation of a plumbing and heating facility in Richland, as outlined in your letter of March 5, 1948, with the understanding that you will execute an operating agreement with us. Such agreement will contain conditions and terms that are usually included in an agreement of this type, as indicated in attached exhibit "A."

It is our understanding that you are prepared to start operation of this facility immediately, and we shall be glad to discuss further details with you early next week.

Very truly yours,

(Signed) R. J. PEDERSON, *Realty Division.*

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RICHLAND PLUMBING & HEATING Co.,  
*P. O. Box 684, Richland, Washington, June 7, 1948.*

Mr. R. J. PEDERSON,  
*Chief Supervisor, Commercial Facilities,*  
*Richland, Washington.*  
(Attention: Mr. Poe.)

GENTLEMEN: In response to your verbal request of June 5, we are pleased to assure you that the Richland Plumbing and Heating Company will be open for business on or before July 1, 1948, and will be able to handle any normal or emergency business which may be required.

Unfortunately the construction of our building has been delayed but every effort is now being made to expedite the construction of our shops and we feel sure they will be ready in time.

We appreciate your interest in our welfare and are looking forward to pleasant relations with your office.

Very truly yours,

RICHLAND PLUMBING & HEATING Co.,  
(Signed) E. T. COPPIN, *General Manager*.

AUGUST 23, 1948.

GENERAL ELECTRIC COMPANY,  
*Construction and Design Division, Richland, Washington.*  
(Attention: Mr. S. R. Kelly.)

GENTLEMEN: In reply to our conversation of Monday, August 16, 1948, and at your suggestion, we are submitting a proposal for the maintenance and repair of the plumbing, steam distribution, sewers and water-distribution systems within the construction camp area (3000) located at North Richland, Washington.

We propose to furnish the services outlined above in the following manner: Provide sufficient plumbers and steam fitters to adequately maintain and repair the systems as break-downs and accidents occur. The hours will be arranged so as to have an adequate force on hand 24 hours per day seven days per week. These men will be provided with tools and equipment necessary to make replacements and repairs.

Our plan is to use a minimum number of employees with adequate supervision and planning to keep the costs as low as possible. We would employ two inspectors who would make continuous surveys to locate minor faults or defects and have them repaired before they became serious or caused unnecessary delays in service. This preventive maintenance will help to reduce costs. The inspectors will also meet the journeymen on any emergency job to check it and determine the exact work to be done. We believe this method will help to eliminate needless work and unnecessary use of materials.

Our plan for reimbursement for this work would be to charge direct costs plus a percentage for overhead and profit. Direct costs would include the actual cost of the direct labor, labor taxes, labor insurance and material including freight. Direct labor would be the journeymen, foremen, inspectors, office personnel for other than regular working hours or workweek and one supervisor. Overhead costs would include the use of trucks, tools, warehousing, general insurance, general office expense, the 2% gross business rent that we must pay to General Electric Company and other overhead items. We believe that this plan would be most efficient to handle and would provide the least chance for misunderstanding.

Under this plan it would not be necessary to have only certain men and equipment assigned to this particular project, and when there was not sufficient work to have them standing idly by; but it would enable us to move them around for various other work. As the need arose a large crew could be moved into the area to meet any emergency. This would also allow for the most efficient use of equipment.

The scale of overhead and profit percentages which we propose is as follows:

1st \$10,000.00 of direct costs.....	25% per month
2nd \$10,000.00 of direct costs.....	22% per month
3rd \$10,000.00 of direct costs.....	20% per month
4th \$10,000.00 of direct costs.....	19% per month
All over \$40,000.00 of direct costs.....	18% per month

After paying all expenses including the 2% gross business rent these percentages will leave a profit of  $3\frac{1}{2}\%$  to  $1\frac{1}{2}\%$  on the gross amount received. These profit percentages we feel are fair and reasonable considering the amount of the capital investment required to carry on such a project.

May we take this opportunity to thank you for the privilege of submitting this proposal. It may be that while this proposal may not fit entirely into the rules and regulations under which we must work, we may be able to change and modify it to meet those conditions. If there is any clarification needed or other discussion desired please feel free to contact us.

Very truly yours,

(Original signed by) RICHLAND PLUMBING AND HEATING Co.  
E. T. COPPIN, *General Manager*.

ETC/rbw.  
lj.

SEPTEMBER 14, 1948.

Subject: Maintenance of Plumbing and Heating 3000 area.

GENERAL ELECTRIC COMPANY,

*Richland, Washington.*

(Attention: Mr. Frank Creedon, Manager of Design &amp; Construction Div.)

DEAR SIR: We have reconsidered our recent proposal relative to the maintenance of the plumbing, heating, ventilating, and air conditioning of the 3000 area and wish to make the following revised proposal:

The Richland Plumbing and Heating Company will do all of the maintenance work on the Plumbing, Heating, Refrigeration, Ventilating, and Air Conditioning of the 3000 area on a cost-plus-fixed-fee basis under the following conditions:

General Electric Company to furnish the necessary shop space and office space.

General Electric Company to furnish the necessary transportation, maintenance and operating cost of all transportation.

General Electric Company to furnish the necessary tools and equipment including office equipment and supplies.

All the material and replacement parts to be drawn from General Electric stores on store orders.

Cost for labor, clerical, and administrative personnel, taxes and insurance and all other costs to be reimbursed by General Electric Company.

The 2% Operator's Franchise fee to be considered a direct cost and made reimbursable or to be excluded from the franchise requirement. This amount is not to be deducted from the fee.

Based on the Engineer's Estimate that the maintenance work in the North Richland area will amount to \$500,000.00 per year, our proposed fee for the supervision and responsibility for the work would be \$30,000.00 per year, payable in monthly payments of \$2,500.00 per month. If the cost of the work exceeds the estimated \$500,000.00 per year we would gladly negotiate a reasonable additional fee for all work costing over \$500,000.00 per year.

Inasmuch as this is a locally established shop, no payment of travel time will be required. This will be a considerable saving to the government. Based on a 5-day week, with a crew of 40 men, the saving in travel time alone would amount to \$32,760.00 per year. If this company is awarded a contract every effort will be made to increase the operating efficiency and to reduce the cost to the government in every way. We are sure that a sizable saving can be made to the government over and above the saving in travel time.

This company has been established to serve the plumbing, heating, and ventilating needs of both Richland and North Richland. If we are awarded a cost-plus-fixed-fee contract for the maintenance work in the North Richland area we propose to operate that as a separate operation from the Richland shop so that we would not be barred from taking contract work in the Richland area. We would gladly cooperate with General Electric officials in developing operating and accounting procedures which might be required to meet the AEC regulations. Inasmuch as the maintenance work of the 3000 area is not sufficient gross business for the company, it would be necessary that we be allowed to take contracts in the area.

The suggested terms and conditions in this letter are made without knowledge of the operating requirements of the General Electric Co. If any of the conditions are in conflict with your operating or contract regulations we stand ready to cooperate with you in any way to work out details of a contract agreement.

We wish to express our appreciation for the kind consideration you have shown us in the past and we hope to be of service to you in the future.

Very truly yours,

RICHLAND PLUMBING AND HEATING Co.,  
(Original by) E. T. COPPIN, *General Manager.*

ETC: rbw.

lj.

G. E. NUCLEONICS PROJECT,  
GENERAL ELECTRIC CO.,

*Richland, Washington, September 16, 1948.*

**RICHLAND PLUMBING & HEATING Co.**

*P. O. Box 684, Richland, Washington.*

**MAINTENANCE OF PLUMBING AND HEATING—CONSTRUCTION CAMP**

GENTLEMEN: Your proposal dated September 14, 1948, for the maintenance of plumbing, heating, ventilating, and air conditioning of equipment in the 3000 Area has been carefully reviewed.

We note that owing to the fact that the expected dollar value of this contract, should it be awarded to your company, is not sufficient to maintain your operations in this area, you wish to reserve the right to bid on lump-sum contract work as well.

We believe that for a number of reasons such an arrangement is not practicable. As a matter of general policy no fixed-fee contractor operating here has been permitted to accept lump-sum contracts also. The establishment of separate shops and separate accounting for the two classes of work would not satisfactorily meet our objections.

We appreciate the interest which you express in offering to carry on this work, but for the reasons stated above we are obliged to decline your offer.

Yours very truly,

(Signed by) FRANK R. CREEDON,  
*Manager, Design & Construction Divisions.*

JRK:ecj.

lj.

SEPTEMBER 28, 1948.

**GENERAL ELECTRIC COMPANY, Richland, Washington.**

(Attention Mr. Earl Richmond, City Manager.)

GENTLEMAN: As a result of the meeting which was held in your office this morning concerning the mechanical maintenance of certain facilities and buildings in the Richland Village, and as requested by you, we are herewith submitting a proposal of a fee for the furnishing of management on our part to adequately provide the above-mentioned service.

As suggested in the meeting we are submitting this proposal of a fee on a monthly basis, however, it is understood that the minimum period will be six months, any extension beyond that time, providing all conditions remain the same, will be based upon the same fee. We propose a fee of \$1000.00 per month.

During our discussion, the possibility of our assuming the mechanical maintenance of the construction camp in North Richland was brought out. We believe that it would be advantageous and much more economical to the General Electric Company, and to the Government, to handle these two fields of work under one agreement. By such an arrangement the number of employees required could be minimized by proper and adequate planning of the work. Should the Construction and Design Division see fit to coordinate these two projects, we would propose to handle both projects for an aggregate fee of \$2500.00 per month providing that the total annual cost did not exceed \$500,000.00. Should the cost exceed the amount we feel that an adjustment in the fee should be negotiated. May we point out that, should we be awarded this work, the saving of the amount paid to the plumbers in travel time in the North Richland area would exceed the proposed fee. It is also understood that this proposal does not include the 2% gross business fee which the Richland Plumbing and Heating Company pays to General Electric Company. If such fee is to be paid it will be considered as a direct cost.

May we take this opportunity of thanking you for the courtesies you have extended to us and we wish to assure you that we stand ready and willing to cooperate in any manner whatsoever.

Very truly yours,

RICHLAND PLUMBING AND HEATING CO.,  
(Signed) E. T. COPPIN, *General Manager.*

ETC/rbw.

lj.

DECEMBER 14, 1948.

Mr. CARLTON E. SHUGG,  
*Production Manager Atomic Energy Commission,  
Washington, D. C.*

DEAR MR. SHUGG: It was quite disappointing to us to hear of your leaving the Hanford Works. However, we are certainly happy to know of your promotion, and we wish you the best of success in your new position.

It is with reluctance that I come to you with our problem. However, I believe that you are the only one who can give us any information on the subject. You undoubtedly recall the negotiations between our Company and the General Electric Company concerning the establishment of a plumbing shop in Richland, which took place last March. At the time of our negotiations, we were considering establishing our shop in the two Quonset hut buildings off Lee Boulevard. After a discussion with you and at your suggestion, this site was changed to our present site at Spengler Road and Stevens Drive. At the time this change was made, you felt that the location off of Lee Boulevard would not be adequate for our operation.

We have improved the property at our present location by some \$35,000 and have set up an organization capable of handling any type of work. At the time of our discussion with you and other AEC officials and General Electric Company, it was thought that General Electric Company would eventually give up their maintenance plumbing and heating which they were furnishing free to the tenants of the project, and this would become available to us working directly for the tenants. Also there were other discussions concerning the traveling time, etc., being paid to the plumbers.

We went along on the assumption that some of this work would be made available to us. We realize that the pressing issue at the time was the payment of traveling expenses to the plumbers. Now that this has been settled and the purpose for which we were brought is accomplished, it seems as though we are to be left out on a limb as General Electric Company has no intention, at this time, of giving up any of its work in connection with the plumbing and heating in the Richland area. We are not in a position to maintain an organization such as we have established at Richland without work for them to do.

We are not asking any favors of you, Mr. Shugg, but the thing that we would like to know is whether there is anyone now at Richland who was engaged in these discussions to whom we might talk concerning this matter, as both you and Mr. Lauder, who were familiar with this, are now gone.

We are left in the position where our landlord is our chief competitor, and we cannot long survive in this condition. If such is going to be the case, we will have to move out of Richland.

I am extremely sorry to have bothered you with this problem; however, I hope that you can give us some information and some guidance in a course which we should follow to secure some of this work. Any light you can shed will be greatly appreciated.

Very truly yours,

RICHLAND PLUMBING & HEATING Co.,  
(Original by) W. P. PAYNE.

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UNITED STATES ATOMIC ENERGY COMMISSION,  
*Washington, D. C., December 17, 1948.*

Mr. W. P. PAYNE.  
*P. O. Box 684, Richland, Washington.*

DEAR MR. PAYNE: I have your letter of December 14 and have gone over it in some detail with Mr. Walter J. Williams who, as director of production, is the Washington official directly in charge of the Hanford area. I explained our original conversations to him and the fact that Mr. David Shaw was familiar with them in general.

Mr. Williams will look into the matter and will undoubtedly contact Mr. Schlemmer, the present Hanford AEC man.

I am sorry to hear that the rapid progress for which we hoped has not taken place.

Very sincerely,

(Original signed by) CARLETON SHUGG,  
*Deputy General Manager.*

## ATOMIC ENERGY PROJECT

UNITED STATES ATOMIC ENERGY COMMISSION,  
Washington, D. C., December 20, 1948.

In reply refer to: P: WJW.

Mr. W. P. PAYNE,

*President, Richland Plumbing and Heating Co.,  
Stevens Drive and Spengler Road, P. O. Box 684, Richland, Wash.*

DEAR MR. PAYNE: Your letter of December 14, addressed to Carlton Shugg, has been referred to me for handling.

After receiving your letter, I talked to Fred C. Schlemmer, Manager of Hanford Operations, and his deputy, David Shaw, by telephone, and discussed your problem. I understand that certain plans are now in progress which might make your position more favorable. I was informed that you have been given a chance to bid on all plumbing work, but that your bids on the majority of these jobs have been high.

I suggest that you contact Mr. Schlemmer or his deputy, who, being at the site of operations, are in the best position to settle your problem. I have written to Mr. Schlemmer enclosing a copy of your letter of the fourteenth.

Very truly yours,

(Original signed by) WALTER J. WILLIAMS,  
Director of Production.

lj.

JANUARY 24, 1949.

Mr. WALTER J. WILLIAMS,

*Director of Production, United States Atomic Commission,  
Washington, D. C.*

DEAR MR. WILLIAMS: As per your suggestion of December 20, I had a conference with Mr. Schlemmer at Richland, on January 10, 1949, at which time we went into the complete details concerning the matters of the Richland Plumbing and Heating Co.

Mr. Schlemmer assured me that he would have a complete report on the matter in our hands not later than February 10, 1949.

I wish to take this opportunity to personally thank you for the interest which you have taken in this matter and hope that everything may be solved to our mutual satisfaction.

Sincerely yours,

RICHLAND PLUMBING & HEATING CO.,  
W. P. PAYNE, *President.*

WPP: lj.

JANUARY 24, 1949.

Mr. CARLTON SHUGG,

*Deputy General Manager, Atomic Energy Commission,  
Washington, D. C.*

DEAR MR. SHUGG: The interest which you have shown in our problem is most gratefully appreciated. The matter was taken up with Mr. Schlemmer on January 10, 1949, at which time I went over the matter in complete detail. Mr. Schlemmer has promised to have a complete report in our hands by February 10, 1949.

Sincerely yours,

RICHLAND PLUMBING & HEATING CO.,  
W. P. PAYNE, *President.*

WPP: lj.

HOUSE OF REPRESENTATIVES,  
Washington, D. C., February 4, 1949.

Mr. CARLTON E. SHUGG,

*Deputy General Manager, Atomic Energy Commission,  
Washington, D. C.*

DEAR MR. SHUGG: My friend and constituent, Mr. W. P. Payne, of the plumbing and heating company which bears his name, one of the leading contractors in that field, has written to me and enclosed a file of memoranda and correspondence concerning the establishment of his company of a subsidiary known as the Rich-

land Plumbing and Heating Co., in connection with the Hanford Works of the Atomic Energy Commission.

It would appear from the correspondence and memoranda that the Richland Co., was established largely pursuant to the encouragement of the Commission and the General Electric Co., as the Commission's operating contractor at Richland, and that the principal reason for such encouragement was that the Commission, through its contractors, the General Electric Co., was having to pay something like \$3,000.00 per day for transportation and other charges to outside plumbing contractors.

It appears also that upon the establishment of the Richland Co., the local contractors and the unions, whose members they employed, agreed to waive the transportation and other charges, thereby saving the Commission and the Government approximately \$3,000.44 per day, at which point employment of the Richland Co., as subcontractors to the General Electric Co., in the maintenance of facilities and in the awarding of construction contracts was no longer to be considered except as their bids might be lower than the outside companies. It appears also that the General Electric Co., decided to do its own plumbing and heating maintenance work with its own employees, and that as the Richland Co., was holding itself out to do this work on a cost-plus basis, that they could not be considered in the awarding of bids on a lump-sum basis, and/or vice versa as the case might be.

Obviously, the establishment of the Richland Plumbing and Heating Company made it possible for the Commission and the Government to save \$3,000.00 per day or thereabouts, and that the continuation of that Company or the establishment of a similar organization by some other agent, is to the advantage of the Government and the Commission. However, the W. P. Payne Company has now invested the sum of \$45,000.00 including the building of a building at a cost of \$25,000.00 on land leased to them in the Richland Warehouse area and the use of this investment at the present time is practically nil.

I understand that you are entirely familiar with the circumstances, having been in charge of the work at Richland and Hanford for the Commission before your present appointment in Washington.

I would like to know your reaction to this situation and what, if anything, you propose to do about it.

Sincerely yours,

CARL HINSHAW, M. C.

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UNITED STATES ATOMIC ENERGY COMMISSION,  
Washington 25, February 24, 1949.

In reply to refer to : PCO : CAT

Honorable CARL HINSHAW,

*House Office Building, Washington 25, D. C.*

DEAR CONGRESSMAN HINSHAW: Reference is made to your February 4, 1949, letter, in which you describe the problem faced by Mr. W. P. Payne, owner of the Richland Plumbing and Heating Company at Richland, Washington. I understand that you discussed this matter briefly with Mr. Fred Schlemmer, Manager of Hanford Operations Office, during the open hearing of the Joint Committee on Atomic Energy held on February 17.

On January 10, 1949, Mr. Schlemmer met with Mr. Payne and Mr. E. T. Coppin, his resident manager, and discussed possible arrangements by which the Richland Plumbing and Heating Company could increase its volume of business in Richland.

At the conclusion of this meeting, Mr. Schlemmer indicated that the Company's representative would be contacted again and that it was expected that a mutually satisfactory arrangement could be worked out.

On January 24, 1949, Mr. Payne addressed a letter to Mr. Walter J. Williams, Director of Production, Atomic Energy Commission, Washington, D. C., confirming the fact that he had met with Mr. Schlemmer, and thanking Mr. Williams for assisting in arranging for the meeting.

We shall keep you informed of any further developments in this case.

Yours very truly,

CARLETON SHUGG,  
*Deputy General Manager.*

3-15-49: Copy mailed Mr. Payne.

W. P. PAYNE Co.,  
PLUMBING & HEATING CONTRACTORS,  
Van Nuys, California, March 21, 1949.

Honorable CARL HINSHAW,  
House Office Building, Washington 25, D. C.

DEAR MR. HINSHAW: The interest which you have shown and the help which you have given in connection with our problem at Richland, Washington, is greatly appreciated. However, at the present time matters in Richland stand as they were the first time I wrote you.

On March 7, 8, & 9 our counsel, Mr. Donald A. Odell, and I were in Richland at which time several conferences were held with Mr. Schlemmer, of the AEC, and Mr. Earl Richmond, City Manager of Richland. Nothing definite came of these conferences except that we were requested to submit certain information in connection with proposed work. This information was submitted on March 9th.

I gathered from the transcript which you sent on February 22 that Mr. Schlemmer felt that the problem would be settled immediately, however, after talking with the Richland Plumbing and Heating Company today I learned that as yet they have heard nothing from the AEC or the General Electric Company.

Since I wrote you January 27 it has been necessary for us to advance another \$5,000 to the Richland Company and our operation losses are about \$2,000 per month. This we cannot continue.

I am leaving for Richland Wednesday, March 23, to see if anything can be done immediately. If the situation appears hopeless, it will be necessary for us to cease operations March 31 and take our chances on saving some of our investment. In the meantime I will keep you informed on any further happenings.

May I thank you again for your help and consideration.

Sincerely,

W. P. PAYNE,  
President, W. P. Payne Co.

WPP: EM.

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W. P. PAYNE Co.,  
PLUMBING & HEATING CONTRACTORS,  
Van Nuys, Calif., April 5, 1949.

Honorable CARL HINSHAW,  
House Office Building, Washington 25, D. C.

DEAR MR. HINSHAW: Your letter of April 1st was just received requesting results concerning our meeting with Mr. Schlemmer at Richland, Washington. On March 21st we sent you a letter, a copy of which is attached.

The status of things at Richland is the same as it was when we wrote the attached letter. However, I am expecting a call this afternoon from Mr. Schlemmer at which time he is supposed to give us something definite on what is to be done. As soon as we hear from him we will contact you.

Sincerely,

WPP: EM.  
Registered—airmail,

W. P. PAYNE,  
President, W. P. Payne Co.

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W. P. PAYNE Co.,  
PLUMBING & HEATING CONTRACTORS,  
Van Nuys, Calif., May 5, 1949.

Honorable CARL HINSHAW,  
House Office Building, Washington 25, D. C.

DEAR MR. HINSHAW: Just to keep you posted on what we are doing at Richland, I thought I would let you know that we have turned the whole matter over to our attorney, Mr. William Furguson, of Furguson, Burdell and Armstrong in Seattle, Washington.

It seems that we have run up against a blank wall and there is nothing more that we can do ourselves.

We expect to have all our equipment and inventory moved out by May 15, 1949.

What Mr. Ferguson will be able to do still remains in question; however, it looks very much like a lawsuit. We will inform you of any further developments.

Very truly yours,

W. P. PAYNE COMPANY.  
By W. P. PAYNE, *President*.

WPP/rbw.

MAY 2, 1949.

GENERAL ELECTRIC COMPANY,  
*Richland, Washington.*

(Attention: Mr. Forrest Baker, Chief Accounting Officer.)

**GENTLEMEN:** In connection with our previous negotiations to terminate our contracted agreement with General Electric Company, entered into March 12, 1948, to maintain plumbing and heating facilities as outlined in our letter of March 5, 1948, we are submitting our subcontractors termination claim for reimbursement.

Our claim amounts to \$96,570.55. We will be willing to bid \$2,977.00 for the inventory and various fixed assets acquired to enable our company to comply with the contract. Our net claim for reimbursement of losses, costs, and expenses through April 30, 1949, amounts to \$93,593.55.

Our liabilities which are now outstanding and long overdue are as follows:

Accounts payable for supplies, materials, etc.....	\$55,239.51
Salaries and wages.....	14,936.96
Manager's 3 yr. contract termination.....	27,200.00
Other sundry liabilities accrued since March 30, 1949 (estimated, subject to correction).....	3,500.00

Total liabilities to be paid from reimbursed costs..... 100,876.47

Our accounting records are maintained at Stevens Drive and Spengler Road, Richland, Washington. These records will be available for your inspection at any time in substantiation of the above claim.

Our auditor, Messrs. Blight & Wheeler, certified Public Accountants, 756 South Broadway, Los Angeles, California, have assisted us in preparing this claim.

Yours very sincerely,

RICHLAND PLUMBING AND HEATING Co.,  
By W. P. PAYNE, *President*.

WPP/rbw.

GENERAL ELECTRIC COMPANY,  
*Richland, Washington, May 3, 1949.*

RICHLAND PLUMBING AND HEATING COMPANY,  
*P. O. Box 684, Richland, Washington.*

(Attention: Mr. W. P. Payne, President.)

**GENTLEMEN:** This will acknowledge receipt of your letter dated May 2, 1949, in which you submit a claim for \$93,593.55. You state that this claim is in connection with negotiations to terminate a contract agreement with General Electric Company entered into March 12, 1948, to maintain plumbing and heating facilities as outlined in your letter of March 5, 1948.

I have reviewed your letter dated March 5, 1948, and our reply dated March 12, 1948, together with the definitive agreement which resulted from this exchange of correspondence and conversations which took place prior to its execution. The definitive agreement to which I refer was executed April 8, 1948, became effective March 26, 1948, and by its terms (Paragraph 21) contains the entire understanding between the parties. I find nothing in this document which would serve as the basis for a claim by Richland Plumbing and Heating Company against General Electric Company as set forth in your letter of May 2 and it, therefore, is denied.

Very truly yours,

(Signed) F. E. BAKER, *Department Comptroller*.

FE Baker: RA.

*Richland Plumbing and Heating Company—Statement of losses, expenses, and costs to be reimbursed by General Electric Co.*

APRIL 30, 1949

Operating Losses for 10 months ending January 31, 1949, Schedule No. 1	\$27,963.45
Operating Losses for 2 months ending March 31, 1949, Schedule No. 2	4,839.09
Estimated loss for the month ending April 30, 1949, Schedule No. 3	8,983.00
Other Direct Losses and Costs Incurred to March 31, 1949:	
Furniture and fixtures	\$1,270.48
Tools and shop equipment	450.14
Leasehold improvements	21,081.35
Small tools	2,883.91
	25,635.88
Less Reserve for Depreciation	7,229.59
	18,406.29
Inventory of Materials acquired for the purpose of performing work for the City of Richland	7,303.72
Organization Expense	250.00
Manager's Contract Termination Cost	27,200.00
Interest at 5% on \$30,000.00 assets for 13 mo.	1,625.00
	96,570.55
Total amount to be reimbursed	
Less the amount the Company will bid for the various fixed assets and inventories	2,977.00
	93,593.55
Net amount to be reimbursed	

*SCHEDULE No. 1.—Richland Plumbing and Heating Company—Profit and loss statement for the period ending January 31, 1949 (year end closing)*

	January			Year to date		
	Gross revenue	Costs	Net revenue	Gross revenue	Costs	Net revenue
Contracts:						
Fixed Sum	\$5,100.00	\$6,030.54	(\$930.54)	\$47,761.27	\$51,229.68	(\$3,468.41)
T & M	.00	.00	.00	1,556.98	2,445.86	(888.88)
Total Contr.	5,100.00	5,030.54	(930.54)	49,318.25	53,675.54	(4,357.29)
Sales-Labor	696.75	531.26	165.49	2,552.62	1,794.98	757.64
Sales-Mater.	628.69	463.93	164.76	4,434.70	2,866.57	1,568.13
Total La. & Mat.	1,325.44	995.19	330.25	6,987.32	4,661.55	2,325.77
Total all	6,425.44	7,025.73	(600.29)	56,305.57	58,337.09	(2,031.52)
Int. Earned	.00	.00	.00	46.50	.00	46.50
Disc. Earned	8.63	.00	8.63	78.35	.00	78.35
Misc. Gains	1,252.10	.00	1,252.10	1,252.10	.00	1,252.10
Total	1,260.73		1,260.73	1,376.95		1,376.95
Total revenue	7,686.17	7,025.73	660.44	57,682.52	58,337.09	(654.57)
Expenses		6,980.46			47,201.91	
Less Allocated		1,068.75	5,921.71		19,893.03	27,308.88
			(5,261.27)			(27,963.45)

**SCHEDULE No. 2.—Richland Plumbing and Heating Company—Profit and loss statement for the period ending March 31, 1949**

	March			Year to date		
	Gross revenue	Costs	Net revenue	Gross revenue	Costs	Net revenue
Contracts:						
Fixed sum.....	\$0.00	\$10.50	(\$10.50)	\$0.00	\$15.63	(\$15.63)
T & M.....	1,245.86	1,954.71	(708.85)	1,245.86	1,954.71	(708.85)
Total contracts.....	1,245.86	1,965.21	(719.35)	1,245.86	1,970.34	(724.48)
Sales—Labor.....	110.00	233.05	(123.05)	628.36	547.31	81.05
Sales—Material.....	216.45	155.98	60.48	1,052.69	790.05	262.64
Total L & M.....	326.46	389.03	(62.57)	1,681.05	1,337.36	343.69
Total all.....	1,572.32	2,354.24	(781.92)	2,926.92	3,307.70	(380.79)
Discount earned.....	2.55		2.55	2.63		2.63
Total revenue.....	1,574.87	2,354.24	(779.37)	2,929.54	3,307.70	(378.16)
Expenses.....		4,089.92			7,362.33	
Less allocated.....		2,040.60			2,901.40	
			(2,838.69)			(4,839.09)

**SCHEDULE No. 3.—Richland Plumbing and Heating Company—Estimated losses for April 1949**

Average Monthly Loss.....	\$2,733.00
Accrued Equipment rental not previously accounted for.....	3,750.00
Other Estimated Losses.....	2,500.00
Total.....	8,983.00

HOUSE OF REPRESENTATIVES,  
Washington, D. C., May 3, 1949.

MR. CARLTON SHUGG,  
Deputy General Manager, Atomic Energy Commission,  
Washington, D. C.

DEAR MR. SHUGG: I have a letter from Mr. W. P. Payne, President of the W. P. Payne Company, recounting the meeting he had with Mr. Williams and with you, and then recounting his contacts with Mr. Schlemmer and his Assistant, Mr. Travis, upon his return to Richland. It appears that everyone in Richland except Mr. Schlemmer saw no reason why a negotiated contract could not be entered into immediately with the General Electric Company for the performance by the Payne Company of certain work at Richland. Mr. Schlemmer said, however, he would approve no such contract until after the receipt of competitive bids.

I now quote to you briefly from Mr. Payne's letter:

"Mr. Hinshaw, we feel that we have done our best to assist and help the government and the General Electric Company in their problems at Richland. We feel that the General Electric Company appreciates the help and the assistance which we have given them. However, in their attempts to help us out of our peculiar situation they have been met by the refusal of the Commission representative to go along. Both Mr. Richmond and Mr. Prout have spent much of their valuable time trying to solve our problem and we greatly appreciate it. However, under the circumstances, we cannot continue our operation at Richland any longer. We have a little work on hand that will require about sixty days for completion. When this is done, we are withdrawing and hope that we can find some way of salvaging some portions of our investment at Richland which now stands in the neighborhood of \$60,000.00."

Having watched this situation grow to its present culmination and knowing many of its antecedents, it would seem to me that if the policy of the Commission is to be continued in the manner which has produced these results, that the Commission's policy would not be in the public interest. It would appear to me

further that some definite steps should be taken to establish a definite policy in respect to private organizations such as the W. P. Payne Company, for otherwise the Commission cannot expect that service and supply organizations such as that Company will be willing in the future to run the risk which the W. P. Payne Company is suffering. I am sure that you understand the situation.

In the meantime, in view of the encouragement given by the Commission to the W. P. Payne Company in creating its establishment at Richland, it would appear to me simple justice that the Commission should do everything within its power to save that Company from loss upon its investment at Richland.

As you know, there are several other matters of concern in connection with the Hanford Works, including the concern of the several local School Boards outside of the Government premises, and in view of all of the circumstances concerning the AEC's operations at Hanford, perhaps our Committee should make an investigation in order to assist the Commission in determining the proper policy.

Sincerely yours,

CARL HINSHAW, M. C.

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W. P. PAYNE CO.,  
PLUMBING AND HEATING CONTRACTORS,  
Van Nuys, Calif., April 25, 1949.

HON. CARL HINSHAW, M. C.

*New House Office Building, Washington 25, D. C.*

DEAR MR. HINSHAW: I wish to express my appreciation to you and your staff for the courtesies shown me during my recent visit in Washington. I am sorry I was unable to see you after my meeting with Mr. Shugg and Mr. Williams of the AEC on Friday morning. It was their suggestion that I be in Richland Monday to see if we could get our problem settled at the earliest possible date.

I met with Mr. Williams about 8:30 Friday morning and went over with him in complete detail our problem at Richland. He appreciated our position and felt that something should be done for us. About 9:00 or 9:15 Mr. Shugg joined us and we went over the events leading up to the establishment of our company at Richland and Mr. Shugg admitted that he had possibly done a little high-pressure selling and in his enthusiasm had possibly made some commitments which he should not have made. However, he also felt that there was an obligation to our company and that although he was 3,000 miles away from the project he felt that there was something that could be done or some way in which we could be awarded a contract to help us out of our situation but the details would have to be worked out at Richland.

Mr. Shugg and Mr. Williams explained to me the policies and anticipated policies of the Commission concerning the operation of the project towns and pointed out that at Richland the General Electric Company was hired to operate the town under contract and that the Commission was not in a position to tell a contractor what to do. I pointed out that the General Electric Company and the Richland Plumbing and Heating Company had come to an agreement concerning work to be done and the means of handling it but these propositions were turned down by the AEC when submitted for their approval as is necessary under the terms of the contract between the General Electric Company and the AEC.

Mr. Williams agreed to call Mr. Schlemmer and talk to him concerning our situation. I saw Mr. Williams again about 1:30 Friday afternoon at which time he told me that he had talked to Mr. Schlemmer and I believe also his assistants, Mr. Shaw and Mr. Travis. He suggested that I contact Mr. Schlemmer on Monday at Richland. This I agreed to do.

Upon my arrival in Richland Monday I tried to contact Mr. Schlemmer but was informed that he would be tied up for the next two or three days as Mr. Lillenthal was in town and it would be impossible for him to conveniently see me. I talked with Mr. Earl Richmond, of the General Electric Company, who is City Manager and also the gentleman with whom we have had all of our recent negotiations, and told him of my meetings in Washington with Mr. Shugg and Mr. Williams and of their feeling in our situation. He saw no reason why a contract could not be entered into immediately on a negotiated basis. He conferred with Mr. George Prout, manager of the Hanford Works for the General Electric Company and they were both in agreement concerning a contract. Mr. Richmond made his recommendation to Mr. Travis, Mr. Schlemmer's assistant, who was also in accord with the plan and agreed to take it up with Mr. Schlemmer immediately. This was done on Tuesday morning and Mr. Schlemmer said that he would approve

no such contract until after the receipt of competitive bids. Getting the work out for competitive bids would possibly require six or eight weeks and then possibly another like period of time for contract negotiations.

Mr. Hinshaw, we feel that we have done our best to assist and help the government and the General Electric Company in their problems at Richland. We feel that the General Electric Company appreciates the help and the assistance which we have given them. However, in their attempts to help us out of our peculiar situation they have been met by the refusal of the Commission representative to go along. Both Mr. Richmond and Mr. Prout have spent much of their valuable time trying to solve our problem and we greatly appreciate it. However, under the circumstances, we cannot continue our operation at Richland any longer. We have a little work on hand that will require about sixty days for completion. When this is done we are withdrawing and hope that we can find some way of salvaging some portions of our investment at Richland which now stands in the neighborhood of \$60,000.00. The more I see of the AEC and the General Electric Company operation at Richland the more I am inclined to agree with Senator Harry Cain that a Congressional investigation is needed to see just what is going on.

Mr. Hinshaw, I wish to thank you for your personal interest in our problem and wish to assure you that we of the Payne Co. stand ready and willing to assist you in any manner.

Sincerely,

W. P. PAYNE,  
*President, W. P. Payne Co.*

WPP: EM.

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UNITED STATES ATOMIC ENERGY COMMISSION,  
*Washington 25, D. C., June 3, 1949.*

In reply refer to: PCO:CAT.

Honorable CARL HINSHAW,  
*House Office Building,  
Washington 25, D. C.*

DEAR CONGRESSMAN HINSHAW: This is in reference to your letter of May 3, 1949, concerning a communication received by you from Mr. W. P. Payne, President of the Richland Plumbing and Heating Company, and expressing the view that the Commission should do everything within its power to save the company from loss upon its investment at Richland.

Upon receipt of your letter, we requested the Manager, Office of Hanford Operations, to furnish us with information with regard to this matter. The information received is summarized below.

An award of a contract for operation of a plumbing and heating facility at Richland was made to the Richland Plumbing and Heating Company on March 12, 1948, on the basis of bids received on March 5, 1948. In recommending that the award be made to this company, the Commission's prime contractor, the General Electric Company stated that the Richland Plumbing and Heating Company required no assurance of a guaranteed contract for maintenance or other type of work and would take its chances in getting any work which might become available. The award was based upon rental by the Richland Plumbing and Heating Company of two Quonset huts in the light industrial area at a rate of \$30.00 per month. The Company, however, stated in its bid proposal its preference to erect its own building and shop as soon as a site was available. It is probable that the undersigned, who was the Manager of Hanford Operations at the time, did encourage the Company to invest in a permanent facility, but only on the grounds that general prospects of business in Richland appeared promising. Similar encouragement was and is given other business ventures as the Commission is engaged in a positive program to encourage establishment of privately financed business ventures in the community. In accordance with established policy, however, no commitment or guarantee of any future contract for the furnishing of services is made under these circumstances.

The formal agreement, which was entered into between the General Electric Company and the Richland Plumbing and Heating Company on March 26, 1948, provided for ground space for construction by the Richland Plumbing and Heating Company of its own building and for payment by the Company of a rent of 2 percent of its gross sales with a minimum guaranteed rent of \$50.00 per month. The Company thereafter erected a building upon the land thus made available and started business as a normal private plumbing shop, obtaining some small amount of local business.

Subsequently, by letter of December 14, 1948, to the Deputy General Manager of the Commission, Mr. Payne stated that, during the period of negotiation leading up to construction of the Richland Plumbing and Heating Company of its own building, it was understood that the General Electric Company would eventually cease to provide maintenance plumbing and heating services which it was then furnishing to tenants under rental agreements and that work would thus become available to the Richland Plumbing and Heating Company under arrangements directly between it and the tenants. The letter further stated that such work had not materialized and that, if such work were not made available, the Company would have to move out of Richland. We are informed, in this connection, that considerable amount of plumbing and heating work was let by various contractors and builders during the first several months after the Company began business in Richland and it is understood that the Company was an unsuccessful bidder with respect to some of this work. We are further informed that the transfer to tenants of certain maintenance responsibilities will probably take place on July 1, 1949.

Mr. Payne's letter did not state that any promise had been made that the Richland Plumbing and Heating Company would receive from the Commission or the General Electric Company any contract or subcontract relating to the furnishing of services. Moreover, to the best of our knowledge, no commitments or promises were made at any time to the Richland Plumbing and Heating Company that it would receive any such contracts or subcontracts. Nevertheless, upon referral to it of Mr. Payne's letter, our Office of Hanford Operations held a number of conferences with respect to negotiation of a subcontract under which the Richland Plumbing and Heating Company would furnish certain maintenance services then being furnished by the General Electric Company. We are informed by Mr. Schlemmer that, rather than being opposed to negotiation of such a contract, he was instrumental in pressing for its negotiation and that he called several conferences in an effort to get both parties together in the matter since the prices initially quoted by the Richland Plumbing and Heating Company were considerably higher than the costs of the General Electric Company for the same work. While the negotiations were being conducted, other plumbing contractors in the surrounding towns expressed interest in bidding on any maintenance work that was under consideration for subletting. We are also informed that it was the combined judgment of the Atomic Energy Commission and General Electric Company staffs as soon as it was learned that there were other plumbing contractors interested in bidding, that competitive bids should be invited in line with the policy of inviting competitive bidding where practicable. The General Electric Company was so advised on April 14, 1949.

On May 2, 1949, Mr. Payne presented a letter to the General Electric Company which stated in substance that in connection with previous negotiations to terminate the Richland Plumbing and Heating Company contract with General Electric, the company was submitting a termination claim in the amount of \$93,593.55. The General Electric Company replied by letter of May 3, 1949, denying the claim on the ground that there was nothing in the correspondence, conversations, or contractual documents which served as a basis for a claim.

In view of the foregoing, it appears that the difficulties of the Richland Plumbing and Heating Company stem primarily from the fact that the anticipated transfer of certain maintenance responsibilities to tenants did not materialize as rapidly as the Company had hoped and from the fact that, in the interim period, the Company apparently failed to obtain enough work from private sources through competitive bids or other means to make its venture sufficiently profitable to date. However, it does not appear that any promise or commitments were made by the Commission or its representatives which brought about these difficulties. Furthermore, the Commission representatives explored the possibility of subletting certain work to the Company, but upon learning of the interest expressed by other contractors with respect to such work, determined that competitive bids should be invited.

Your letter also refers to the concern of several local school districts located in the Hanford area. The Commission has extended considerable aid to these school districts. In a recent letter to Senator Warren Magnuson, a report was given of the Commission's activities with regard to these school districts. A copy of this letter to Senator Magnuson is attached for your information.

Sincerely yours,

CARLETON SHUGG,  
Deputy General Manager.

Enclosure: Cpy. ltr. to Senator Magnuson.

EXHIBIT 21

(Referred to on p. 676, pt. 16, June 28, 1949)

UNITED STATES ATOMIC ENERGY COMMISSION,  
Washington, July 1, 1949.

Mr. WILLIAM L. BORDEN,  
Executive Director, Joint Committee on Atomic Energy,  
Washington, D. C.

DEAR MR. BORDEN: In accordance with the request of Senator Hickenlooper, appearing on page 676 of the printed hearings, the following materials are submitted for the record:

(a) Analysis of Payments to the Zia Company by Fiscal Years for the Period April 1, 1946, through May 31, 1949.

(b) Salaries Paid Major Executives by the Zia Company.

(c) Reimbursement for Zia Company Officers.

Sincerely yours,

C. SHUGG,  
(For Carroll L. Wilson, General Manager).

Enclosures: As above.

(a) U. S. Atomic Energy Commission—Analysis of payments to the Zia Company by fiscal years for the period May 1, 1946, through June 30, 1949

Month	Reimbursements				Fixed fee			
	1946	1947	1948	1949	1946	1947	1948	1949
July.....		\$564, 952	\$844, 132	\$1, 445, 574		\$16, 250	\$17, 300	\$17, 000
August.....		525, 829	463, 590	1, 061, 018		16, 250	17, 300	17, 000
September.....		452, 997	780, 010	814, 683		19, 300	17, 300	17, 000
October.....		631, 444	1, 085, 750	1, 194, 672		19, 300	17, 300	17, 000
November.....		710, 990	1, 012, 577	1, 122, 730		19, 300	17, 300	17, 000
December.....		710, 392	768, 636	794, 127		19, 300	17, 300	17, 000
January.....		394, 853	1, 242, 791	1, 422, 294		19, 300	17, 300	17, 000
February.....		708, 932	596, 003	989, 124		19, 300	17, 300	17, 000
March.....		798, 069	1, 224, 765	1, 051, 839		19, 300	17, 300	17, 000
April.....		359, 657	1, 446, 566	638, 856		19, 300	17, 300	17, 000
May.....	\$17, 962	639, 004	1, 104, 008	816, 335	\$16, 250	19, 300	17, 300	17, 000
June.....	376, 471	628, 997	1, 084, 693	772, 922	16, 250	19, 300	17, 300	17, 000
Total.....	394, 433	7, 126, 116	11, 653, 521	12, 124, 174	32, 500	225, 500	207, 600	204, 000

SUMMARY

	Reimbursements	Fixed fee	Total
Fiscal year—			
1946.....	\$394, 433	\$32, 500	\$426, 933
1947.....	7, 126, 116	225, 500	7, 351, 616
1948.....	11, 653, 521	207, 600	11, 861, 121
1949.....	12, 124, 174	204, 000	12, 328, 174
Total.....	31, 298, 244	669, 600	31, 967, 844

(b) Salaries Paid Major Executives by the Zia Company

Name	Position	Annual salary
Mr. C. D. McKee.....	Manager.....	\$9, 360. 00
Mr. F. D. Rogers.....	Director of Organization and Personnel.....	8, 320. 00
Mr. W. L. Miller.....	Controller.....	8, 320. 00

## (C) REIMBURSEMENT FOR ZIA COMPANY OFFICERS

With a single exception, the Zia Company is not reimbursed for salaries or administrative overhead to cover any of its corporate officers. Mr. W. A. Kelecher, a Corporate Officer of the Company is occasionally employed as legal counsel on cases involving workmen's compensation claims. Through June 30, 1949, Mr. Kelecher has been paid \$630.50 for this work by the Company and the Company has been reimbursed by the AEC. This work has been on seven cases and in each case the assignment has been approved by AEC's coordinator for the Zia contract prior to the work being done.

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EXHIBIT 22

(Referred to on p. 680, pt. 16, June 28, 1949)

UNITED STATES ATOMIC ENERGY COMMISSION,  
Washington 25, D. C., July 8, 1949.

Mr. WILLIAM L. BORDEN,  
*Executive Director, Joint Committee on Atomic Energy,*  
Washington, D. C.

DEAR MR. BORDEN: At the hearing on June 28, 1949, Senator Millikin asked for the amount of our total investment in housing at Oak Ridge. This request appears at page 680 of the printed hearing. This is partially the subject of an analysis now being prepared, covering all facilities owned by AEC. Until this analysis is completed the only figures available are contained in estimates made by the Office of Community Affairs at Oak Ridge for purposes of explaining to residents the need for and effect of the recently announced rent adjustments.

The total capital cost of 9,098 housing units at Oak Ridge except hutments, dormitories, and farm houses is estimated at \$40,594,679. Obsolescence is estimated at \$5,661,448. Thus original cost less obsolescence is \$34,933,231. This figure does not reflect deductions for depreciation.

No figure is presently available for hutments, dormitories, and farm houses, since the studies pertaining to the new rent policy did not encompass these buildings. The figures on these as well as other buildings will, of course, be made available to the Joint Committee when the current analysis is concluded.

Sincerely yours,

By C. SHUGG,  
For CARROLL L. WILSON,  
General Manager.

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EXHIBIT 23

(Referred to on p. 686, pt. 16, June 28, 1949)

The material on the supervisory fee to be received by Roane-Anderson under Modification 20 of the contract was presented in subsequent testimony on the following day, June 29. The schedule for these fees was presented by Mr. Cook on page 719 (pt. 17) and the estimated fee for Roane-Anderson under this modification in the period ending June 30, 1949, was presented by Mr. Cook on page 724 (pt. 17).

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EXHIBIT 24

(See also Exhibits 16 and 35)

(Referred to on p. 709, pt. 16, June 28, 1949)

UNITED STATES ATOMIC ENERGY COMMISSION,  
Washington 25, D. C., July 20, 1949.

Mr. WILLIAM L. BORDEN,  
*Executive Director, Joint Committee on Atomic Energy,*  
Washington, D. C.

DEAR MR. BORDEN: At the hearings before the Joint Committee on June 28, 1949, Mr. Hinshaw requested information concerning the firmness of the supply of natural gas to Oak Ridge.

I am attaching a memorandum on this subject which I believe will give Mr. Hinshaw the information he wanted.

Sincerely yours,

CARROLL L. WILSON, *General Manager.*

Enclosure.

**MEMORANDUM COMMENTING ON QUESTIONS RAISED BY MR. HINSHAW ON OAK RIDGE GAS SUPPLY AT JUNE 28 HEARING**

At the hearings before the Joint Committee on June 28, 1949, Mr. Hinshaw requested information concerning the firmness of the supply of natural gas to Oak Ridge.<sup>1</sup> Mr. Hinshaw expressed particular concern over the apparent lack of any commitment, or guarantee, obligating suppliers of the East Tennessee Natural Gas Company to furnish to East Tennessee the gas needed at Oak Ridge.

1. At the time the Atomic Energy Commission entered into the contract with the East Tennessee Natural Gas Company on June 19, 1948, for the delivery of natural gas to Oak Ridge, East Tennessee held a contract with the Tennessee Gas Transmission Company (TGT) which provided that TGT would supply East Tennessee's entire natural-gas requirements in a service area which included Oak Ridge.

On July 1, 1948, TGT wrote East Tennessee confirming the application of the requirements contract to East Tennessee's requirements for supplying natural gas to Oak Ridge. The letter stated in part:

"We understand that the Oak Ridge area is located within the service area covered by the requirements gas-sales contract dated September 6, 1946, in which we are the seller and you, by assignment from Tennessee Natural Gas Lines, Incorporated, dated the 21st day of April 1947, have become the buyer. We agree to sell and deliver to you the 60,000 MCF per day of contracted demand first above-mentioned, for consumption in said Oak Ridge area under said requirements gas-sales contract between us, and only proviso being that satisfactory authorization of the necessary facilities and said sale and delivery can be obtained. Accordingly, we will apply forthwith to the Federal Power Commission for such authorizations."

Article III of the contract between East Tennessee and the Commission provides:

"This agreement shall obligate the Gas Company to sell and be ready at all times, commencing with the day of initial delivery, to deliver to the Government the contracted demand and the Government shall have the right to purchase and receive from the Gas Company up to the contracted demand."

2. The contract obligation of East Tennessee to supply gas to the Commission, and the obligation of TGT to supply the necessary gas to East Tennessee, were both contingent upon securing authorization from the FPC. Both contracts, however, provided that due diligence should be exercised to secure the necessary authorization. Thus the contract between East Tennessee and the Commission provided:

"The Gas Company shall apply for promptly and use due diligence (a) to obtain all necessary materials and authorizations for the construction of the facilities and for the purchase of a supply of natural gas necessary to enable it to deliver to the Government at the Points of Delivery, defined herein, the volume of natural gas contemplated by this agreement, and (b) to secure such certificates, licenses, or permits as may be found necessary to authorize the sale and delivery to the Government of said volume of gas. When requested by the Commission, and to the extent that the Commission may require, the Gas Company shall submit to the Commission adequate information concerning the status of its undertakings under this paragraph."

3. Section 7 (e) of the Natural Gas Act of 1938 provides that a "certificate shall be issued to any qualified applicant \* \* \* if it is found that the applicant is able and willing properly to do the acts and perform the services proposed \* \* \*". In accordance with this provision the FPC looks carefully into the gas supplies available to certificate applicants where those supplies affect the ability of the applicant to render the proposed services. Pursuant to their contracts East Tennessee and TGT applied to the FPC for certificates of convenience and necessity in the summer of 1948. The proceedings on the two applications were consolidated, and hearings were begun on March 9, 1949. On May 3, 1949, the FPC granted certificates to East Tennessee and TGT authorizing natural

<sup>1</sup> See p. 709, pt. 16, printed hearing of June 28, 1949.

gas service to Oak Ridge.<sup>3</sup> In the opinions handed down with its orders granting the certificates the FPC discussed the matter of gas supplies available to TGT at length. In its opinion on the application of TGT it said:

"Authorization of a sufficient part of the remaining facilities subject to TGT's pending amended application in G-962 to supply up to 60,000 MCF per day of natural gas to East Tennessee for service to the Atomic Energy Commission at Oak Ridge is required by public convenience and necessity. However, a certificate for such facilities can be issued here by the Commission only if the facts before us warrant finding that TGT, by reason of the additional gas reserves and supply available under the activated gas-purchase contracts presented prior to our September 29, 1948, order, possesses a sufficient natural gas supply reasonably adequate to meet the input requirements of the additional facilities to be authorized for supplying natural gas for East Tennessee's Oak Ridge pipe line.

"On the basis of the actual additional gas that TGT would require to operate its system with the additional facilities hereinafter authorized by this order, TGT will need to purchase, on a daily and annual basis, lesser volumes of gas than the minimum volumes TGT has shown, at the previous hearings herein, may reasonably be expected to be available to TGT under the aforementioned activated 20-year contracts covering reserves and purchases from the Bay City, East Bay City, Lucky, Frelsburg, and New Ulm gas fields. Substantial evidence is of record respecting the reserves of gas committed and available to TGT under the mentioned contracts and in the fields named. From the facts and record before the Commission it is reasonable to conclude that TGT has shown it has commitments, separate from and in addition to those considered as basis for the certificates heretofore issued by the Commission to TGT, for a supply of gas reasonably adequate for meeting the demands not exceeding 60,000 MCF per day authorized herein to be sold and delivered to East Tennessee for resale to the Atomic Energy Commission. By our December 7, 1948, order herein we have already authorized the necessary lateral transmission pipe lines for connecting these new sources of gas supply."

Moreover the issuance of the certificates adds the sanctions of the Natural Gas Act to the remedies available to the Commission under its contract with East Tennessee to enforce delivery of gas to Oak Ridge. Section 7 (b) of the Natural Gas Act of 1938 provides:

"No natural-gas company shall abandon all or any portion of its facilities subject to the jurisdiction of the Federal Power Commission, or any service rendered by means of such facilities, without the permission and approval of the Commission first had and obtained, after due hearing, and a finding by the Commission that the available supply of natural gas is depleted to the extent that the continuance of service is unwarranted, or that the present or future public convenience or necessity permit such abandonment."

4. Mr. Hinshaw also expressed concern that the Texas Railroad Commission might curtail the delivery of natural gas from the Texas fields to TGT to an extent that would curtail the delivery of gas to Oak Ridge. While the Commission has no absolute assurance that the Texas Railroad Commission will not constrict the production and delivery of natural gas from Texas fields, the probability of such an occurrence interfering with the delivery of gas to Oak Ridge seems unlikely. As was brought out at the hearings before the Federal Power Commission, TGT has contracts for supplies of natural gas in over 70 separate fields in the Texas and Louisiana coastal area. It seems unlikely that gas production in Texas would be so constricted that sufficient gas for Oak Ridge would not be available from some of these fields at all times.

Moreover the present problem of the Texas Railroad Commission seems to be to develop uses for gas being produced to prevent its wastage. For example recently the Texas Railroad Commission has cut off production of gas in certain Texas fields to prevent its being wasted by flaring. Apparently the effect of the actions of the Texas Railroad Commission will be to increase considerably the supply of gas available to pipeline companies such as TGT. In this connection the discussion in *Sterling Oil and Refining Co.*, 218 S. W. (2d) 415 (1949) may be of interest. Incidentally, the annual reports of TGT indicate that TGT was able to double its purchases of natural gas in the Texas and Louisiana coastal area during the period 1945 to 1948.

<sup>3</sup> Rehearing was denied on June 29, 1949.

<sup>4</sup> Findings and order of Federal Power Commission in Docket G-962, May 3, 1949, pp. 5-6.

5. Mr. Hinshaw also stated at the hearings on June 28, 1949:

"There is no showing that performance and payment bonds as required by the AEC General Manager's Bulletin GM-108 have been waived in the interest of the United States. Such bonds are required under GM-108 where the amount of the contract is in excess of \$2,000, and this contract is very much in excess."

GM-108 "Contract Bonding Requirements on New Construction Contracts" dated September 21, 1948, provides that performance and payment bonds must be furnished before any prime construction contract is entered into on a lump sum or a unit price basis where the amount of the contract is in excess of \$2,000. The same provision applies to lump sum and unit price subcontracts to cost-type prime contracts for construction where the total cost of the subcontract is in excess of \$2,000. The contract between AEC and the East Tennessee Natural Gas Company is not a construction contract, but is a supply contract for the purchase of natural gas. The bonding requirement under GM-108, therefore, does not apply.

### EXHIBIT 25

(See also Exhibit 29)

(Referred to on p. 751, pt. 17, June 29, 1949)

UNITED STATES ATOMIC ENERGY COMMISSION,  
Washington, 25, D. C., July 2, 1949.

Mr. WILLIAM L. BORDEN,  
Executive Director, Joint Committee on Atomic Energy,  
Room 4A, West Terrace, U. S. Capitol,  
Washington 25, D. C.

DEAR MR. BORDEN: This is in response to the request of Senator Hickenlooper, transmitted by you on June 29, for—

a complete list of all surveys, outside studies, and all other studies or surveys, together with the names of the companies or people employed and the full amount paid or agreed to be paid by the Commission in its whole operation from January 1, 1947 to date. This would also include any presently going on or contracted for.

Attached are the materials which have been collected thus far. Further materials, including those being collected by the Commission's field offices, will be forwarded to you as soon as they become available.

Sincerely yours,

CARLETON SHUGG, *Deputy General Manager.*

Attachments:

Oak Ridge List, Management Surveys.  
Rorem Survey Memo.  
Reed-Cochran Survey Memo.

#### *List of firms conducting management surveys at Oak Ridge operations—Atomic Energy Commission, June 30, 1949*

Name	Scope	Period of work	Total cost	Use made by survey
<b>FISCAL YEAR 1947</b>				
1. Univ. of Tennessee, Knoxville, Tenn.	Survey of the work of the Oak Ridge Welfare Agency.	1 Month, 6/47.	\$550.00	Used to reorganize the welfare department, City of Oak Ridge.
<b>FISCAL YEAR 1948</b>				
1. Simpson & Curtin, Philadelphia, Penna.	Survey of AIT Bus Operations.	10/47-----	896.43	Used as a basis for appraising the bus operation.
2. Coverdale & Colpitts, New York, New York.	Oak Ridge Operations management reorganization survey.	11/47 to 6/48---	57,000.00	The results of the survey were used, to a great extent, as a basis for complete reorganization of ORO accomplished between Sept. 1948 and May 1949.

*List of firms conducting management surveys at Oak Ridge operations—Atomic Energy Commission, June 30, 1949—Continued*

Name	Scope	Period of work	Total cost	Use made by survey
3. Community Surveys, Inc., New York, N. Y.	Operational survey of Welfare Section of Dept. of Education, Health and Welfare.	3/8/48 to 3/13/48.	\$477.04	Used to reorganize the welfare department, City of Oak Ridge.
Nat'l Recreation Assoc., New York, New York.	Survey and recreation plan for Oak Ridge.	12/47 to 3/48...\$	1,160.49	Used as a basis for planning recreation facilities & areas for City of Oak Ridge.
5. C. Rufus Rorem, Philadelphia, Penna.	Survey of Oak Ridge Hospital Operations.	6/48 to 8/48....	3,500.00	Used by AEC in reorganizing the hospital at Oak Ridge, Tennessee, under incorporated group of citizens.
6. Touche, Niven, Bailey, & Smart, New York, N. Y.	Survey for installation of accounting system for community operations.	Continuing started 4/30/48.	1109,372.59	Used by the contractor and Commission in establishing budgetary and accounting controls.
7. J. C. Treadwell and Geo. Goldstein, New York, N. Y.	Rental survey of Oak Ridge Housing.	4/48 to 7/48....	20,000.00	Used as a basis for increasing rental schedules and adjusting services by the Commission.
	Survey of Guest House and Theatre Operations.	10/48.....	9,000.00	Used by the contractor and Commission with the approval of the Commission in establishing proper arrangements for Guest House and theatre operations.
8. Skidmore, Owings & Merrill.	Preparation of a Master Plan for the development of the City of Oak Ridge.	7/47 to 12/48...	97,000.00	Is being used to guide development of the City of Oak Ridge.
9. Glenn H. Boyer.....	Population survey in the City of Oak Ridge.	6/48 to 7/48....	2,197.20	To provide statistical information for Master Plan of Oak Ridge.
FISCAL YEAR 1949				
1. Drake, Startzman, Sheahan & Barkley, New York, N. Y.	Survey of Warehousing.	8/48 to 10/48...	16,860.05	Used to effect a consolidation and realignment of warehouse operations.
2. E. N. Hay Associates, Philadelphia, Penna.	Job evaluation for Roane-Anderson Company.	Continuing started 10/48.	14,230.81	To be used to relate salary and wage schedules of employees to work being performed and to form a basis for reassignment of personnel to the position for which best qualified.
3. J. L. Jacobs & Co., Chicago, Ill.	Recommendations for incorporation of Oak Ridge.	7/48 to 5/49....	31,542.23	Used as a basis for planning the incorporation of the City of Oak Ridge.

<sup>1</sup> In case of continuing contracts, total cost represents cost to date.

**Reed-Cochran survey.**—Dr. Lowell Reed is vice president of the Johns Hopkins University and the organizer of medical statistics in this country. Dr. Cochran is professor of biometrics (biological and medical statistics at Johns Hopkins University School of Public Health). These men and their assistants have studied existing medical records at Oak Ridge and advised us as to the feasibility of a comprehensive record survey which would be aimed at increasing our information as to the health of workers in atomic energy projects. The survey revealed that the wartime records were inadequate for such a study and has advised a pilot study with the existing records. The survey was made on an actual expense basis without fee. Travel and per diem for the three men making the survey totaled \$969.20.

**Rorem surveys.**—Dr. Rufus Rorem is director of the Philadelphia Hospital Services and has had a great deal of experience in hospital administration. During the days of the Manhattan Engineering District, hospitals were estab-

lished at Oak Ridge, Los Alamos, and Hanford which operated at a heavy deficit requiring considerable subsidy by the Atomic Energy Commission with a desire to effect better hospital management, less subsidy, improved community medical care and preventive medicine. Dr. Rufus Rorem has studied the medical care programs at Oak Ridge and Los Alamos. As a result of the Oak Ridge study, it is estimated that the Commission will save approximately \$300,000 on hospital subsidy and a similar amount is envisaged at Los Alamos. At the latter facility he has also made valuable recommendations as to hospital construction which will effect a considerable saving.

The Oak Ridge survey was conducted and the report submitted on a contract basis for \$3,500 plus per diem and travel costs. The Los Alamos survey now in progress is at a contract rate of \$2,500, plus per diem and travel.

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UNITED STATES ATOMIC ENERGY COMMISSION,  
*Washington 25, D. C., July 19, 1949.*

Mr. WILLIAM L. BORDEN,  
*Executive Director, Joint Committee on Atomic Energy,*  
*Washington, D. C.*

DEAR MR. BORDEN : In further response to Senator Hickenlooper's request transmitted to us by you on June 29, attached are copies of further surveys conducted by the field offices of the Commission.

Sincerely yours,

CARROLL L. WILSON, *General Manager.*

*U. S. Atomic Energy Commission—summary of studies and surveys*  
SANTA FE OPERATIONS OFFICE, FROM JANUARY 1, 1947, TO JUNE 30, 1949

Firm name or consultant	Nature of work	Period of work	Amounts paid under contract (includes travel)	Use
John C. Dinsmore.....	Restaurant analysis of Fuller Lodge, hospital, cafeterias.	January to December 1948.....	\$8,523.00	This analysis provided the basis for discontinuing unprofitable East and West cafeteria services as well as establishing a sound management plan for Fuller Lodge.
Business Research Corporation and Griffenhagen and Associates.....	Complete management survey of Zia Company.	December 1947 to April 1948.....	67,133.80	Implementation of this group's recommendations resulted in the establishment of an organizational framework upon which to base "cut backs" of the Zia operation.
Touche, Niven, Bailey & Smart.....	To set up and supervise installation of accounting systems in Zia.	April to December 1948.....	61,994.65	Development of reliable cost information upon which to base management.
Business Research Corporation.....	Management survey of hospital.	March to November 1948.....	6,778.68	Reorganization of unit and formulation of plan to put hospital on a more economical basis.
C. Rufus Rorem.....	Survey of management services in hospital.	June 1949—in process.....	3,500.00	Establishment of a prepayment plan.
HANFORD OPERATIONS OFFICE, FROM JANUARY 1, 1947, TO JUNE 30, 1949				
University of Washington.....	Financial effect of Commission activity on local government.	July 1948 to May 1949.....	\$1,946.00	Used for appraising equity of requests from local governments for financial assistance.
Touche, Niven, Bailey & Smart.....	Accounting services for town management and hospital operation.	April to August 1948.....	14,022.04	Accounting system established.
Do.....	Accounting services for auditing commercial facilities.	August to November 1948.....	18,691.01	To determine that correct rents were being and had been received. Remove backlog of unaudited operations.
J. Gordon Turnbull & Graham, Anderson, Probst & White.	Master plan for village.....	September 1947 to June 1949.....	47,500.00	Aid in determining new sites for additional housing facilities, etc. <sup>1</sup>
Do.....	Land-use map.....	November to December 1947.....	1,000.00	Used as guide to initiate expansion of village in westerly direction.
Do.....	Location of church sites.....	February 1948.....	500.00	Used in lay-out of church sites prior to establishment of master plan.
Do.....	Irrigation of public areas.....	February 1948 to June 1948.....	825.00	Location of shelter-belt areas, dust-control measures.
Do.....	Flood protection and highway facilities.....	June 1948 to May 1949.....	15,000.00	Future use in event of repetition of flood conditions.

## HANFORD OPERATIONS OFFICE, FROM JANUARY 1, 1947, TO JUNE 30, 1949

J. Gordon Turnbull, & Graham, Anderson, Probst & White. Pacific Telephone & Telegraph Company. Ralph H. Davis.	Building sites for nonprofit organizations (preliminary). Study of over-all telephone system..... Study of commercial rentals.....	July 1948 to September 1948.... April 1948 to October 1948.... July 1948 to December 1948....	\$875.00 17,500.00 1,500.00	Sites obtained for use of nonprofit organizations, clubs, etc. Major revisions in existing plans, approval of in- and-out dialing, alternate cable route to areas. Used as a guide in determining equity of proposals and fair return on land through licensing agreements for new commercial facilities, to determine minimum acceptable rentals. Used in adjustment of rentals on all Richland houses. Do.
Ford S. Barrett, Jr. E. A. Wheeler.	Rental survey..... do.....	October 1948 to February 1949. do.....	9,207.00 9,207.00	

<sup>1</sup> See the following letter:

UNITED STATES ATOMIC ENERGY COMMISSION,  
Washington 25, D. C., June 28, 1949.

Mr. WILLIAM L. BORDEN,  
*Executive Director, Joint Committee on Atomic Energy.*

DEAR MR. BORDEN: In response to Senator Hickenlooper's request at the hearing on June 24 (p. 630 of the printed hearing) this is to inform you that the lump-sum fee paid the co-venture firm of J. Gordon Turnbull and

Graham Anderson, Probst and White for services in connection with the preparation of the "Master Plan for Richland, Wash.," amounted to \$47,500. This sum is the total cost to the Government, the lump sum fee being total compensation for profit, overhead, and direct costs of the co-venture firm.

Sincerely yours,

CARLETON SHUGG, *Deputy General Manager.*

UNITED STATES ATOMIC ENERGY COMMISSION,  
Washington 25, D. C., July 22, 1949.

Mr. WILLIAM L. BORDEN,  
*Executive Director, Joint Committee on Atomic Energy,*  
Washington, D. C.

DEAR MR. BORDEN: In further response to Senator Hickenlooper's request transmitted by you, attached are additional lists of surveys conducted for the Commission since January 1947.

These enclosures complete the list of surveys supplied in response to this request. The Committee has received lists covering surveys conducted for the Washington office and for the various field offices.

Sincerely yours,

CARLETON SHUGG, *Deputy General Manager.*

Enclosures: Surveys conducted through Chicago Operations Office. New York Operations Office Surveys and Studies.  
Carbon July 25, 1949, to BBH.

Firm name or consultant	Nature of work	Period of work	Amount paid	Use
Haskins & Sells	Survey of adequacy of accounting procedures and controls—Brookhaven National Laboratory.	May to June 1947	\$2,092	Recommended procedural and accounting improvements have been incorporated in the laboratory's accounting system.
Ross G. Walker & Robert N. Anthony	Study of adequacy of budgetary controls and procedures—Brookhaven National Laboratory.	December 1947 to January 1948.	1,276	Recommendations accepted which substantially improved the laboratory's budgetary controls and procedures.
Day & Zimmerman	Survey and analysis of existing and proposed machine shop facilities as related to Plant Research Program of Brookhaven National Laboratory.	October 1947 to November 1947.	2,532	Recommendations resulted in deferment of plans for increasing the shop facilities.

**SURVEYS CONDUCTED THROUGH CHICAGO OPERATIONS OFFICE**

Title of survey	Org. of persons	Purpose	Resulting material and/or use	Date started	Date completed	Amount expended
Chicago area housing	H. O. Walter	Survey of housing available in Chicago area.	Locating housing for laboratory personnel.	May 13, 1948	June 30, 1948	\$225.00
Do.	J. A. Lauren	do.	do.	do.	do.	651.57
Do.	L. H. Bamberg	do.	do.	do.	do.	450.00

## EXHIBIT 26

(See also Exhibits 19 and 31)

(Referred to on p. 751, pt. 17, June 29, 1949)

UNITED STATES ATOMIC ENERGY COMMISSION,  
Washington 25, D. C., July 7, 1949.Honorable BRIEN McMAHON,  
Chairman, Joint Committee on Atomic Energy,  
Senate Office Building, Washington 25, D. C.

DEAR SENATOR McMAHON: This will transmit to you the summary salary data requested by Senator Knowland in the hearings on June 29, 1949. This request appears at page 751 of the printed hearings. For the convenience of the Committee we have also included a summary of the data previously submitted on employees receiving \$14,000 per year or more.

In connection with the preparation of this information, it was discovered that a change is necessary in the table recently submitted showing contractor personnel receiving salaries of \$14,000 or more per year. Under General Electric Co. at Hanford on that table, W. R. McKenna and R. C. Stanton are shown as receiving basic salaries of \$11,520 plus bonuses of \$3,440 each. These two employees have recently received salary changes due to a reduction in working hours and now receive basic salaries of \$9,600 instead of \$11,520 as previously reported. For this reason, they have been included in the attached table and it is requested that they be removed from the table that was submitted June 24, 1949.<sup>1</sup>

Sincerely yours,

C. SHUGG,  
(For) CARROLL L. WILSON (General Manager).

Enclosures: (Salary Data (3)).

*Summary of employees of AEC and its contractors receiving payments of \$10,000 but less than \$14,000 per year*

	<i>Number of employees receiving \$10,000, but under \$14,000</i>
Contractor employees receiving—	
\$10,000 but less than \$11,000-----	73
\$11,000 but less than \$12,000-----	24
\$12,000 but less than \$13,000-----	36
\$13,000 but less than \$14,000-----	17
Total-----	<u>150</u>

AEC employees receiving—	
\$10,000 but less than \$11,000-----	87
\$11,000 but less than \$12,000-----	10
\$12,000 but less than \$13,000-----	5
\$13,000 but less than \$14,000-----	2
Total-----	<u>104</u>

*Summary of employees of AEC and its contractors receiving payments of \$14,000 and above per year*

	<i>Number of employees receiving \$14,000 or more</i>
Contractor employees receiving—	
\$14,000 but less than \$15,000-----	9
\$15,000 but less than \$16,000-----	13
\$16,000 but less than \$17,000-----	5
\$17,000 but less than \$18,000-----	0
\$18,000 but less than \$20,000-----	3
\$20,000 and above-----	<u>8</u>
Total-----	<u>33</u>

<sup>1</sup> See Exhibit 19.

*Summary of employees of AEC and its contractors receiving payments of \$14,000 and above per year—Continued*

	<i>Total number of employees receiving \$14,000 or more</i>
AEC employees receiving—	
\$14,000 but less than \$15,000.....	9
\$15,000 but less than \$16,000.....	5
\$16,000 but less than \$17,000.....	0
\$17,000 but less than \$18,000.....	1
\$18,000.....	3
Total.....	18

*Summary of AEC employees and contractor employees who receive payments of \$10,000 or more per year*

	<i>Total number of employees receiving \$10,000 or over</i>
Contractor.....	183
AEC.....	122

### EXHIBIT 27

(Referred to on p. 751, pt. 17, June 29, 1949)

UNITED STATES ATOMIC ENERGY COMMISSION,  
Washington, D. C., July 7, 1949.

MR. WILLIAM L. BORDEN,  
*Executive Director, Joint Committee on Atomic Energy, Washington, D. C.*

DEAR MR. BORDEN: At the hearing on June 29, Senator Knowland requested that the Commission supply information relating to the number of holders of AEC fellowships who have not yet completed and returned the non-Communist oath. This request appears at page 751 of the printed hearing. The NRC has furnished us the following information:

The notifications were mailed to all fellows on June 1, 1949.

Out of 497 fellows all but 21 had signed and returned the form of the oath as of Friday, July 1, 1949. Of these 21, 19 had simply not been heard from. Of the remaining two, one has refused to sign, and has been notified of the cancellation of his fellowship; one refused to sign and has resigned.

Of the 19 who have not yet returned the form, some appear to have changed their address. In such cases, a new notification has been sent to the professors under whom the fellows are to work.

No follow-up letter was sent by NRC and no dead line for the signing of the oath was established. It should be pointed out, however, that NRC will grant no payments to a fellow who has not returned the oath.

Sincerely yours,

CARROLL L. WILSON, *General Manager*

### EXHIBIT 28

(Referred to on p. 755, pt. 18, June 30, 1949; see also pt. 17, June 29, 1949, pp. 737-743)

ATOMIC ENERGY COMMISSION,  
Washington, D. C., July 8, 1949.

MR. WILLIAM L. BORDEN,  
*Executive Director, Joint Committee on Atomic Energy,*  
*Washington, D. C.*

DEAR MR. BORDEN: At the hearing on June 29 Senator Hickenlooper requested that the Commission supply figures showing the cost of maintenance and operation of the rail facilities operated by Southern Railroad and Louisville and Nashville Railroad at Oak Ridge. This request appears at page 755 of the printed hearings.

Attached is a summary statement of the type of work performed and payments made therefor by the Commission to the Southern Railroad and the Louisville & Nashville Railroad. These statements were prepared at Oak Ridge and show a breakdown for operation and maintenance in the three Fiscal Years 1947, 1948, and 1949, as well as estimates for Fiscal Year 1950.

Sincerely yours,

(Signed) CARROLL L. WILSON, *General Manager*.

Enclosures (2) :

Statement re Sou. R. R.

Statement re L. & N. R. R.

**DATA ON COST OF RAILROAD OPERATION FOR OAK RIDGE FACILITIES CONNECTING THE LOUISVILLE AND NASHVILLE MAIN LINE AT ELZA, TENN., FOR FISCAL YEARS 1947, 1948, 1949, AND 1950**

**TYPE OF CONTRACT AND SERVICE**

During Fiscal Years 1947 and 1948 there was a cost-plus-overhead type of contract wherein the Louisville and Nashville Railroad was reimbursed actual cost of labor used in the operation and maintenance plus overhead allowance of ten percent (10%) on labor cost and fifteen percent (15%) on those materials and supplies furnished by the contractor; services to be furnished by the contractor were—

(a) Maintain in satisfactory condition road-beds and track structures (bridges, trestles, culverts) ;

(b) Operate Government-owned diesel locomotives (locomotives maintained by Government) ;

(c) Perform switching services for main connection, Elza, Tenn., to Y-12 area, sidings of the Clinton National Laboratories and the Town Site (and spurs, sidings, etc., thereon) ;

In Fiscal Year 1949 contractor provided under the same type contract all services above and in addition thereto assumed the responsibility for the maintenance of the Government-owned diesel locomotives. Negotiations were concluded on June 24, 1949, wherein the Louisville and Nashville Railroad leases five and thirty-six hundredths (5.36) miles of Government-owned trackage for maintenance and operation as a commercial railroad facility for the convenience of Oak Ridge, the Commission and its contractors and in addition thereto will maintain and operate approximately ten and twenty-one hundredths (10.21) miles on a fixed-unit-price type contract (not reimbursable cost-plus-fixed-fee contract).

*Cost of services*<sup>1</sup>

	Operation	Maintenance <sup>2</sup>	Total
Fiscal year 1947.....	\$65,868	\$96,313	\$162,181
Fiscal year 1948.....	70,759	125,737	196,496
Fiscal year 1949.....	81,590	111,115	192,705
Estimate, fiscal year 1950.....	46,769	29,327	76,096

<sup>1</sup> Figures do not include the following items which were furnished by the Government: Fiscal year 1947—\$48,534 for materials, \$47,094 for diesel locomotive maintenance; fiscal year 1948—\$72,459 for materials; \$26,909 for diesel locomotive maintenance; fiscal year 1949—\$23,789 for materials; locomotives maintained by the contractors and included in the figures for fiscal year 1949.

<sup>2</sup> Greater share of maintenance costs are to be attributed to rehabilitation program involving the replacement of ties, rails, and ballasts installed during the period of construction of the gaseous diffusion plant.

**VOLUME OF WORK**

During Fiscal Year 1947 there were handled by the contractor 7,017 in-bound cars of freight; Fiscal Year 1948—5,883 cars; Fiscal Year 1949—6,327 cars; the estimate of Fiscal Year 1950 does not exceed the 1949 experience.

**MAINTENANCE PROGRAM**

When the contractor assumed operation in July 1946 the railroad was in need of rehabilitation due to deferred maintenance and to the inadequate quality of materials available during construction; the contractor was instructed to place the railroad in good operating condition; replacement of sixty percent (60%) of

the ties was recently completed together with the installation of five (5) miles of new one hundred (100) pound rail and accessories and the rehabilitation of nine (9) miles with used rail; ballast has been cleaned or replaced and necessary changes in grade and alignment has been made.

**DATA ON COST OF SERVICES RENDERED BY SOUTHERN RAILROAD TO THE ATOMIC ENERGY COMMISSION, OAK RIDGE, TENNESSEE, FOR FISCAL YEAR: 1947, 1948, 1949, AND 1950**

**TYPE OF CONTRACT AND SERVICE**

Cost-plus overhead type contract wherein Southern was reimbursed actual cost of labor and material used in operation and maintenance plus overhead allowance of 10% on labor cost and 15% on materials and supplies furnished by contractor with total overhead limit of fifty thousand dollars (\$50,000) per year; services to be furnished by contractor are

(a) Maintain in satisfactory condition road-bed and track structure (bridges, trestles, culverts);

(b) Repair and maintain Government-owned locomotives;

(c) Perform switching service from main connection, Blair, Tennessee, to the K-25 area (and spurs, sidings, etc., thereon);

*Cost of services <sup>1</sup>*

	Operation	Maintenance <sup>2</sup>	Total
Nine months, fiscal year 1947-----	\$37,211	\$68,818	\$106,029
Fiscal year 1948-----	49,010	104,240	153,250
Fiscal year 1949-----	55,770	104,501	160,271
Estimate, fiscal year 1950-----	63,000	105,000	168,000

<sup>1</sup> Figures do not include the following: Fiscal year 1948—\$26,803 for procurement and installation of crossing signals to eliminate need for crossing watchmen (which represents a \$15,000 annual savings); also \$60,030 in the way of services and supplies furnished by the Government in the way of fuel oil, ties, roundhouse maintenance, etc.; fiscal year 1949—\$40,050, new 100-pound rail procurement and \$55,301 in the way of services and supplies furnished by the Government; fiscal year 1950—does not include any new rail procurement or services and supplies furnished by the Government.

<sup>2</sup> Greater share of maintenance costs is to be attributed to rehabilitation program involving the replacement of ties, rails, and ballasts installed during the period of construction of the gaseous diffusion plant.

**VOLUME OF WORK**

During the nine months in fiscal year 1947 there were handled by the contractor 7,429 in-bound cars containing 393,737 tons of freight; in fiscal year 1948, 10,381 cars were handled by the contractor with 550,193 tons of freight; and in fiscal year 1949 there were 11,143 cars handled by the contractor with 590,379 tons of freight; the estimate for fiscal year 1950 exceeds the actual experience for prior fiscal years.

**MAINTENANCE PROGRAM**

When the contractor assumed operation in October 1946 the railroad was in need of rehabilitation due to deferred maintenance and to the inadequate quality of materials available during construction; the contractor was instructed to place the railroad in good operating condition; replacement of ties through the system was recently completed and replacement of two (2) miles of badly worn main line rail is now in progress, with an additional three (3) miles to be installed; ballast has been cleaned or replaced and necessary changes in grade and alignment have been made.

## EXHIBIT 29

(See also exhibit 25)

(Referred to on p. 756, pt. 18, June 30, 1949)

UNITED STATES ATOMIC ENERGY COMMISSION,  
*Washington 25, D. C., July 8, 1949.***Mr. WILLIAM L. BORDEN,**  
*Executive Director, Joint Committee on Atomic Energy,*  
*Washington 25, D. C.*

DEAR MR. BORDEN: Supplementing the letter to you of July 1, from Mr. Shugg, this is in further response to the request of Senator Hickenlooper transmitted by you on June 29 for information regarding surveys conducted by the Commission from January 1, 1947.

Attached are further materials which have been collected. As other materials are received from the field offices, they will be forwarded to you. This material is noted for insertion in the record at page 751 of the printed hearings for the June 29 hearings, and page 756 of the June 30 hearings.

Sincerely yours,

CARROLL L. WILSON, *General Manager.*

Enclosures (2): List of Surveys and Studies for Washington Office, Raw Materials Operations.

## U. S. Atomic Energy Commission—Washington office surveys and studies from January 1, 1947, to June 30, 1949

Name of firm	Nature of work	Period of work	Actual or estimated cost	Use
Accounting: Haskins and Sells.....	Review of University of California contract.	October to December 1947.....	\$5,900.74	To provide a detailed analysis and evaluation of the accounting practices of a typical group of contractors under the Manhattan Engineering District. These surveys indicated the need for the development of industrial-type accounting systems by AEC and its contractors.
Touche, Niven, Bailey & Smart.....	Review of Roane-Anderson contract.....	do.....	17,827.42	
Arthur Andersen & Company.....	Review of Zia contract.....	do.....	20,383.12	
Scovell, Wellington & Co.....	Review of Stone & Webster contract.....	do.....	9,765.81	
Lybrand, Ross Bros. & Montgomery.....	Review of Tennessee-Eastman contract.....	do.....	15,666.74	
Touche, Niven, Bailey & Smart.....	Review of Oak Ridge community operations.	March to August 1948.....	35,683.82	To obtain current operating costs and revenues from the accounts of the operating contractors in more detailed form than was available from the MED or AEC accounts.
Arthur Andersen & Company.....	Review of Los Alamos community operations.	do.....	9,509.35	
Lybrand, Ross Bros. & Montgomery.....	Review of Richland community operations.	do.....	5,608.15	
Arthur Andersen & Company.....	Financial appraisal of physical facilities—prel.	September to October 1948.....	3,907.62	To determine the feasibility and the estimated cost of establishing financial accounts and records reflecting the cost of AEC property-in-service and to recommend methods of accomplishing such an undertaking.
Scovell, Wellington & Co.....	do.....	August to October 1948.....	4,327.35	
Ralph M. Parsons Company.....	do.....	September to October 1948.....	7,500.00	
Day & Zimmermann, Inc.....	do.....	do.....	8,215.97	
Lybrand, Ross Bros. & Montgomery.....	do.....	do.....	2,662.35	
Do.....	Financial appraisal of physical facilities.	January 1949—in process.....	25,000.09	To supervise the determination of costs of AEC property-in-service as of June 30, 1949, and the establishment of financial accounts and records reflecting the costs of such property. To develop a comparable basis for the preparation of budget and cost estimates for the 1949, 1950, and 1951 fiscal years. To review records, reporting systems, internal controls and audit procedures, and responsibilities of the Commission's source and fissionable materials accountability system for their adequacy as a means of minimizing and detecting losses, diversions or errors. Recommendations are to be made for such improvements as in contractor's judgment would strengthen the accounting controls over source and fissionable materials.
Scovell, Wellington & Co.....	do.....	February 1949—in process.....	25,000.00	
Day & Zimmermann, Inc.....	do.....	January 1949—in process.....	101,500.00	
Touche, Niven, Bailey & Smart.....	Survey of budget cost estimates of town operations—Richland, Los Alamos, and Oak Ridge.	October 1948 to January 1949.....	4,258.63	
Lybrand, Ross Bros. & Montgomery.....	Review of source and fissionable materials accountability system.	June 1949—in process.....	20,000.00	

Business operations: Nelson B. Fry.....	Investigation of AEC's air transportation requirements.	September 21 to December 19, 1947; August 17, 1948, to June 30, 1949.	2,558.16	To develop a plan of operation and to determine costs.
Charles A. Rheinstrom.....	Air transportation study.....	May to August 15, 1947.....	11,718.49	To determine the extent to which a privately owned plane would be practical for use in transporting AEC and contractor personnel between installations.
Joseph P. Brennan.....	Study of requirements for microphotography and the establishment of record service centers, etc.	July 1948 to June 30, 1949.....	9,367.00	To develop and establish policies and procedure for the microfilming of records and to establish records service centers.

Source: Division of Finance, July 5, 1949.

## LIST OF SURVEYS AND STUDIES FOR RAW MATERIALS OPERATIONS

1. Ore-purchasing program study under contract with American Smelting and Refining Company, New York, N. Y., at a total cost of \$3,844.52. This contract was to provide for a study and written report and recommendations based on the study with respect to:

(a) The most effective means for carrying out, in the "Plateau Area" of the states of Colorado, Utah, Arizona, and New Mexico, a program for the procurement of uranium-bearing ores by the Commission, through the contractor as agent;

(b) A plan for the administration of such a program by the contractor, including estimates of its cost, the number of persons required, and necessary facilities;

(c) Prospective price schedules, transportation arrangements, weighing, sampling, and assaying procedures.

2. Survey of management and maintenance contractor, Walker-Lybarger operations, under a sub-contract with Ernst and Ernst, Chicago, Ill., at a total cost of \$5,500. The purpose of this study was to improve and strengthen the management and maintenance contractor's system of purchasing, finance, accounting, and the management and maintenance of the Commission's housing and other buildings and facilities in the Colorado Plateau area. This survey has been completed and is now being placed into effect.

## EXHIBIT 30

(Referred to on pp. 756 and 759, pt. 18, June 30, 1949; see also pt. 17, June 29, 1949, p. 752)

UNITED STATES ATOMIC ENERGY COMMISSION,  
Washington, July 1, 1949.

HON. BRIEN McMAHON,  
Chairman, Joint Committee on Atomic Energy,  
Senate Office Building, Washington 25, D. C.

DEAR SENATOR McMAHON: In response to Senator Hickenlooper's request of June 29, 1949, I am attaching a list of trips made by me at Government expense and the names of persons who accompanied me for the period January 1, 1947, through June 30, 1949.

Sincerely yours,

DAVID E. LILIENTHAL, *Chairman.*

DEL : h.

*Tabulation of official travel of David E. Lilienthal, Chairman, United States Atomic Energy Commission, January 1947 to June 30, 1949*

	Total days	Work days	Saturdays and Sundays
1947.....	35	27	8
1948.....	41	33	8
1949.....	26	15	11
Total.....	102	75	27

## OFFICIAL TRAVEL OF DAVID E. LILIENTHAL, CHAIRMAN, UNITED STATES ATOMIC ENERGY COMMISSION

April 21-22, 1947:

Oak Ridge, Tennessee:

Met with Oak Ridge officials.

Addressed Oak Ridgers—High School Auditorium.

Met with safety officials.

Visited plant sites.

Accompanied by Miss M. J. Brown, Secretary.

May 1-2, 1947:

New York City:

Conferred with United States Representative, United Nations Atomic Energy Commission.

Addressed 75th Anniversary Dinner—Popular Science Monthly.

Accompanied by Mrs. Lilienthal (at her own expense).

May 26, 1947:

Chicago, Illinois:

Conferred with officials of Argonne National Laboratory.

Addressed Inland Press Association Luncheon.

Unaccompanied.

June 2-3, 1947:

New York City:

Met with Atomic Energy Commission Officials of New York Office.

Met with United States delegate and staff of United Nations Atomic Energy Commission.

Addressed United Nations Atomic Energy Commission.

Addressed Dutch Treat Club luncheon.

Met with group of radio men.

Unaccompanied.

August 7-26, 1947:

Los Alamos, Berkeley, Hanford:

Commission visited Atomic Energy Commission installations at Los Alamos, Berkeley, and Hanford.

Attended numerous Commission conferences with Atomic Energy Commission and Contractor Officials.

Attended meetings of the Commission.

Attended three-day meeting with directors of research from the national laboratories, some members of the General Advisory Committee, and Atomic Energy Commission Director of Research and Director of Military Application.

Accompanied by Commissioners Pike, Strauss, Bacher, Maymack; G. Lyle Belsley, Secretary of the Commission; Joseph Volpe, Associate General Counsel (joined group at Hanford); Dorothy Maszk, Secretary; Roger Warner, Director, Division of Engineering; James Fisk, Director, Division of Research and General McCormack, Director, Division of Military Application (last two joined group at Berkeley); and Mrs. Lilienthal (at her own expense) as far as Berkeley.

September 8-9, 1947:

New York City:

Miscellaneous business appointments.

Accompanied by Mrs. Lilienthal (at her own expense).

September 20-23, 1947:

Chicago; Crawfordsville, Indiana; Lafayette & Greencastle, Indiana:

Conferred with Officials of University of Chicago.

Conferred with President and Faculty of Purdue University.

Made address at Wabash College sponsored by Chamber of Commerce, City and County Schools, Service Clubs, Farm Bureau, Parent Teachers Association, Churches and Government officials.

Addressed DePauw University student body.

Accompanied by Bryan LaPlante, Representative, Washington Security Office and Mrs. Lilienthal (at her own expense).

October 21-22, 1947:

New York City:

Met with United States delegate to United Nations Atomic Energy Commission.

Met with members of Social Science Research Council.

Addressed New York Herald Tribune Forum.

Unaccompanied.

November 28-29, 1947:

Chicago, Illinois:

Conferred with President and Officers of University of Chicago.

Addressed American Education Fellowship.

Attended Atomic Energy Commission Industrial Advisory Committee meeting.

Unaccompanied.

December 2-3, 1947:

Atlantic City, New Jersey, and Philadelphia, Pennsylvania:

Addressed Nuclear Energy Luncheon of American Society of Mechanical Engineers.

Gave Howard Drowley Memorial Lecture, University of Pennsylvania.

Addressed Sunday Breakfast Club, Philadelphia.

Accompanied by Bryan LaPlante, Representative, Washington Security Office.

**December 16, 1947:**

Chicago, Illinois:

Met with Officials of the American Farm Bureau.

Addressed American Farm Bureau.

Met with Atomic Energy Commission and Argonne Officials.

Accompanied by Bryan LaPlante, Representative, Washington Security Office.

**January 19, 1948:**

Albany, New York:

Addressed Annual Convention, New York State Publishers Association.

Accompanied by Bryan LaPlante, Representative, Washington Security Office.

**February 5-6, 1948:**

New York, New York:

Addressed Radio Executives Club Luncheon.

Saw Judge Robert Patterson.

Conferred with Officials of General Electric.

Met with several representatives of the press and radio.

Accompanied by Mrs. Lilienthal (at her own expense).

**February 27, 1948:**

Princeton, New Jersey:

Conferred with Chairman of General Advisory Committee and Dr. Albert Einstein.

**March 18, 1948:**

Boston, Massachusetts:

Addressed Boston Chamber of Commerce.

Met with Harvard University Faculty Members.

Visited Massachusetts Institute of Technology.

Accompanied by Bryan LaPlante, Representative, Washington Security Office.

**April 19, 1948:**

Cambridge, Massachusetts, and Manchester, New Hampshire:

Conferred with the President of Harvard University.

Visited Dean Griswold, of Harvard Law School.

Addressed meeting of Manchester Union Leader Forum.

Accompanied by Bryan LaPlante, Representative, Washington Security Office.

**April 25-May 1, 1948:**

West coast:

Visited officials and facilities of Radiation Laboratory at Berkeley.

Met informally with group of San Francisco bankers and industrialists.

Conferred with President and officials of University of California.

Conferred with officials of California Institute of Technology.

Unaccompanied.

**May 19-21, 1948:**

New York, New York:

Met with United States delegate to United Nations Atomic Energy Commission.

Addressed Calvin Bullock Forum.

Addressed Council on Foreign Relations.

Conferred with President and Officers of Union Carbide and Carbon Corporation.

Accompanied at Council on Foreign Relations meeting by Mr. Joseph Volpe, Jr., Associate General Counsel.

**June 1, 1948:**

Gettysburg, Pennsylvania:

Addressed Gettysburg, Pennsylvania, High School Graduates.

Accompanied by Mrs. Lilienthal (at her own expense), and Bryan LaPlante, Representative, Washington Security Office.

**June 8, 1948:**

Boston, Massachusetts:

Visited Tracer Laboratory.

Conferred with President and officials of Massachusetts Institute of Technology.

Visited Watertown project with Dr. A. M. Gaudin.

Accompanied by Bryan LaPlante, Representative, Washington Security Office.

June 28, 1948:

Chicago, Illinois:

Conferred with Argonne National Laboratory Officials.

August 21, 1948:

New York:

Commission Meeting No. 190.

In company with Commissioners Sumner T. Pike and Robert Bacher, attended and addressed opening of Atomic Energy Exhibit at New York Golden Jubilee Celebration.

October 1, 1948:

Chicago, Illinois:

Conferred with officials and staff of Argonne National Laboratory.

Addressed Executives Club of Chicago.

Unaccompanied.

October 7-9, 1948:

New York City:

Addressed Publishers Luncheon Club.

Conferred with Atomic Energy Commission Officials, New York Office.

Conferred with United States delegate to United Nations Atomic Energy Commission.

Accompanied by Mrs. Lilienthal (at her own expense), and Edward Brosnan, Representative, Washington Security Office.

November 3-9, 1948:

Chicago, Illinois; Des Moines, Iowa; Cincinnati, Ohio:

Conferred with Argonne National Laboratory Officials.

Conferred with Officials of Iowa Farm Bureau Federation.

Addressed Iowa State Education Association.

Chicago, Illinois:

Conferred with officials and visited Laboratory at Ames, Iowa.

Met with scientific personnel of the Laboratory.

Conferred with Iowa State Faculty and Administrators.

Participated in "Man and the Atom" Exhibit in Cincinnati.

Conference on an Advisory Board appointment.

Conferred with Mayor of Cincinnati.

Accompanied by Edward Brosnan, Representative, Washington Security Office; part way by Mrs. Lilienthal (at her own expense), and from Cincinnati to Washington by Frances Henderson, Assistant to the Chairman.

November 11-12, 1948:

Philadelphia, Pennsylvania:

Conferred with Chairman of the Personnel Security Review Board.

Accompanied by Edward Brosnan, Representative, Washington Security Office.

November 19-21:

Boston, Massachusetts:

Addressed New England Council.

Conferred with several New England industrialists.

Accompanied by Mrs. Lilienthal (at her own expense), and Edward Brosnan, Representative, Washington Security Office.

November 30 to December 1, 1948:

Columbus, Ohio:

Conferred with President and faculty of University of Ohio.

Conferred with President of the Ohio State University.

Conferred with officials of Ohio Farm Bureau.

Addressed Ohio Farm Bureau.

Accompanied by Edward Brosnan, Representative, Washington Security Office, and Mr. Morse Salisbury, Director, Division of Public and Technical Information.

December 15-18, 1948:

St. Louis, Missouri; Denver, Colorado; Chicago, Illinois:

Visited Mallinkrodt Chemical Plant, St. Louis, and conferred with President and Officers of same.

Conferred with Officials of Monsanto Chemical Company.

Meeting with mining group in Denver.

Addressed Denver Rotary Club.

Conference with Colorado State and local officials.

Visited Argonne National Laboratory.

December 15-18, 1948—Continued

St. Louis, Missouri ; Denver, Colorado ; Chicago, Illinois—Continued

Accompanied by Mr. Joseph Volpe, Jr., Associate General Counsel ; Mr. John Gustafson, Director, Division of Raw Materials ; Mr. Shelby Thompson, Chief, Public Information Branch ; Mr. W. Kelley, Manager, New York Office (to St. Louis) ; Mr. Edward Brosnan, Representative, Washington Security Office, and Mrs. Lillenthal (at her own expense).

January 6-8, 1949 :

Oak Ridge, Tennessee :

Met with Atomic Energy Commission personnel at Oak Ridge.

Addressed Oak Ridgers at High School Auditorium.

Visited Laboratories.

Accompanied by Mr. Edward Brosnan, Representative, Washington Security Office.

January 15-16, 1949 :

Rochester, New York :

Visited Atomic Energy Commission Project at University of Rochester.

Visited Cyclotron.

Addressed meeting sponsored by Temple B'Rish Kodesh and University of Rochester.

Accompanied by Mr. Edward Brosnan, Representative, Washington Security Office.

January 30 to February 1, 1949 :

Princeton, New Jersey :

Conferences with Chairman of the General Advisory Committee, General Manager, and Messrs. Harry Winne, Charles Thomas, Chester Barnard.

Accompanied by Mr. C. L. Wilson, General Manager and Mr. Edward Brosnan, Representative, Washington Security Office.

February 6, 1949 :

Philadelphia, Pennsylvania :

Gave Commencement Address at Lehigh University.

Conferred with Trustees of Lehigh University.

Unaccompanied.

March 19, 1949 :

Oak Ridge, Tennessee :

Attended Opening of Town.

Unaccompanied.

March 21, 1949 :

Schenectady, New York :

Visited Sacandaga Site.

Visited Knolls Laboratory.

Visited General Electric Research Laboratory.

Visited Peek Street Laboratory.

Conferred with General Electric Officials.

Accompanied by Frances Henderson, Assistant to the Chairman ; Dr. George Weil, Chief, Reactors Projects Branch, and Mr. Edward Brosnan, Representative, Washington Security Office.

March 30 to April 4, 1949 :

New York City :

Met with Atomic Energy Commission Officials of the New York Office of Operations.

Visited Brookhaven National Laboratory.

Conferred with Brookhaven Officials.

Addressed Brookhaven employees.

Visited Hospital facility.

Accompanied by Mr. Edward Brosnan, Representative, Washington Security Office, and Mrs. Lillenthal (at her own expense).

April 15 to 26, 1949 :

Oak Ridge, Tennessee ; Hanford, Washington ; Chicago, Illinois :

Conferred with Manager of Oak Ridge Operations.

Conferred with Atomic Energy Commission and General Electric Officials at Hanford.

Conferred with Columbia River Basin District Directors re Wahluke Slope.

April 15 to 26, 1949—Continued

Oak Ridge, Tennessee; Hanford, Washington; Chicago, Illinois—Continued  
Addressed Washington State College in Pullman.  
Addressed University of Washington, Seattle.  
Met with group of business and civic leaders, Seattle.  
Conferred with State officials of Idaho on Arco Reactor Site.  
Met with Officials of Argonne National Laboratory, Chicago.  
Met informally with group of Chicago businessmen.  
Accompanied by Mr. Edward Brosnan, Representative, Washington Security Office (all the way), and Frances Henderson, Assistant to the Chairman (to Hanford).

May 30, 1949:

New York City:

Conferred with officials of prospective contractor.  
Accompanied by Mr. C. L. Wilson, General Manager, and General James McCormack, Director, Division of Military Application.

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### EXHIBIT 31

(See also exhibits 19 and 26)

(Referred to on p. 832, pt. 21, June 8, 1949)

UNITED STATES ATOMIC ENERGY COMMISSION,  
*Washington, D. C., July 8, 1949.*

HON. BRIEN McMAHON,  
*Chairman, Joint Committee on Atomic Energy,  
Senate Office Building, Washington, D. C.*

DEAR SENATOR McMAHON: This will transmit to you the revised data concerning employees of the Atomic Energy Commission and its contractors who receive payments of \$10,000 to \$14,000 per year in accordance with telephone requests of July 5, 1949.

Sincerely yours,

UNITED STATES ATOMIC ENERGY COMMISSION,  
CARROLL L. WILSON, *General Manager.*

Enclosure: Salary data (2).

*Contractor employees who receive payments of \$10,000 but less than \$14,000 per year*

Contractor	Type of contractor	Name of employee	Employee's title	Salary	Date of information
American Smelting & Refining Co. Argonne National Laboratory	Supply	Martin N. Gaines	Project director	\$10,000	June 29, 1949
	Research and development	H. Etherington	Division directors:	12,600	Do.
		Harvard Hull	Naval reactor:	12,500	Do.
		L. Marinelli	Remote control:	12,500	Do.
			Associate director: Health physics		
		A. J. Dempster	Division directors:	12,000	Do.
		A. M. Bruns	Mass spectroscopy	12,000	Do.
		W. M. Manning	Biology	11,400	Do.
		D. A. Flanders	Senior physicist	11,000	Do.
			Division directors:		
Associated Universities, Inc.	Research	F. G. Foote	Health physics	11,100	June 30, 1949
		J. E. Rose	Health physics	11,100	Do.
		F. C. Hayne	Theoretical physics	10,800	Do.
		M. C. Shaw	Group leader, naval reactor	10,300	Do.
		J. H. McKinley	Business manager	10,300	Do.
		John H. Homan	Senior chemical engineer	13,200	Do.
		M. Goldhaber	Visiting senior physicist	13,200	Do.
		J. G. Peter	Senior physicist	12,700	Do.
		S. C. Madden	Department chairman	12,000	Do.
		R. W. Dodson	Senior physicist	11,100	Do.
Atkinson-Jones Co. Austin Co.	Construction	S. H. Johnson	Principal scientist	11,040	Do.
		James Knox	Department manager	10,800	Do.
		R. D. Conrad	Assistant department director	10,800	Do.
		S. Freed	Senior scientist	10,800	Do.
		L. B. Horst	Executive assistant	10,500	Do.
		L. Thiesmeyer	Senior scientist	10,200	Do.
		J. B. Horner Kuper	do	10,200	Do.
		L. F. Nims	do	10,200	Do.
		G. H. Archibald	Project manager	13,500	June 29, 1949
		W. L. Slattery	General superintendent	13,000	Do.
Do. Battelle Memorial Institute Bendix Aviation Corp.	Architect-engineer	E. J. Goodheart	Assistant project manager	13,000	Do.
		Walter Roberts	Director of purchasing	12,000	Do.
		N. J. Herbe	Project engineer, design	12,000	Do.
		Walter Bagley	Supervising engineer, design	10,440	Do.
		H. W. Russell	Project director	13,000	Do.
		W. E. Sanders	Assistant general manager	11,700	June 27, 1949
		Roy T. Batty	Factory manager	10,800	Do.
		R. C. Ayers	Chief engineer	10,020	Do.
		F. Nicholson	Engineer	11,000	Apr. 29, 1949
		J. B. McLean	do	11,000	Do.
Burns & Roe, Inc.	Production and development	P. J. McCoy	do	11,000	Do.

Carbide & Carbon Chemicals Corp	Production and research	T. E. Lane..... C. N. Rucker..... A. C. Hollander..... D. C. Bardwell..... W. B. Humes..... J. S. Frye..... H. Etherington..... A. M. Weinberg..... J. S. Felton..... C. E. Larson..... S. Freed..... E. H. Taylor..... W. D. Lavers.....	Superintendent of industrial relations. Executive director, laboratory..... Director, biology division..... Director, chemistry division..... Plant superintendent..... Director, metallurgy division..... Director, power pile division..... Director, physics division..... Director, health division..... Plant superintendent..... Chief chemist..... do..... Director, engineer and maintenance division..... Assistant plant superintendent..... Assistant chief engineer.....	12,840 12,000 12,000 12,000 11,772 10,920 10,920 10,920 10,566 10,524 10,272 10,272 10,140	June 21, 1949 Do. Do. Do. Do. Do. Do. Do. Do. Do. Do. Do. Do. Do.
H. K. Ferguson Co.....	Architecture, engineering, and construction.	A. P. Huber..... C. R. Binner.....	Assistant plant superintendent..... Assistant chief engineer.....	10,020 12,000	Do. June 23, 1949
Ford, Bacon & Davis.....	Construction	John Lucas.....	Project manager.....	13,520	Do.
General Electric Co.....	Research and development	H. Brooks..... L. D. Bragg..... J. P. Howe..... W. S. Macaulay.....	Research associate..... do..... do..... Special administrative assistant.....	13,000 13,000 10,500 10,000	Do. Do. Do. June 30, 1949
	Production	W. E. Johnson..... W. I. Patnode..... J. R. Rue..... E. W. Seckendorf..... F. W. Wilson..... W. K. MacCready..... W. K. Woods..... H. Callahan..... T. W. Hauff..... H. H. Miller..... R. R. Denticola..... P. A. Fuqua..... P. E. Kendall..... B. Lih.....	Project engineer, design..... Assistant to general manager..... do..... Assistant project manager..... Manager, design division..... { Assistant manager, manufacturing division. Section chief, pile technician..... { Manager, employees and commercial relations. Division head, metallurgy..... { Superintendent, manufacturing divi- sion. Principal medical specialist..... Assistant manager, medical..... Principal medical specialist..... Senior medical specialist.....	11,000+ 12,000+ 10,296+ 11,500+ 11,500+ 11,220+ 2,500+ 9,504+ 1,500+ 9,600+ 1,400 9,504+ 1,500+ 9,540+ 1,200+ 9,600+ 1,000+ 13,200 Do. 11,600+ 1,000+ 1,000 12,000 10,560	Do. Do.

1 Figures show base salary plus a bonus paid in accordance with established company policy.

Contractor employees who receive payments of \$10,000 but less than \$14,000 per year—Continued

Contractor	Type of contractor	Name of employee	Employee's title	Salary	Date of information
General Electric Co.	Production	M. R. Peterson	Principal medical specialist	\$11,400	June 29, 1949
		H. H. Pitluck	Dental director	11,040+	Do.
		R. R. Sachs	Medical specialist	1,000	Do.
		A. W. Rogers	Division engineer, construction	10,440+	Do.
		H. R. McKenna	Assistant project manager, design	8,700+	Do.
		R. C. Stanton	Special assistant to field superintendent	1,720	Do.
		C. C. Tollman	Chief, labor relations	9,600+	Do.
		J. E. Maider	Superintendent, manufacturing Division	3,440	Do.
		L. S. Hulsman	Senior medical specialist	9,600+	Do.
		L. T. Moore	do.	3,440	Do.
Hanley & Co. Iowa State College	Construction Research	D. B. Eggleston	do.	9,300+	June 30, 1949
		R. H. Beaton	Division head, separation technician	1,000	Do.
		J. A. Russner	Superintendent, pile construction	9,000+	Do.
		B. R. Prentice	Assistant to general manager	1,200	Do.
		B. C. Seaudor	Principal physician	1,000	Do.
		N. J. Johnson	Mechanical manager	1,000	Do.
		Frank Spedding	Laboratory director	12,500	June 29, 1949
		H. A. Wilhelm	Associate laboratory director	12,500	June 30, 1949
		W. H. Denne	General manager	13,500	Apr. 30, 1949
		W. Snow	Division engineer	13,200	Do.
Kellogg Corp.	Research and construction	C. E. Swartz	do.	12,000	Do.
		G. White	Project manager	11,400	Do.
		E. W. Flesher	Division engineer	11,004	Do.
		J. Tonerk	Resident engineer	10,200	June 15, 1949
		F. Balcar	Chemist	10,200	Apr. 30, 1949
		J. S. Atwood	Division engineer	10,200	Do.
		D. D. Jacobs	do.	10,200	Do.
		P. J. Wellenkamp	Project engineer	11,400	June 29, 1949
		R. D. Rubels	Senior engineer	12,000	Do.
		K. S. Clark	do.	12,000	Do.
Kellogg Corp. W. C. Kruger Co.	Construction Architect-engineer	J. E. Dow	Electrical manager	10,400	June 30, 1949
Livingston, Kelso-Burnett, Fries-Walters	Construction				

Maxon Construction Co.	do.	J. Smith	Project manager	10,000	June 21, 1949
Monsanto Chemical Co.	Research	M. M. Haring	Laboratory director	11,400	Do.
National Research Council	Atomic Casualty Commission	H. Pfeiffer	Architect	13,000	June 28, 1949
Oak Ridge Hospital, Inc.	Hospital	H. C. Curt	Medical staff specialist	10,248	June 21, 1949
		C. D. Jeffries	Superintendent	10,020	Do.
		M. Breuer	Chairman, medical division	10,000	Do.
Oak Ridge Institute of Nuclear Studies	Research and educational				
Ralph M. Parsons	Architect-engineer	L. D. Worsham	Resident manager	12,000	June 28, 1949
		R. L. Owen	Chief engineer	12,000	Do.
		L. C. Burks	Assistant project manager	12,000	Do.
Roane-Anderson Co.	Community operation and maintenance	L. C. Macneal	Project manager	12,000	June 21, 1949
		L. D. Worrell	Assistant project manager	10,140	Do.
University of California	Research and production	Paul Larsen	Director, Sandia laboratory	13,320	June 28, 1949
		John Manley	Technical associate director	12,000	Do.
		R. M. Kimball	Administrative associate director	12,000	Do.
		Eric Sate	Division leader CMR	12,000	Do.
		T. L. Shipman	Health division leader	12,000	Do.
		George Cranow	Theoretical physicist	12,000	Do.
		Dan Froman	Assistant director	11,540	Do.
		D. P. MacDougall	Division Leader GMX	11,280	Do.
		Stanlaw Ulan	Mathematician	10,740	Do.
		R. C. Smith	Assistant director for classification and security	10,504	Do.
		Alvin Graves	J-division leader	10,080	June 30, 1949
		G. B. Thomas	Director industrial relations	10,000	Do.
		C. C. Luebbeigh	Staff pathologist	10,000	Do.
		C. K. Weidner	Chief engineer	10,920	June 28, 1949
University of Chicago	Construction	H. A. Blair	Project Director	12,000	Mar. 31, 1949
University of Rochester	Research	A. C. Reiss	Project manager	10,000	June 30, 1949
Urban, Smyth & Warren Co.	Construction	F. J. McKenna	Assistant resident project manager	10,400	June 28, 1949
Voorhees, Walker, Foley & Smith	Architect-engineer	C. P. Roberts	Chief engineer	10,400	Do.
		Mr. Record	Project architect	10,400	Do.
		H. H. Dean	Technical supervisor	10,400	Do.
Westinghouse Corp.	Research and development	A. J. Bruckert	Chief field representative	10,168	June 30, 1949
		R. A. Rowan	Manager of engineering	12,000	June 28, 1949
		W. E. Shoup	Director of research	12,000	Do.
		S. Siegel	Manager, research subdivision	10,800	Do.
		W. A. Johnson	do	10,200	June 30, 1949
		William Oakes	Assistant surgeon	10,450	June 28, 1949
Zia Co.	Community operation and maintenance	John Powers	Medical director	10,000	June 30, 1949
		Loren Blaney	do	10,000	Do.

In addition to the above, the following employees of AEC contractors who cannot be identified in this list receive payments of \$10,000 but less than \$14,000 per year: Project supervisor, \$10,344; research specialist, \$10,260; chief of operations, \$11,960; construction manager, \$12,000; chief engineer, \$10,000.

*AEC employees who receive salaries of \$10,000 but less than \$14,000 per year*

AEC office and employee's name	Employee's title	Salary	Date of information
<b>Washington:</b>			
R. P. Johnson	Deputy Director, Research Division	\$13,000	June 30, 1949
J. Z. Bowers	Deputy Director, Biology and Medicine Division	12,000	Do.
A. V. Peterson	Chief, Fissionable Material Branch, Production Division	12,000	Do.
J. A. Derry	Coordinator, Special Assignments, Production Division	12,000	Do.
E. J. Bloch	Deputy Director, Production Division	11,000	Do.
F. H. Warren	Chief, Export Control Branch, Production Division	11,000	Do.
W. H. Maher	Chief, Construction Engineering Branch, Production Division	11,000	Do.
G. C. Marvin	Chief, Materials Branch, Production Division	11,000	Do.
D. B. Langmuir	Executive officer (Program Council)	11,000	Do.
J. H. Jensen	Chief, Biology Branch	10,330	Do.
F. J. McCarthy	Assistant Director for Budget, Finance Division	10,330	Do.
Phillip Mullenbach	Reports Analyst, Finance Division	10,330	Do.
P. M. Green	Comptroller	10,330	Do.
L. H. Nobel	Assistant to Comptroller	10,330	Do.
W. E. Campbell	Chief, Cost Accounts Branch, Finance Division	10,330	Do.
Jos. Volpe, Jr.	General counsel	10,330	Do.
W. D. Denson	Attorney	10,330	Do.
Bennett Boskey	do	10,330	Do.
W. A. W. Krebs	do	10,330	Do.
R. Ragland	do	10,330	Do.
W. F. Colby	Director of Intelligence	10,330	Do.
Morse Salisbury	Director of Information	10,330	Do.
E. R. Trapnell	Associate Director of Information	10,330	Do.
R. O. Niehoff	Deputy Director, research and planning	10,330	Do.
Shelby Thompson	Chief, Public Information Branch	10,330	Do.
F. C. Waller	Director, Organization and Personnel	10,330	Do.
D. E. Bostock	Program Coordinator	10,330	Do.
O. S. Smith	Director of Labor Relations	10,330	Do.
J. L. Kelehan	Assistant to Deputy Director, Production Division	10,330	Do.
R. W. Alger	Deputy Chief, Construction Engineering Branch, Production Division	10,330	Do.
G. L. Weil	Chief, Reactor Branch	10,330	Do.
A. E. Gorman	Sanitary engineer	10,330	Do.
H. M. MacNellie	Chief, Fund Research Branch, Research Division	10,330	Do.
L. H. Hempelman	Special assistant to Director, Biology and Medical Division	10,305	Do.
L. S. Taylor	Biophysicist	10,305	Do.
Arthur McLawhon	Chief, Special Investigation Branch, Finance Division	10,305	Do.
Everett Hollis	Attorney	10,305	Do.
A. R. Anderson	Deputy adviser—patent adviser	10,305	Do.
A. F. Thompson	Chief, Technical Information Branch	10,305	Do.
W. H. Brummett	Chief, Organization and Management Branch	10,305	Do.
D. F. Hayes	Chief, Safety and Fire Protection Branch	10,305	Do.
R. C. Blair	Administrative engineer, Mil. App. Division	10,305	Do.
J. T. Bray	Industrial specialist, Production Division	10,305	Do.
C. A. Towne	Management specialist, Production Division	10,305	Do.
H. M. Beshers	Special assistant to Director, Production Division	10,305	Do.
J. C. Johnson	Assistant to Director, Raw Materials Division	10,305	Do.
R. B. Snapp	Secretary to Commission, Secretariat	10,305	Do.
F. A. Henderson	Assistant to Chairman of Commission	10,305	Do.
P. W. McDaniel	Executive officer, Research Division	10,305	Do.
S. G. English	Chief, Chemistry Branch, Research Division	10,305	Do.
C. A. Nelson	United States-AEC liaison officer, Research Division	10,305	Do.
F. R. Hammack	Acting Director, Security Division	10,305	Do.
Bruce Uthus	Chief, Physical Branch, Security Division	10,305	Do.
<b>New York:</b>			
H. M. Chadwell	Operations deputy	12,000	Do.
B. Fry	Staff assistant to manager	10,330	Do.
F. Belmore	Director, Production Division	10,330	Do.
E. Diamond	Assistant general counsel	10,330	Do.
B. S. Wolf	Director, Medical Division	10,330	Do.
P. L. Merritt	Assistant Director, Raw Materials Division	10,330	Do.
A. E. Brandt	Biometrician	10,305	Do.
C. J. Rodden	Director, New Brunswick Laboratory	10,305	Do.
<b>Oak Ridge:</b>			
R. E. Cook	Acting manager	11,000	Do.
A. H. Holland, Jr.	Medical adviser	11,000	Do.
C. Vanden Bulok	Administrative adviser	10,330	Do.
H. L. Price	Assistant general counsel	10,330	Do.
J. W. Ould, Jr.	Attorney adviser	10,330	Do.
F. C. Watters	Administrative officer	10,330	Do.

*AEC employees who receive salaries of \$10,000 but less than \$14,000 per year—*  
Continued

AEC office and employee's name	Employee's title	Salary	Date of information
<b>Oak Ridge—Continued</b>			
S. R. Sappirie.....	Director of production and engineering.....	\$10,330	June 30, 1949
L. Z. Dolan.....	General engineer.....	10,330	Do.
S. W. Scott.....	Patent attorney advisor.....	10,305	Do.
P. E. Aebersold.....	Chief, Isotope Division.....	10,305	Do.
K. A. Dunbar.....	General engineer.....	10,305	Do.
B. W. Menke.....	Security officer.....	10,305	Do.
F. R. Lanou.....	Finance officer.....	10,305	Do.
J. C. Robinson.....	General engineer.....	10,305	Do.
R. H. McCulloh.....	do.....	10,305	Do.
S. W. Ford.....	Director, community affairs.....	10,305	Do.
J. M. Romirer.....	Administrative officer.....	10,305	Do.
R. Fields, Jr.....	Community service manager.....	10,305	Do.
<b>Chicago:</b>			
A. Tamarro.....	Manager.....	13,000	Do.
J. J. Flaherty.....	Assistant to manager.....	10,305	Do.
S. M. Skinner.....	Physical Science Administration.....	10,305	Do.
J. T. Ramey.....	Assistant general counsel.....	10,305	Do.
H. A. Fidler.....	Area manager, Berkeley.....	10,305	Do.
<b>Hanford:</b>			
D. F. Shaw.....	Deputy manager.....	11,000	Do.
James Stewart.....	Area manager, Schenectady.....	11,000	Do.
H. E. Thurston.....	Director, organization and personnel.....	10,330	Do.
R. C. Hageman.....	Chief, Operation Division.....	10,330	Do.
W. P. Cornelius.....	Chief, Construction and Maintenance Division.....	10,330	Do.
J. E. Travis.....	Assistant to manager.....	10,305	Do.
R. I. Harris.....	Assistant general counsel.....	10,305	Do.
D. G. Sturges.....	Assistant Chief, Operation Division.....	10,305	Do.
<b>Los Alamos:</b>			
Elmo Morgan.....	Assistant manager.....	11,000	Do.
P. W. Ager.....	Director, production coordination.....	10,330	Do.
R. E. Cole.....	Director, engineering and construction.....	10,330	Do.
Earle Sullivan.....	Assistant manager for community affairs.....	10,330	Do.
B. O. Wells.....	Director of security.....	10,330	Do.
R. P. Johnson.....	Director, Engineering Division.....	10,305	Do.
J. C. Stowers.....	Field manager, project Royal.....	10,305	Do.
Chester Brinck.....	Assistant general counsel.....	10,305	Do.
J. P. Kraker.....	Field manager, Sandia.....	10,305	Do.
<b>Idaho:</b>			
L. E. Johnston.....	Manager.....	12,000	Do.
J. B. Philipson.....	Program coordinator.....	10,330	Do.
A. C. Johnson.....	Construction engineer.....	10,305	Do.

UNITED STATES ATOMIC ENERGY COMMISSION,  
Washington 25, D. C., July 18, 1949.

Mr. WILLIAM L. BORDEN,  
*Executive Director, Joint Committee on Atomic Energy,*  
*Congress of the United States, Washington 25, D. C.*

DEAR MR. BORDEN: This is in response to your letter of July 8, 1949, requesting, on behalf of Senator Hickenlooper, a list of all commission personnel by title and name who receive salaries of \$8,500 but less than \$10,000 per year.

The requested list, covering the 131 employees in this category, is enclosed.

Sincerely yours,

CARROLL L. WILSON, *General Manager.*

Enclosure: Salary data (2).

*AEC employees who receive salaries of \$8,500 but less than \$10,000 per year*

AEC office and employee's name	Employee's title	Salary	Date of information
<b>Washington:</b>			
N. W. Page.....	Information and editorial specialist.....	\$9,706.50	July 8, 1949
Ward Stewart.....	Special assistant to Director, Organization and Personnel.....	9,706.50	Do.
R. R. Boyer.....	Contract standards officer.....	9,706.50	Do.
J. L. Wallace.....	Auditor.....	9,706.50	Do.
W. R. Williams.....	Communications engineer.....	9,706.50	Do.
G. F. Widmyer.....	Construction engineer.....	9,706.50	Do.
W. H. Slaton.....	Chief, Finance Branch, Colorado area office.....	9,706.50	Do.
L. H. Chellman.....	Construction engineer.....	9,407.25	Do.
F. B. Pearson.....	Animal biologist.....	9,108.00	Do.
S. H. Wright.....	Construction engineer.....	9,108.00	Do.
E. H. Glade.....	Real-estate specialist.....	9,108.00	Do.
C. G. Craikshank.....	Interpretations specialist.....	9,108.00	Do.
Charter Heslip.....	Information and editorial specialist.....	9,108.00	Do.
Judson Ford.....	Personnel specialist.....	9,108.00	Do.
T. O. Jones.....	Assistant secretary to the Commission.....	8,808.75	Do.
W. E. Holton.....	Patent adviser.....	8,808.75	Do.
P. N. Powers.....	Adviser on scientific personnel.....	8,808.75	Do.
Herman Bernholz.....	Personal budgets and statistics officer.....	8,808.75	Do.
Mortimer Taube.....	Assistant chief, Technical Information Bureau.....	8,808.75	Do.
E. J. Kirkman.....	Accountant.....	8,808.75	Do.
Raymond Einhorn.....	Chief, Auditing Branch.....	8,808.75	Do.
F. A. Holmes.....	Budget examiner.....	8,808.75	Do.
W. T. Wolfrey, Jr.....	Chief, Washington business operations.....	8,808.75	Do.
W. L. Rice.....	Transportation specialist.....	8,808.75	Do.
J. H. Haynor.....	Chemical engineer.....	8,808.75	Do.
Gardiner Luce.....	Construction engineer.....	8,808.75	Do.
G. H. Christensen.....	do.....	8,808.75	Do.
P. C. Fine.....	Technical assistant.....	8,808.75	Do.
P. C. Leahy.....	Manager, Colorado area office.....	8,509.50	Do.
A. A. Wells.....	Chief, special projects, Raw Materials Division.....	8,509.50	Do.
O. K. Wright.....	Executive assistant, Raw Materials Division.....	8,509.50	Do.
G. G. Gallagher.....	Deputy assistant manager, Raw Materials Division.....	8,509.50	Do.
F. W. McQuiston, Jr.....	Special advisor, Raw Materials Division.....	8,509.50	Do.
R. E. Hollingsworth.....	Chief, Budget Branch Production Division.....	8,509.50	Do.
L. E. Johnson.....	Executive officer, Production Division.....	8,509.50	Do.
E. R. Fleury.....	General engineer.....	8,509.50	Do.
C. R. Lee, Jr.....	do.....	8,509.50	Do.
N. J. Carothers.....	Industrial engineer.....	8,509.50	Do.
David Farragut.....	Industrial specialist.....	8,509.50	Do.
P. F. Smith.....	do.....	8,509.50	Do.
F. K. Pittman.....	Industrial engineer.....	8,509.50	Do.
F. D. McKeon.....	Construction engineer.....	8,509.50	Do.
H. L. Browne.....	do.....	8,509.50	Do.
D. J. Pflaum.....	Chief, Research Information and Material Branch.....	8,509.50	Do.
H. L. Garabedian.....	Mathematician.....	8,509.50	Do.
J. K. Pickard.....	Engineer.....	8,509.50	Do.
L. S. Reichle.....	Executive assistant, Division of Reactor Development.....	8,509.50	Do.
J. A. Miller.....	Assistant to Department Director, Budget Branch.....	8,509.50	Do.
O. W. Boyd.....	Accountant.....	8,509.50	Do.
P. F. Travelstead.....	Executive assistant, Finance Division.....	8,509.50	Do.
B. F. LaPlante.....	Chief, Washington area security operations.....	8,509.50	Do.
C. A. Rolander, Jr.....	Chief, Violations and Visitor Control Branch.....	8,509.50	Do.
E. B. Brown.....	Chief, Planning and Standards, Physics Section Branch.....	8,509.50	Do.
T. A. Courtney.....	Chief, Analysis and Review, Personnel Section Branch.....	8,509.50	Do.
W. J. Cronin, Jr.....	Security Assistant, Personnel Section Branch.....	8,509.50	Do.
R. L. Southwick.....	Information control and service officer.....	8,509.50	Do.
G. L. Glasheen.....	Education specialist.....	8,509.50	Do.
A. R. Hilliard.....	Reports officer, public and technical information service.....	8,509.50	Do.
R. C. Tumbleson.....	Information control service officer.....	8,509.50	Do.
B. M. Fry.....	Chief librarian, Public and Technical Information Service.....	8,509.50	Do.
H. C. Reasin.....	Chief, Wage and Salary Administration.....	8,509.50	Do.
Barry Casper.....	Personnel specialist.....	8,509.50	Do.
G. F. Trowbridge.....	Attorney.....	8,509.50	Do.
Beverly Thompson, Jr.....	Attorney.....	8,509.50	Do.
Arnold Kramish.....	Intelligence specialist.....	8,509.50	Do.
P. J. Farley.....	Recording secretary to the Commission.....	8,509.50	Do.
<b>Idaho:</b>			
H. E. Noble.....	Engineer.....	9,407.25	Do.
R. E. Georgi.....	Director of Security.....	8,509.50	Do.
<b>Schenectady area:</b>			
C. B. Rhodes.....	Attorney.....	9,706.50	July 1, 1949
J. D. Anderson.....	Assistant manager.....	8,509.50	Do.

*AEC employees who receive salaries of \$8,500 but less than \$10,000 per year—*  
Continued

AEC office and employee's name	Employee's title	Salary	Date of information
<b>Chicago:</b>			
David Saxe.....	Director, Office of Budget.....	\$8,808.75	July 11, 1949
J. E. Armstrong.....	Director, Engineering Division.....	8,808.75	Do.
H. B. Ebersole.....	Director, Finance Division.....	8,808.75	Do.
W. E. Elliott.....	Patent adviser.....	8,808.75	Do.
J. R. Yore.....	Director, Office of Security.....	8,509.50	Do.
<b>Pittsburgh area:</b> L. D. Geiger.....	Area manager.....	8,509.50	Do.
<b>Ames area:</b> W. W. Lord.....	do.....	8,509.50	Do.
<b>Hanford:</b>			
Lloyd Bergeson.....	Assistant to manager.....	9,407.25	June 30, 1949
V. B. Lewis.....	Chief, Office of Budget.....	8,808.75	Do.
Marquard Arondt.....	General engineer.....	8,808.75	Do.
V. K. Schumann.....	Security officer.....	8,509.50	Do.
C. F. Schank.....	Chief, Office of Finance.....	8,509.50	Do.
R. Hoglund.....	Administrative officer.....	8,509.50	Do.
<b>Oak Ridge:</b>			
B. W. Ruffner.....	Accounting officer.....	9,706.50	June 21, 1949
E. E. Ferguson.....	Attorney-adviser.....	9,407.25	Do.
E. A. Wende.....	General engineer.....	8,808.75	Do.
H. M. Roth.....	Physical science administrator.....	8,808.75	Do.
A. H. Dahl.....	Physicist.....	8,509.50	Do.
C. D. W. Thornton.....	Chemist.....	8,509.50	Do.
W. C. Youngs, Jr.....	General engineer.....	8,509.50	Do.
B. F. Boardman.....	Scientific analyst.....	8,509.50	Do.
L. P. McDowell.....	Administrative officer.....	8,509.50	Do.
W. A. Bonnett.....	Assistant director, Community Affairs.....	8,509.50	Do.
R. C. Armstrong.....	General engineer.....	8,509.50	Do.
Ned Williams.....	do.....	8,509.50	Do.
H. G. E. Stoeckle.....	Medical officer.....	8,509.50	Do.
F. H. Belcher.....	General engineer.....	8,509.50	Do.
F. P. Trent.....	Supply officer.....	8,509.50	Do.
T. M. Yakimchick.....	Auditor.....	8,509.50	Do.
D. C. Bogard, Jr.....	Fiscal officer.....	8,509.50	Do.
D. C. Moore.....	Budget officer.....	8,509.50	Do.
Jack Curtis.....	Director, Organization and Personnel.....	8,509.50	Do.
N. H. Woodruff.....	Physical scientist.....	8,509.50	Do.
J. F. Hennessey.....	Attorney-adviser.....	8,509.50	Do.
G. R. Molesworth.....	Information and editorial specialist.....	8,509.50	Do.
F. R. Dowling.....	General engineer.....	8,509.50	Do.
<b>Los Alamos:</b>			
John W. Macy, Jr.....	Director, Organization and Personnel.....	9,407.25	July 8, 1949
John E. Greenhalgh.....	Budget director.....	8,808.75	Do.
Donald A. Davenport.....	Director of Finance.....	8,808.75	Do.
James R. Maddy.....	Safety director.....	8,808.75	Do.
Frank C. Diluzio.....	Engineer (civil).....	8,509.50	Do.
David W. Persons.....	Engineer (civil) (Office, Engineering and Construction).....	8,509.50	Do.
William A. Curtis.....	do.....	8,509.50	Do.
James J. Rose.....	do.....	8,509.50	Do.
Chalmers C. King.....	Attorney-adviser.....	8,509.50	Do.
<b>Los Angeles area:</b> Walter W. Stagg.....	Chief, Los Angeles procurement.....	8,509.50	Do.
<b>New York:</b>			
Joseph C. Clarke.....	Director, Contract Coordination.....	8,808.75	July 10, 1949
Edwin E. Spingarn.....	Legal adviser.....	8,808.75	Do.
L. C. Burman.....	Chemical engineer (Licensing Division).....	8,509.50	Do.
Conrad H. Sullivan.....	Legal adviser.....	8,509.50	Do.
James G. Beckerley.....	Physicist-Technical adviser.....	8,509.50	Do.
Richard J. Smith.....	Engineer (general) (technical procurement).....	8,509.50	Do.
J. Perry Morgan.....	Engineer, Assistant Director, Production Division.....	8,509.50	Do.
Merrit Eisenbud.....	Chief, Health and Safety Branch.....	8,509.50	Do.
James S. Quidor.....	Director, administrative operations.....	8,509.50	Do.
Vincent J. Delvecchia.....	Director, Finance Division.....	8,509.50	Do.
L. Dale Hill.....	Director, organization and personnel.....	8,509.50	Do.
Robert W. Kirkman.....	Information and security officer.....	8,509.50	Do.
Hertert V. Lee.....	Chief, Exploration Branch (Raw Materials Division).....	8,509.50	Do.
Evan S. Wilson.....	Assistant manager, raw materials operation (Research and Development Division).....	8,509.50	Do.
<b>Brookhaven area:</b> Emery L. Van Horn.....	Area manager.....	9,407.25	Do.

## EXHIBIT 32

(Referred to on p. 873, pt. 21, July 8, 1949; pp. 894 and 899, pt. 22, July 11, 1949)

UNITED STATES ATOMIC ENERGY COMMISSION,  
Washington 25, D. C., July 13, 1949.

HON. BRIEN MCMAHON,  
Chairman, Joint Committee on Atomic Energy,  
Senate Office Building.

DEAR SENATOR MCMAHON: We have noted upon review of the record at the present hearings that there has been what might appear to be an inconsistency in the statements made as to the number of times there have been dissenting votes on action taken by the Atomic Energy Commission.

In order to clarify this point, we are forwarding to you for insertion into the record the following summary of the dissenting votes that have been recorded in the Commission minutes.

Since the Atomic Energy Commission assumed responsibility for administering the provisions of the Atomic Energy Act of 1946, over 500 formal decisions have been made. Of these, it will be noted from the attached summary that there were dissenting votes as to action taken in connection with five separate areas, and that within these five areas, there were 12 specific instances in which a dissenting vote was recorded.

Sincerely yours,

UNITED STATES ATOMIC ENERGY COMMISSION,  
(S) David E. Lilienthal,  
DAVID E. LILIENTHAL, *Chairman*.

Enclosure: Summary of Dissenting Votes.

#### DISSENTING VOTES RECORDED IN COMMISSION MINUTES

1. *Personnel Security Clearance*.—At Meeting 87 on July 29, 1947, the Commission received the report and recommendations of an *ad hoc* panel (Judge Charles S. Desmond, Chairman; John Lansdale, Jr., and Rear Admiral Sydney Souers) on a clearance case. Commissioners Lilienthal, Pike, and Waymack voted to accept the recommendation of the panel to grant clearance and Commissioner Strauss dissented. Mr. Bacher was not present.

2. *Foreign Distribution of Radioisotopes*.—a. At meeting 95 on August 19, 1947, the Commission approved the program for foreign distribution of radioisotopes. Commissioners Lilienthal, Pike, Bacher, and Waymack voted in the affirmative and Commissioner Strauss in the negative.

b. At Meeting 227 on December 21, 1948, the Commission approved inclusion of Finland in the program for foreign distribution of radioisotopes. Commissioners Lilienthal, Pike, Bacher, and Waymack voted in the affirmative, Commissioner Strauss in the negative.

3. *Foreign Ore Purchases*.—a. At Meeting 222 on December 8, 1948, the Commission approved instructions to the staff with regard to extension of foreign purchasing arrangements for uranium ore. Commissioners Pike, Bacher, and Waymack voted in the affirmative, Commissioner Strauss in the negative. Mr. Lilienthal was not present.

4. *Export Control*.—a. At Meeting 169 on April 28, 1948, the Commission approved four licenses for export of high energy accelerators. Commissioners Pike and Waymack voted in the affirmative and Commissioner Strauss in the negative. Mr. Lilienthal and Mr. Bacher were not present.

5. *Technical Cooperation*.—a. At Meeting 184 on July 8, 1948, the Commission approved specific topics for technical cooperation within the area of Fundamental Properties of Reactor Materials. Commissioners Lilienthal, Pike, and Waymack voted in the affirmative and Commissioner Strauss in the negative. Mr. Bacher was not present.

b. At Meeting 227 on December 21, 1948, the Commission approved certain topics for technical cooperation within the area of General Research Experience with Low Power Reactors. Commissioner Strauss dissented and the four other Commissioners voted in the affirmative.

c. At Meeting 228 on January 4, 1949, the Commission approved a proposal regarding restatement of the area concerned with Natural Uranium Reactors.

Commissioners Lillenthal and Bacher voted in the affirmative and Commissioner Strauss in the negative. Mr. Pike was not present.

d. At Meeting 231 on January 13, 1949, the Commission approved a proposal under the area concerned with Research Uses of Radioisotopes and Stable Isotopes. Commissioners Lillenthal, Pike, and Bacher voted in the affirmative and Commissioner Strauss in the negative.

e. At Meeting 251 on March 9, 1949, the Commission approved certain discussions under the area covering Fundamental Properties of Reactor Materials. Commissioners Lillenthal, Pike, and Bacher voted in the affirmative and Commissioner Strauss in the negative.

f. At Meeting 251 on March 9, 1949, the Commission approved a proposal concerning the area covering Research Uses of Radioisotopes and Stable Isotopes. Commissioners Lillenthal, Pike, and Bacher voted in the affirmative and Commissioner Strauss in the negative.

g. At Meeting 275 on June 1, 1949, the Commission approved certain visits in the areas of Health and Safety, Research Uses of Isotopes, and Extraction Chemistry with Commissioners Lillenthal and Pike voting in the affirmative, Commissioner Strauss in the negative, and Commissioner Smyth abstaining. Commissioner Dean was not present.

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## UNITED STATES ATOMIC ENERGY COMMISSION

STATEMENT BY CARROLL L. WILSON, GENERAL MANAGER, ON MEETINGS OF ATOMIC ENERGY COMMISSION AND VARIOUS MEANS BY WHICH THE COMMISSION KEEPS INFORMED ON ACTIVITIES AND MAINTAINS EFFECTIVE DIRECTION OF THE PROGRAM

### I. FORMAL MEETINGS

Since the Commission's organization approximately 275 formal meetings have been held at which matters were brought to the Commission for formal action.

In one year alone, 1948, 438 papers were submitted to the Commission by the General Manager requiring action.

### II. INFORMAL MEETINGS

A very large number of informal meetings, executive sessions, and conferences with the staff have been held by the Commission since its organization.

### III. SPECIFIC MEANS BY WHICH THE COMMISSION KEEPS INFORMED ON ACTIVITIES AND MAINTAINS EFFECTIVE DIRECTION OF THE PROGRAM

1. Systematic *weekly oral reports* from staff divisions at regular Commission meetings.

2. Systematic *monthly written reports* consisting of approximately 50 pages containing a summary of activities and progress from all divisions. The report includes a tabulation of the status of all principal construction projects.

3. *Quarterly Progress Reports* to the Joint Committee on Atomic Energy. A Top Secret Report emphasizing program progress and including production and construction charts, reviewed by the Commission before transmission to the Committee.

4. *Semiannual Report to the Congress*.—These reports, whose extent and detail has been constantly increasing, are submitted to the Commission in the draft stage, revised in accordance with the suggestions and recommendations of the Commission, and resubmitted for approval before transmission to the Congress.

5. *Budget*.—The budget for each fiscal year is considered on several occasions by the Commission—in preliminary form before submission to the Bureau of the Budget, before submission to the Congress, and at the time of the budget hearings.

6. *Special Staff Reports*.—The scope of such reports prepared by the staff on particular problems varies greatly. Recent reports include an extensive review of the beryllium production situation; the extensive survey of the raw materials problem; study of accounting procedures.

7. *Special Consultant and Advisory Reports*.—These include such reports as that of the Industrial Advisory Group the Lexington Project, a survey of the possibilities of nuclear power in aircraft prepared by a group under the direction of Dr. Charles Whitman of MIT; the Patents Report.

8. *Regular Staff Information Papers.*—In one year alone, 1948, over 500 papers were submitted for the information of the Commission. These included: progress reports on the status of contract negotiations, reports on local operating problems or accidents, reports on selection of key personnel, reports on conferences with other government agencies or outside groups on such matters as insurance rates, etc., relationships between the Commission and state and local governments, current labor problems.

#### IV. REGULAR MEETINGS WITH STATUTORY GROUPS

1. Meetings with the President.
2. Meetings with the Joint Committee on Atomic Energy and other committees of Congress.
3. Regular monthly meetings with the Military Liaison Committee. This is in addition to the close day-to-day staff relations between the MLC and the Commission.
4. Attendance at meetings of the General Advisory Committee which meets approximately every two or three months for three or four days with one session customarily set aside for a Joint Committee-Commission discussion. The Committee makes a regular report including recommendations for Commission consideration following each meeting.

#### V. MEETINGS WITH ADVISORY GROUPS, SPECIAL PANELS, AD HOC GROUPS, WHICH ONE OR MORE COMMISSIONER MAY ATTEND, SUCH AS—

1. Attendance at meetings of the Advisory Committee on Biology and Medicine which meets one week-end approximately every two months.
  2. Radioactive Waste Disposal Conference.
  3. Personnel Security Review Board.
  4. Meetings with Managers of Operations.
  5. Meetings with the President's Labor Commission.
- The agendas for many of these meetings are submitted and discussed in advance by the Commission. Following the meetings, reports are frequently submitted to the Commission.

#### VI. VISITS TO THE FIELD

In the course of the year practically all installations are visited by at least one member of the Commission at which time the Commissioners have an opportunity for first-hand discussion and survey of problems at hand.

#### VII. MEETINGS WITH OTHER AGENCIES OF THE GOVERNMENT

These include meetings with the Bureau of the Budget, Department of Justice, National Military Establishment, the Department of State, and the Department of Commerce.

#### VIII. FORMAL MEETINGS WITH OFFICIAL VISITORS FROM ABROAD

The Joint Committee is generally familiar with the nature of these visits.

#### IX. MEETINGS WITH OUTSIDE GROUPS

The demand for consultation and information from the Commission by professional, technical, business, and other groups is very great. Only a small portion of these requests can be met, but each of the Commissioners has taken on the job of giving some portion of his time to such activities. Commissioners meet with and address a wide range of groups throughout the country: business, medical, scientific, engineering, educational.

#### X.

Between members of the Commission and the staff, there are constant, continuous, informal contacts and consultation on the whole range of activities and problems of the Commission.

JULY 11, 1949.

## UNITED STATES ATOMIC ENERGY COMMISSION

## THE ATOMIC ENERGY COMMISSION PRODUCTION PROGRAM 1947-49

(Statement by Walter J. Williams, Director of Production)

The size and scope of the American atomic energy enterprise is determined by the amount of plutonium and uranium-235 that is produced. These fissionable materials are the essential ingredients both of atomic weapons and of the nuclear reactors from which the peacetime benefits of atomic energy will accrue.

The production of these materials is a huge, complex, and still largely pioneer undertaking. It encompasses a vast range of industrial and research operations, beginning with the search for raw uranium ore and ending with the refinement of uranium-235 and plutonium.

When the Commission assumed responsibility for the national atomic energy program in January 1947, many of the original production facilities, built to serve a short-term emergency purpose had deteriorated or had already been made obsolete by the advance of nuclear science and technology. For a period of more than a year, while the future of the atomic enterprise was under discussion, the Manhattan Project had necessarily continued to operate existing production equipment, making only the necessary replacements, additions, and improvements.

The Commission, therefore, had the job of placing this whole production program on a sound, long-term basis. It had to take immediate steps to improve those processes and facilities that could be improved, to abandon those processes and facilities that had become obsolete, and to lengthen the life of some critical installations even though they had already served their original purpose. In addition, it faced a large-scale job of permanent construction to meet the continuing and growing need for fissionable materials. For the first time, economy, maximum yield, and durability were important considerations in atomic energy installations.

After two and one-half years of Commission stewardship, it can be stated that the production program is in good shape. The production of fissionable materials is now at its highest level in history. More uranium-235 and plutonium are being produced in the same facilities at less cost per gram than ever before. There are now under construction new and more efficient facilities that will greatly increase the present output and cut costs.

To indicate the progress that has been made and the future developments that are expected, we propose to review in turn the production of raw materials, feed materials, uranium-235 and plutonium, and then to consider certain associated activities including construction, source and fissionable material accountability and export control.

## RAW MATERIALS OPERATION

The primary object of raw materials operations is to supply uranium for the production of fissionable material. Requirements of uranium ore to meet production schedules have been met so far. The future can be faced with optimism.

Foreign supplies of uranium from Canada and the Belgian Congo which constitute the bulk of our total supply are covered by negotiated contracts.

During the past two and one-half years, the Commission has given constant attention to arrangements which would increase the amount of uranium obtained from foreign producers. Excellent cooperation has been developed among the governments concerned. In 1947 and 1948, actions were taken through the Combined Policy Committee of the United States, the United Kingdom and Canada, which substantially increased the supply of uranium for the United States during 1948 and 1949. These actions, coupled with other developments, have assured the United States of a continual, secure and adequate supply of uranium from abroad. This contrast with the situation of early 1947 when the supply of this material, without which there could not be an atomic energy industry, was very marked.

At the time the Commission assumed the responsibility for the atomic energy program, there existed no domestic production of uranium. The wartime plants of the Manhattan District on the Colorado Plateau had been dismantled after extracting the uranium contained in tailings piles accumulated over the years by the vanadium industry. Less than 30 percent of domestic vanadium plant capacity was in use. The Commission launched a domestic program 14 months ago which

has resulted as of this date in the production of uranium from three of the five existing vanadium plants in the area. A fourth plant will begin operation in September and the fifth plant is now being readied for operation next year. A five-year guaranteed price was established by the Commission for uranium-vanadium ores. This and other acts of the Commission have resulted in the establishment of a healthy, growing mining industry as is apparent from the rate of ore deliveries and increasing mining activity. Ore production in this district has nearly tripled during the past year and is increasing.

A 10-year guaranteed minimum price was also established by the Commission for higher grade (pitchblende) types of ores, and a discovery bonus of \$10,000 was established for the discovery and production of such high-grade ores from new deposits. These actions and the similar actions taken by the Canadian Government with whom we have a very friendly working relationship on such matters has resulted in a great surge of prospecting activity on the North American continent. Although recent new ore discoveries in the United States have been principally of carnotite type ores on the Colorado Plateau, there have been published reports from Canada of important discoveries of high-grade deposits. The similar and coordinated actions taken by the United States Atomic Energy Commission and the Atomic Energy Control Board of Canada have resulted in a gratifying response from private industry in both countries which is exercising its initiative and ingenuity under a profit incentive in this business as in other businesses. We have arranged matters so that security is safeguarded while industry functions in a reasonably normal way with a diminishing amount of red tape.

In collaboration with the United States Geological Survey, the Atomic Energy Commission planned and is carrying out a comprehensive examination of virtually every rock formation in the country, mine and smelter products, gas and oil wells, and other places where uranium might occur. This work has shown enormous tonnages of very low-grade materials which could be utilized in the future to sustain—though at increased costs—an atomic energy program for military purposes if lower cost uranium ceased to be available. Coordinated with this exploration program is a considerable program of research and process development under contract with some of the best research and industrial groups in the United States to determine the cheapest, most efficient methods of recovering uranium from all sources of available supply.

Other activities of the raw materials program relate to supplies of other materials like thorium and beryllium which have use in atomic energy. Whereas these activities are in some measures similar in character to activities relating to uranium, they are wholly subordinate in importance and volume.

We are making our operations more efficient, lowering costs, accounting more strictly for the uranium ores, and in general placing the raw materials side of the program on a sounder business basis. Now that we have turned from an emergency type of operation into one of continuing long-term operation, increasing improvements in this regard can be and are being accomplished.

Our operations are still far from perfect. We have suffered the inevitable consequences of trying to get programs launched and production going in a hurry in order to meet production schedules. All operations whether in government or in private industry suffer higher costs under such conditions. We are not wholly satisfied with what we have accomplished, but we are making satisfactory progress toward an efficient economic operation. There can be no question but that the Commission's raw materials program has strengthened national security.

#### FEED MATERIALS OPERATIONS

After uranium ores and concentrates have been acquired, they must be processed through many stages into feed materials of a high degree of purity before they can be used in the uranium—235 and plutonium production plants at Oak Ridge and Hanford. Much progress has been made in this stage of the production chain since January 1947, in efficiency of operations, in reduction of costs, and in reduction of health hazards. Examples of the progress made to date are:

a. The per pound cost of all intermediate and finished uranium feed products has decreased substantially. Decreases range from 12 percent to 82 percent, with the average decrease amounting to about 31 percent; that is, we are now paying 69 cents for the same amount of finished feed products that formerly cost \$1. This has been accomplished in spite of rising prices generally.

b. The over-all average yield of finished uranium produced from a given amount of raw ore has improved 5 percent since January 1947.

c. Yields from the scrap recovery program have also improved 5 percent. Under this program, waste and scrap materials of all types averaging less than 1 percent uranium are sent to special recovery facilities.

d. Changes in plant facilities and operating techniques have substantially reduced hazards to the health of workers in and residents near the feed materials plant.

e. Sizable stock piles of intermediate products and finished feed have been established which will assure the production of fissionable materials should there be disruption in the production of feed.

f. Stock piles of uranium ore, located during the war at one potentially vulnerable location, have been dispersed to a number of locations.

g. A new process technique for the production of green salt, an intermediate material in the production of feed for both Hanford and Oak Ridge, has been proved successful in pilot plant operation. By this process—the cost of green salt including a five-year amortization of invested capital—will be reduced 65 percent.

h. A new process for the production of hexafluoride feed for Oak Ridge has been taken successfully through the pilot plant stage. When the process is in operation, the cost of hexafluoride—including a five-year amortization of equipment costs—will be reduced 60 percent. This process and the new green salt process incorporate features which will reduce industrial hazards to a minimum.

i. A good supply of the many critical materials other than uranium and uranium products which are essential to the atomic energy program has been assured.

j. A new Commission laboratory has been established at New Brunswick, N. J., to give precise assays of raw and feed materials. The new laboratory assures improved analytical control of chemical specifications, provides the Atomic Energy Commission with accurate figures upon which payments for raw materials are based, and furnishes precise, basic figures for use in the system of accounting for the source and fissionable materials at each stage of processing.

#### PRODUCTION OF URANIUM-235—OAK RIDGE

At Oak Ridge, where uranium-235 is produced, the record of the Commission and the operating contractor, Carbide and Carbon Chemicals Corporation, is one of continuous progress in reducing costs, improving plant efficiency and increasing production. Certain important facts may be stated without violating security requirements. Specifically:

a. The total number of employees engaged in production at Oak Ridge has been reduced from about 11,400 at the start of 1947 to 4,700, an over-all reduction of 6,700. This was accomplished despite the fact that additional operations, requiring approximately 500 employees, have been undertaken at Oak Ridge since 1947. Therefore, on a comparative basis, it can be said that the actual reduction in personnel performing the same operations in 1947 has been approximately 7,200, or 63 percent.

b. Numerous mechanical improvements, some of which were mentioned in the Fifth Semiannual Report to Congress, have been made which are resulting in annual savings of several million dollars and at the same time in increased production.

c. As a result of reductions in operating personnel and mechanical improvements, the Commission is currently producing about twice as much uranium-235 per dollar spent on operating costs as was produced in the beginning of 1947. This has been accomplished during a period when the average wage rates for all plant employees, converted to an hourly basis, increased 23.6 percent—from \$1.46 to \$1.81.

d. The Commission has continued studies for further improvements in the separation of uranium-235. One result of these studies is a currently planned addition to the gaseous diffusion plant which will further increase production at a further decrease in unit cost even on the basis of amortizing the capital investment within a ten-year period.

#### PRODUCTION OF PLUTONIUM—HANFORD

When the Commission accepted stewardship for the Nation's atomic energy program, key plutonium production facilities at Hanford had served their wartime objective and were rapidly deteriorating. The remaining future usefulness of these facilities was in serious question. At the same time, new production

goals made necessary more plutonium than had ever been produced during the war.

To satisfy this need, the Commission started at once to build both new and replacement facilities, restore existing facilities, and stop the rapid deterioration of the existing facilities. This program, carried out by the operating contractor, the General Electric Company, added up to one of the largest development, engineering and construction programs ever undertaken during peacetime.

Much has been accomplished in the two and one-half years since January 1947. The following advances are submitted as examples:

a. New and replacement reactors are nearing completion and repairs have been made on the old units without interrupting production.

b. Methods have been devised to extend indefinitely the life expectancy of the existing production facilities.

c. The expanded production goals are being attained and productivity at present is higher than at any time in the project's history.

d. New chemical separation processes were being developed, and a scheme was devised to utilize more efficiently the valuable uranium feed.

e. As a result of increasing the efficiency of production operations, the Commission is producing about 40 percent more plutonium per dollar spent on operating costs than was produced in the beginning of 1947.

f. As a result of new developments it has been possible to defer indefinitely over \$150,000,000 worth of construction that was considered essential in 1947 to keep the program going and to meet the new goals.

g. New operations, such as the program to be carried out in the new and unique 234-5 facilities, are being conducted at Hanford with only a slight increase in operating personnel.

#### ACCOUNTING FOR SOURCE AND FISSIONABLE MATERIALS

An effective system of accounting control is one of the several main safeguards against the loss or misappropriation of uranium and plutonium, the basic materials of the atomic energy industry. The other safeguards are (1) an effective system of physical protection, which includes such things as fences, guards, and plant design; (2) a program for screening and examining personnel to insure that only trustworthy and loyal individuals have access to the material or to areas where the material is stored or processed. All of these safeguards are necessary; no one is adequate alone.

One of the primary purposes of materials accounting is to provide a check on the effectiveness of physical and personnel security. Physical protection alone tends to prevent losses, but it does not necessarily show whether losses do occur, or if so how much material has been lost. Materials accounting is also necessary to show precisely how much material is on hand to aid in determining the efficiency of production processes.

Since it took over the atomic energy program in January 1947, the Commission has been making a determined effort to set up an effective system of materials accounting control. I believe that important strides have been made in this direction. Possibly the best illustration of the effectiveness of our present system is the fact that relatively minor discrepancies in the uranium inventories have been discovered and investigated. If the accounting system had not been effective, these amounts would have gone unnoticed. With an industrial operation so large and so complex as the atomic energy program, we would have cause for being suspicious of any accounting system that did *not* show minor discrepancies from time to time.

The job of developing an effective materials accounting system is a difficult one. It is much more than just a matter of records; it is equally a matter of precise material measurements. Unless the records reflect actual measurements, they are of little or limited value. The development of effective measurement techniques has meant the development of methods for keeping track of such critical materials as uranium and plutonium while they are being combined chemically with other substances and being processed as gases, solutions, or solids through many stages of refinement, a large number of them so hazardous to workers that they have to be done under remote control.

In some instances, it has not yet been possible to develop methods of sampling and analyzing the material which will yield the desired precise figures needed for accountability. For example, the exact fissionable material content of some items, say, bomb parts, cannot be accurately determined without destroying the

part—a thing that is obviously senseless. In other instances the high radioactivity of the material may preclude measurement by normal methods or may require that measurements be deferred for a period of time. In such instances it is necessary to rely heavily on physical safeguards, approximate analyses, weighing and counting. While adequate for a normal industry, these do not satisfy the stringent materials accounting requirements which we have set for ourselves. Problems such as this are being worked on vigorously and will be solved in time. However, progress in the atomic energy program will continue to present new and complex problems in the field of source and fissionable material accountability.

Although completely satisfactory measurement methods and inventory procedures have not yet been developed in all instances, a comprehensive system has been put into effect since January 1, 1947. Much remains to be done; however, much has been and is being accomplished.

#### COMMUNITY OPERATIONS

Along with the plants which were producing fissionable materials the Commission inherited two Government-owned war-built communities. These were and are necessary adjuncts to the production plants, providing housing for plant workers. One community at Oak Ridge, Tenn., had a population of 42,000 in January 1947. This population has been reduced to approximately 36,000 today. The other community, Richland, Wash., had a population of 13,815 on January 1, 1947, which has been increased to about 21,000 as of the present time.

These communities were not normal in any sense of the word. Many of the structures were temporary; commercial and recreation facilities were the minimum required to provide inhabitants with only the essential day-by-day services.

The work being carried on by the community operation units in early 1947 included many activities which are not found in a normal community. For example, at Oak Ridge, while the community itself occupies an area of only 9,000 acres, the community operations unit was responsible for all maintenance and operations outside the production plant fences, covering an area of roughly 55,000 acres. At Oak Ridge the Commission inherited some 10,000 dwelling units, only 3,500 of which could be considered even semipermanent, along with 1,757 trailers, 60 temporary dormitories, a warehousing operation scattered over a large area in 32 separate units ranging from warehouses to barns, and many million dollars' worth of surplus material and equipment which were the remains of the huge construction program at Oak Ridge.

The Commission recognizes that its primary purpose as defined in the Atomic Energy Act is something other than the operation of communities. Community operations require a great deal of effort by the Commission and its staff, probably detracting to a disproportionate degree from the really major problems of continuing production and moving forward in the development of atomic energy. However, these towns were essential to production operations and probably will continue so for a considerable period of time. Accordingly, the Atomic Energy Commission has embarked on a broad program aimed at (1) consolidating, rehabilitating, replacing, and expanding the housing, schools, hospitals, and business centers in the communities; (2) developing a pattern of community organization appropriate for long-term operation; (3) developing programs and policies to promote progress, insofar as such progress is practicable in a Government-owned town, toward normal community standards, living conditions, and government; (4) reducing community operating costs.

This can't be done in a hurry. Even given time, it is not easy to do. Solutions must be found for very complex problems of human relations, legislation, personal freedom and rather extensive capital investment. The present situation can be summed up as follows:

##### *At Oak Ridge*

a. School plant, and facilities for fire and police protection have been completely overhauled.

b. 1582 permanent housing units to replace temporary units are under construction. Plans have been completed for rehabilitation or replacement of the balance of the temporary units.

c. Trailers, construction camps, and temporary dormitories have been removed; a total of over 2,000 temporary structures have been disposed of.

d. Announcement of adjustments to bring rents more nearly in line with those in surrounding communities has been made.

e. AEC and contractor personnel required to operate the town have been reduced since January 1, 1947, by 40 percent. Examples of reductions effected in the period July 1, 1948, to May 30, 1949, by the Commission and its principal contractors are as follows:

	July 1, 1948	May 30, 1949	Percent
Roane-Anderson.....	3,193	1,598	50
Municipal employees (paid through Roane-Anderson).....	508	305	39
American Industrial Transit.....	430	296	31
Atomic Energy Commission.....	196	71	64

Similar personnel figures for employees engaged in operation of the hospital, schools, and L. & N. Railroad, the balance of community operations, are as follows:

	July 1, 1948	May 30, 1949	Percent
Hospital.....	345	253	26
Schools.....	656	679	14
L. & N.....	66	60	9

<sup>1</sup> Increase.

Only about 36 percent of this community management personnel is engaged in the normal activities of city government. The remainder perform functions relating to real-estate management, public utilities operations, warehousing, maintenance and procurement activities, which in a normal community would be carried on by private construction, electrical, plumbing, real estate, fuel, and other concerns.

f. Community warehousing has been reduced from 32 units to 9 units, from 400,000 square feet to 200,000 square feet; employees from 365 to 128.

g. Participation by residents in community affairs has increased considerably. Oak Ridge has an elected Town Council, a Recreation and Welfare Council, and numerous other civic organizations. The hospital has recently been converted from a Government to a privately sponsored nonprofit operation.

h. A program of selling land to church groups for church and school purposes has been initiated. To date two sites have been sold to church groups; thirteen additional sites will be sold shortly to other church groups.

i. Approximately 20 acres of land for an armory site is being transferred to the State of Tennessee.

j. Studies have been initiated to determine the feasibility of incorporating Oak Ridge.

#### *At Hanford*

a. An 18.5 percent reduction from 809 to 659 has been made since 1948 in the number of personnel required to administer community operations. In fiscal year 1949 the cost of these operations was \$2,670,000, a reduction of over 20 percent from 1948 despite a population increase in this period of 7 percent.

b. 1,857 dwellings have been added, bringing the total number to 5,777.

c. Two more schools have been constructed, for a total of seven.

d. A Town Council has been elected and is meeting regularly with representatives of community management. Civic, professional, and social organizations have increased from 115 to 207 since 1947.

e. Two churches have been built at church expense and eight additional sites have been leased to church groups for this purpose.

f. As at Oak Ridge, announcement of rent adjustments to levels approaching those prevailing in surrounding communities has been made.

The Atomic Energy Commission would be most happy if these communities could immediately be converted into normal towns in the true sense, freeing the Commission of the responsibility for their operation. We hope eventually to do this. We cannot predict when that will be because we must retain control over occupancy of housing in these communities as long as such control is necessary to secure and retain people required for operation of the production plants. In

the meantime, even though retaining this basic control, we hope to continue toward normal conditions in these towns although we recognize that we will never completely reach this objective as long as ownership and control of facilities rests with the Federal Government.

#### CONSTRUCTION

On January 1, 1947, the Atomic Energy Commission found itself faced with the need for undertaking a peacetime construction program of almost unparalleled magnitude; a program which involved many complex and unique facilities requiring solving of significant engineering and development problems and which in the aggregate was estimated to exceed more than one billion dollars. Typical of the problems facing the Commission were:

- a. The rehabilitation and expansion of virtually every plant engaged in the processing of raw uranium ore into feed materials for the fissionable materials production plants; and the elimination of health hazards throughout the industry.
- b. Replacement of plutonium production facilities which were deteriorating.
- c. The expansion of plutonium production facilities to meet increased military requirements.
- d. The development of new chemical processes and the construction of new processing plants.
- e. Complete replacement of the jerry-built technical plant facilities at Los Alamos laboratory together with the dispersion of production operations from Los Alamos involving acquisition of new sites and erection of new plants.
- f. Construction of the Brookhaven National Laboratory.
- g. Reconstruction of the Oak Ridge National Laboratory.
- h. The building and housing of nuclear accelerators at Berkeley.
- i. Construction of the Argonne National Laboratory at a new site.
- j. Construction of additional housing and community facilities at Hanford and Los Alamos.
- k. The replacement of temporary, substandard community and housing facilities at Oak Ridge, Hanford, and Los Alamos.

The program has gone through many changes involving both cutbacks, such as that made possible by extending the life of the Hanford piles, and the addition of new projects not contemplated at the time of the original appraisal, such as the proposed reactor proving ground in Idaho and the proposed new addition to the gaseous diffusion plant at Oak Ridge. Today the construction program accomplished since January 1, 1947, by the Commission and currently programmed is estimated at \$1,300,000,000.

At the time of the transfer of responsibilities from the Manhattan Project, a very minor part of this program had been initiated. Construction was proceeding at a rate of expenditure of about \$1,700,000 per month. Obviously, at such a rate the program could not have been completed for many years and certainly not by the time that many of these urgently needed facilities were required. Therefore, it was necessary within a very short period to organize and get this program under way. The urgency and speed precluded leisurely planning or formulation of completed drawings and specifications before undertaking construction.

Since taking over the atomic energy construction program, the Commission has increased the rate of construction to the point where the average monthly rate of expenditure during the calendar year 1948 was \$25,000,000, compared with the \$1,700,000 figure at the beginning of 1947. This rate is continuing during 1949. Of the \$1,300,000,000 program, work is under way on projects which will cost more than \$700,000,000 upon completion.

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#### UNITED STATES ATOMIC ENERGY COMMISSION

##### THE SECURITY PROGRAM, 1947-49

(Statement by Carroll L. Wilson, General Manager)

When the war ended and voluntary censorship of press and radio no longer applied, atomic energy was one field in which secrecy still had to be maintained.

Aside from the obvious facts that two A-bombs had been dropped in Japan and that through magnificent scientific and engineering feats, industry under military guidance succeeded in building the atomic weapon, little was known to the general public about atomic energy. Locations of major installations were announced by the Manhattan Engineer District because they could not be kept secret any longer. But technical know-how was a closely held secret. It still is. So are production rates and stock-pile figures.

This imposes on a democratic system an unusual situation. The McMahon Act itself recognizes this in establishing a special Joint Committee of the Congress as liaison, not only for the public, but for other Members of the House and Senate.

The burden of carrying security responsibilities in the field of protecting installations, technical processes and clearance of employees and workers of contractors may be measured to some extent by the fact that security matters were considered by the members of the Commission at 151 of its 262 formal meetings between January 1, 1947, and April 28, 1949.

Throughout all phases of its security program the Commission maintains very close relations with the Federal Bureau of Investigation. Under the McMahon Act it is the responsibility of the FBI to make full background investigations of individuals who are being considered by the Commission for security clearance, and to report to the Commission the results of these investigations. It is also the responsibility of the FBI to investigate all violations of the McMahon Act; and with the FBI's assistance the Commission has developed instructions to its field installations (GM-11 and Security Letter No. 1, both set forth in the Appendix to this statement) concerning the prompt reporting of cases to the FBI. In addition, the FBI is actively concerned with the evaluation of information that might indicate possible danger to Commission installations. As part of the close working relationship between the Commission and the FBI, there has been full and complete discussion with the FBI on matters of interest to them. There is daily contact with the FBI liaison representatives on matters of mutual interest; and reports are transmitted daily between the two organizations. Every effort has been made to cooperate fully with the investigative agents in the field and with the superiors at FBI headquarters. Similarly the FBI has been extremely helpful to the Commission in the exercise of our important and difficult security responsibilities.

Of the Commission's own 4,700 employees, 20 percent are engaged full time on security duties ranging from the clearance of AEC and contractor workers to guarding vital shipments of material from one part of the United States to another.

About 9 percent of the personnel of the Commission's operating contractors devote full time to the discharge of their responsibility for the security of materials, components, documents, factories, warehouses, laboratories, offices, safes, vaults—in all, some 1,300 locations in the United States alone.

In taking over responsibility for the atomic energy enterprise, the Commission was confronted with a tremendous problem not only in obtaining experts qualified to handle technical and scientific jobs, but in setting up administrative machinery for clearing them. In addition, the law provided that the 26,879 persons held over from the Manhattan District on AEC and contractor pay rolls had to be reinvestigated and a determination made by the Commission of their eligibility for clearance.

The measure of this task is represented by the fact that requests for personnel clearances jumped from the rate of 2,000 a month in February 1947 to 8,000 a month by July 1947. The 8,000 cases per month was the maximum the Federal Bureau of Investigation could at the time process for the Commission. From January 1, 1947 to April 30, 1949, 141,469 individuals were processed to the FBI for investigation for AEC clearance.

Representatives of the Commission discussed the problem of security investigations with the Attorney General and the Director of the FBI in December 1946, before the atomic energy program was transferred to the Commission. We have established a clearance procedure which provides maximum security for the program and still guarantees to employees the right of appeal. An employee of the Commission or of a contractor is entitled to a hearing when his loyalty, character, or associations are challenged. Administrative procedure calls for a local board of three persons to review his case. On appeal by the employee from an adverse recommendation, the case may be carried to the Personnel Security Review Board prior to determination by the General Manager of the Commission.

On January 20, 1948, the Commission appointed a Personnel Security Review Board with the Honorable Owen J. Roberts, former Associate Justice of the United States Supreme Court as Chairman. The Board was named to assist in developing policies, procedures, and standards for dealing with the clearance of AEC and contractor employees as well as to make recommendations on individual cases. When the Board completed its work it recommended establishment of a permanent Personnel Security Review Board. The Commission named Charles Fahy, chairman; Arthur S. Flemming and Bruce D. Smith to the new Board in March, 1949. The functions of the present Board are to review and recommend action on individual security cases and to advise the Commission on procedures and standards in handling such cases.

As the record of the Commission and its contractors shows, those persons needed for their technical and scientific knowledge, engineering, and other specialized abilities have an exceptionally good record of loyalty, character, and associations.

There have been and will continue to be demands in the program which cannot be met by waiting for full investigation of persons who can for example expedite production, research, or weapons tests. Full clearance investigations and determination of eligibility take two to three months and in some situations emergency clearances must be used. It should be emphasized, however, that emergency clearances are based on a careful evaluation of the character and reputation of an individual and the results of an FBI fingerprint and file check. If the FBI check does not reveal any derogatory information—and the FBI has rather complete records of persons suspected of disloyalty to the United States—and other information is favorable, we grant the clearance. Simultaneously a full FBI investigation is made of the individual.

You are acquainted with the record of emergency clearances which were presented to the Joint Committee a few days ago. It shows that this clearance procedure provides adequate protection in the cases where it is required.

During the war, the very existence of the atomic energy project had been an official secret. It was then reasonable and possible to follow security procedures which are quite different from those required today. For additional assurance of secrecy, many suppliers, manufacturers, and other facilities in the program, were not even listed in central files. As a result, in many cases, no security safeguards existed for protecting many key plants, nor were personnel at such plants cleared, although they were working with secret data. In 1947, an inventory of all activities was, therefore, necessary in order to determine which involved a security interest and, therefore, required protective measures.

As of January 1, 1947, the Manhattan District had a master record of 729 locations throughout the country which were considered as requiring safeguards, and at which security programs were in effect. During 1947, as the result of study and analysis by Commission representatives of the actual security exposure at unrecorded, undercover operations, it was found that 632 additional locations required such safeguards. Of these, 227 were involved in production, fabrication research or development for Los Alamos, the focal point of the atomic weapons program.

Perhaps the most serious situation which required prompt attention in 1947 was the concentration and lack of adequate protection for the stockpile of plutonium and uranium 235, bomb components and nuclear material. The major share of the nation's stockpile of these weapons and strategic materials was concentrated in a single geographic location in vulnerable storage structures which were poorly protected and lacked reliable communications or effective plans for safeguarding in case of emergency.

The Commission took immediate action to disperse such materials in more secure storage while the design and construction of bomb-proof, underground vaults were being completed. As we have reported to the Joint Committee, these storage facilities incorporate protective devices to meet any contingency.

Some hazards still exist in war-built, congested and inflammable structures, but the permanent construction program will remove this type of hazard and guarantee full protection for the projects now housed in temporary facilities.

Security is not limited to fixed locations. It extends to protection of a variety of classified materials and equipment including components of atomic weapons as they are transported by rail, air, water, and highway. These shipments include normal uranium in compositions ranging from ore to refined metal, separated fissionable material, bomb components, and other materials and equipment unique to the atomic energy program. The magnitude of the protection job

involved is indicated by the fact that such shipments approximate 2,000,000 ton-miles per month and involve several hundred individual shipments per month. Since January 1, 1947, there has been no known instance of loss or compromise in transit of this heavy volume of secret and strategic material.

Soon after the war, troop demobilization made the emergency defense plants for atomic energy installations obsolete. The Commission took this matter up with the Department of Defense and surveys of key installations were made by the Army and Air Force to afford full protection in any emergency. Direct liaison between the Security Division and the military was established for this purpose. In addition thorough studies of sabotage vulnerability were made at each installation.

The Commission arranged with the FBI for the organization of special squads of FBI agents at Hanford, Los Alamos, and Oak Ridge. Agents selected by FBI headquarters have been given special instructions by technicians and scientists in the program to increase the protection of the installations. Thus FBI agents are alert to warn us of sabotage or espionage attempts and are better able to evaluate information that might indicate possible danger to atomic energy facilities.

Another important security program is the control and accountability for classified documents. Here again there was no complete inventory when the Commission took over although hundreds of thousands of classified documents were in existence. The first job was to set up regular inventories of such documents throughout atomic energy plants and laboratories and a check system of accounting for them.

This problem grows daily. For example approximately 10,000 documents move from one installation to another each month. And every month 10,000 new classified documents are originated.

Substantial progress has been made in establishing controls, setting up an accountability system and developing inventories. This job is not finished and we are still working hard on it in every office throughout the country where classified documents are used.

## UNITED STATES ATOMIC ENERGY COMMISSION

### THE RESEARCH PROGRAM

(Statement by Kenneth S. Pitzer, Director of Research)

Physical research in the national atomic energy program serves two purposes: (1) Finding basic facts about the nature of the atom and its nucleus, and the behavior of the particles which compose it; (2) finding facts which will lead to solutions of the problems of putting atomic energy to work. The research seeking basic facts underlies future practical development and application of atomic energy. This work is for the most part nonsecret. The research designed to solve current problems of development is in the main secret.

In the great atomic energy laboratories at Oak Ridge, Argonne, Brookhaven, Berkeley, and Ames and in smaller installations throughout the country, the ideas for improving the present production processes for fissionable materials, reactors and weapons are tested and developed. In these laboratories, research is done on such problems as the following:

- a. How can uranium be extracted cheaply from ores containing only a few ounces of uranium per ton?
- b. How can present methods of separating isotopes of uranium and other elements be improved?
- c. What construction materials will stand up under high temperatures and intense radiations present in reactors producing useful power?
- d. Can reactors be built to produce fissionable material faster than they consume it? If so, how?
- e. How can the various materials present in uranium or plutonium or thorium, after treatment in a nuclear reactor, be sorted out from one another?
- f. How can dangerously active waste products be concentrated and stored or safely disposed of?
- g. Can cheap, light shields be developed which will safely contain the dangerous radiations from a reactor?

From the nature of these questions, it is clear that many of the answers must, at least for the present, remain secret?

Roughly two-thirds of the 96 chemical elements are metals, yet we normally use only a handful—many of these known from ancient times. In the development of atomic energy we expect metallurgists to play an extremely important part. They are investigating, for example, the metals with low melting points—bismuth, sodium, potassium, gallium, lead—to use in place of water or steam to take out the usable heat from power reactors. Much work has been done with the metal zirconium, which appears promising as a reactor structural material. Thorium found in nature is mixed with a number of other unusual metals, known as rare earths. Chemical separation processes are extremely involved. Recently, we have found a simple nonchemical process for taking out rare earths that saves up to a dollar a pound in purification of thorium.

As stated in the beginning, in addition to research on such practical questions as these, the major Commission laboratories and dozens of other laboratories, either under direct contract or under the joint program with the Office of Naval Research, carry on a large volume of exploratory unclassified, basic research related to atomic energy. This research is needed to gain better understanding of the materials, the processes and the forces involved in the atomic energy enterprise.

For example, the atomic nucleus itself is very poorly understood—nobody knows for sure what is in it or what makes the parts stick together or how they move about inside. Each kind of nucleus—and there are about 1,000 different kinds—presents its own mysteries, which are being tackled by study and experiment.

Recently scientists at Los Alamos and Argonne succeeded in liquefying helium 3, which we believe has the lowest boiling point of any material. In nature helium 4 is a million times more plentiful than helium 3. Pure helium 3 can be made in atomic energy laboratories in fair-sized quantities for experimental purposes. Its boiling point is less than three degrees above absolute zero.

At the Radiation Laboratory, Berkeley, scientists have created mesons using the great 184-inch cyclotron. Mesons are particles intimately connected with the forces holding the atomic nucleus together. The Japanese physicist, Yukawa, had to invent them to complete his mathematical description of nuclear forces. Later scientists occasionally found them in matter which was bombarded by enormously energetic cosmic rays. Now we can make them in abundance and under controlled conditions in the laboratory where they can be studied intensively.

How do you measure research results? What units do you use? Can you buy research, like pork chops, across the counter? How much do you get, or should you get, per dollar spent?

Eventually, of course, research progress is measured in better, cheaper goods, lives saved, higher standards of living, and, in this industry, in more effective weapons of war.

The difficulty of measuring research on a day-to-day basis is that end products of research are ideas—ideas that may be expressed in 5 or 6 or a dozen pages. Sometimes a slim report is the only tangible product resulting from the expenditure of hundreds of thousands of dollars.

Perhaps I can best explain the nature and importance of basic research by an example. In March 1939 the Physical Review carried a 39-line letter under the modest title "Further Observations on the Splitting of Uranium and Thorium." It was signed by three young scientists from the Carnegie Institution in Washington. Two were Americans, one was Chinese, a fellow of the China Foundation. At this time scientists everywhere knew about fission. They knew that a uranium atom hit by a neutron would break into two fragments, releasing large amounts of energy, and releasing also several free neutrons which in turn could cause fission in neighboring atoms. The contribution of the three young scientists was this: They observed that not all free neutrons emitted during fission came off at the instant of fission. In a small percentage of cases there was a time lag, up to a half-minute or longer, before the last of the free neutrons was emitted. These were called delayed neutrons.

The 39-line letter simply reported one more small fact to add to general knowledge of the fission process. This was the result of basic research—a product of man's desire to know more about the world.

Within three years the Manhattan Engineer District was spending over a billion dollars to build the great plutonium plant at Hanford, Washington. Control of the plutonium-making reactors, one of the key installations of the bomb project, depends largely on delayed neutrons. Today the Commission is well

started on a new reactor-building program with a view eventually to releasing nuclear power for ships, aircraft, and commercial uses. Here again, control of the reactors depends upon delayed neutrons.

In recent issues of the Physical Review, from one-third to one-half of all research reported, is supported in whole or in part by the Atomic Energy Commission. Similarly, the Commission supports research reported in the chemical journals, the metallurgical journals, and journals devoted to geology, biochemistry, and many other fields. At this point we cannot tell which of these projects will pay off, which will be the "delayed neutrons" of the future.

Of one thing, I am certain, however. The time-lag between discovery and exploitation is being shortened. The Commission is equipped to follow leads immediately. The facilities and the laboratories and the manpower are available to develop a fundamental discovery, to run it through the pilot stage and into production.

The end of the war and the transfer a little later from Manhattan Engineer District to the Atomic Energy Commission naturally created instability and loss of morale through no fault of anyone. Although I was not immediately associated with the atomic energy program, like most American scientists, I was well aware of these difficulties. In January of this year when I joined the Commission staff as Director of the Division of Research and visited the various establishments I was greatly impressed at the improvement of morale and the degree of integration attained.

The Manhattan Engineer District employed 7,100 scientists and technical people. By July 1947 nearly 5,500 of these had left the program although about 500 have since returned. At present about 6,500 scientists and technicians are employed, of whom 2,100 were with the Manhattan District during the war, about 1,400 were employed after the war but before July 1947, and about 3,000 have been employed since July 1947. Although the Commission has retained a valuable core of the original wartime scientific and technical population it has been necessary to do large-scale recruiting to staff laboratories to their present strength. Large numbers of able scientists and technicians have joined this enterprise when employment opportunities elsewhere were almost unlimited.

At Brookhaven National Laboratory the conversion of an army camp to a research establishment is essentially complete. The new reactor is nearly ready for use. The three billion electron volt proton accelerator—the cosmotron—is under construction. The laboratory staff is nearly at full strength.

Applied research at the Oak Ridge National Laboratory relates to the chemical engineering side of production work. A strong biology division has been established. The entire site has been renovated. The Laboratory staff is strong and the morale is high.

In addition to its central position in the reactor program, the Argonne National Laboratory has made great contributions recently to fundamental physics and chemistry.

At the Radiation Laboratory, Berkeley, the 184-inch cyclotron—the largest accelerator now in operation—is doing pioneer research studies utilizing particles having energies up to several hundred million electron volts. An enormous 6-billion volt machine is under design, and a quarter-scale model has operated successfully.

At the Ames Laboratory, Ames, Iowa, the program of research in metallurgy, chemistry, and physics is yielding exceedingly valuable results.

The joint program with the Office of Naval Research to assist private research now includes some 60 projects in over 50 institutions. In March 1949, the Commission began direct support of basic research in physical science in non-Governmental institutions. Contract negotiations are either complete or in progress for about 40 proposed projects.

The Commission established in 1948 a program of research fellowship awards. This fellowship program has already been discussed in detail in the hearings before the Joint Committee.

By the end of May 1949, 6,284 shipments of radioisotopes had been made to more than 1,000 users in 300 institutions in 41 states and territories, and 690 shipments of stable isotopes had been made to 192 institutions in 33 states and territories. By April 1949, 28 foreign countries had made arrangement for receiving radioisotopes and 513 shipments had been made to 21 countries.

The General Advisory Committee at its meeting on April 6 and 7, 1949, reviewed in some detail the status of two of the largest of the laboratories of the Commission, the Oak Ridge National Laboratory and the Argonne National Laboratory.

The General Advisory Committee reported to the Commission that: "We had a most instructive and gratifying day with the Directors of the Argonne National Laboratory and Oak Ridge National Laboratory. We were throughout favorably impressed by the reports they gave, both as to fundamental research and as to the important development projects for which the Laboratories are responsible. These programs seem to us sound, well balanced, and well conceived. The evidence of the Directors' reports reflects a high morale and a good sense of direction in the Laboratories. We believe that the Laboratories and the Commission are to be congratulated on this state of affairs."

JULY 11, 1949.

## UNITED STATES ATOMIC ENERGY COMMISSION

### FINANCIAL MANAGEMENT

(Statement by Paul M. Green, Controller)

The financial records of any business enterprise are the means by which management and stockholders are able to gauge the economy of operation and the extent of profit or loss. Financial records and accounts are therefore an indispensable guide to management and are a measure of the success or failure of an enterprise in our competitive economy.

The Atomic Energy Commission does not have profits or losses measurable in dollars and cents as that measure is traditionally used in private industry. Yet it does have compelling interest in and need for using basic materials economically, operating at the lowest costs and controlling the direction of effort, as determined by the yardstick of dollar expenditures. This requires the kind of financial controls customarily found in industry.

Appraisal of financial management in the Commission should properly consider three aspects: First, the financial problems encountered by the Commission when it took over from the Manhattan District; second, what the Commission has done to overcome these problems and to meet recognized standards of sound financial management; third, what remains to be done and what the Congress and the public can expect in the form of further improvements in financial control.

#### WHAT WAS THE FINANCIAL SITUATION CONFRONTING THE COMMISSION WHEN IT TOOK OVER FROM THE MANHATTAN DISTRICT?

My remarks concerning the Commission's financial inheritance from the Manhattan District are solely to describe the background in which the AEC has been trying to bring about financial control. They should not be construed as reflecting critically upon the manner in which the Manhattan District operated. The weapon—not the expense—was properly the primary consideration during the war. For this reason financial controls as a tool of management were largely lacking in the Manhattan District. There was, for example, no coordination between property records, fiscal accounting and budgeting. In the main, Manhattan District financial management was aimed merely at justifying the reimbursement of expenditures made by cost-type contractors, in conformity with law and Government regulations.

Upon taking over, the Commission therefore found that it had acquired little in the way of accounting. Moreover, there were very few accountants on the staff. The principal contractors generally followed different methods of accounting, and integrated financial reporting was lacking. The generally unbusiness-like character of the Manhattan District financial records and accounts has, of course, been recognized by the Congress.<sup>1</sup>

<sup>1</sup> In connection with the First Deficiency Appropriation Bill, 1948, the House Committee on Appropriations reported as follows concerning the Manhattan District, "Time was of the essence, and business details and economy gave way to speed and the essentials of an unexplored scientific field. As a result, the accounting records and business arrangements for management of towns, etc., taken over by the Commission from the War Department were in such condition as to give the Commission an exceptionally poor basic program on which to work" (Report No. 1618, page 2, House of Representatives, 80th Congress, 2nd Session).

## WHAT HAS THE COMMISSION DONE TO ESTABLISH SUITABLE FINANCIAL MANAGEMENT?

The first task the Commission had, financially speaking, was to make a thorough inventory of the accounting practices being followed by the principal cost-type operating contractors. To assist in doing this the Commission, after consultation with the Comptroller General of the United States, obtained the services of five independent public accounting firms. On the basis of their findings and recommendations, the Commission determined that the primary objective should be to convert the inadequate bookkeeping into a new financial control system of an industrial-governmental type. This would necessarily have to combine the merits of industrial-type accounting and auditing practices with the special requirements of Government budgetary and fiscal procedures. The reason for combining these approaches to financial control is obvious when it is recognized that most of the Commission's operations are carried on, within the scope of Commission-approved programs, by industrial and educational contractors and that their reimbursements for expenditures are derived from Congressional appropriations, subject to Federal fiscal procedures.

The welding of industrial-type accounting and auditing with Government budgetary and fiscal procedures on the scale required for the Commission's operations is something new. There is little precedent to provide guidelines. Nevertheless, the goal is sound and it is being accomplished. Close cooperation from the General Accounting Office, and their full support and encouragement, have greatly speeded our progress. These are some of the concrete things that have been done over the last two years to reach our objective:

a. *The Commission has established an integrated system of financial accounts for its major cost-type contracts.*—This is akin to a parent company's consolidating the financial accounts of its subsidiaries so the over-all picture can be shown without any duplication of record keeping.

b. *A comprehensive public accounting type audit of major cost-type contractors has been instituted in place of the former detailed audit of all disbursement vouchers.*—This broader audit, which is like the audit used in industry, permits more emphasis on a review of the contractors' internal controls and performance, thereby providing the Commission with the information needed for more effective management controls over its contractors' activities.

c. *The Commission has established an accounting system that effectively relates property and financial records.*—Thus, changes in the value of inventories or capital assets can be properly reflected in the financial accounts used for general management purposes.

d. *The Commission has established a uniform system of accounting for operation of the three towns.*—It is now possible to evaluate the comparative operating costs of the towns.

e. *The Commission has substantially improved the method of presenting budget estimates and is initiating a cost-based budget for fiscal year 1951.*

These are the major, immediate steps that have been taken. Many other things of substantial importance have also been done.

## WHAT REMAINS TO BE DONE TO PROVIDE IMPROVED FINANCIAL MANAGEMENT?

Our goal has not yet been reached. One important remaining step is to complete a comprehensive accrual accounting system. This will permit the preparation of balance sheets and financial operating statements of a modern industrial type.

Another important step is to perfect cost accounting as an integral part of the over-all financial accounts. When fully developed the cost system will provide periodic cost comparisons in terms of particular plants, processes, functions, products and organizational units. It will furnish financial controls over inventories and capital equipment and will provide current cost data for management purposes and for preparing budget estimates.

In the field of financial management the Commission has come a long way since the days of the Manhattan District. We expect improvements to follow to insure further that the taxpayer's dollar invested in the enterprise is used economically and in the best interest of the country.

## UNITED STATES ATOMIC ENERGY COMMISSION

(Statement by Carroll L. Wilson, General Manager, on Commission Policy and Organization)

During the Hearings held before the Joint Committee last February on the Contract Policy of the Commission, I presented a statement to this Committee which explained in general terms the Commission's views on the manner in which a major part of its business should be conducted, and I should like now to insert that statement in this record. It is as follows:

The joint committee has requested that a part of this afternoon's hearing be devoted to a discussion of the Commission's contract procedures and practices. The Commission welcomes this opportunity for such a discussion. As you know, we have from time to time, in our reports to the Congress as well as in other published statements, referred to the central role which contractors occupy in the atomic energy program. We believe that it is important for the public generally and for American business to know and to understand the policies which we are following.

It will be helpful, I think, to begin by stating in somewhat general terms the Commission's views on the manner in which a major part of its business should be conducted.

The Atomic Energy Act of 1946 left it to the Commission to determine, in the light of experience and prevailing circumstances in each case, whether its installations should be directly operated by the Commission or whether they should be operated by private contractors or organizations in accordance with the practice which had been initiated by the Manhattan District.

The Commission has been of the view—and we believe this view is amply supported by our 2 years of experience since we succeeded to the responsibility of the atomic energy enterprise—that we should develop as fully as possible the method of operating through contractual relations with private organizations. We have recognized that the high relative significance of weapon production and the necessary secrecy of large parts of the atomic energy program involve the danger that only limited scientific, technical, and managerial resource will be available to this most urgent new atomic energy enterprise. Such handicaps must be minimized and overcome if this country's rapid progress in the field of atomic energy is to be assured. Accordingly the Commission has looked to the basic policy of contractor operation as a means of developing wide and alert participation in the program by a growing number of private organizations, both academic and industrial.

By pursuing a basic policy of obtaining contractor-operators the Commission has been able to draw upon the technical and administrative talents of a broad sector of the American economy. Operation of our plants and laboratories through established independent contractors not only gives to the atomic energy program substantial benefits from accumulated experience and established facilities; it also enlists the interest and the support of industry and universities for future private development. It has been our conviction that if atomic energy is to become a generic part of the American scene it should have its roots deep in the institutions which are so productive a part of American progress in science and technology.

To make full use of this industrial and university talent and know-how and to encourage the wide participation which is so necessary, the Commission believes that it must give the contractors a real job to do, and keep an appropriate balance with respect to such activities of the Government as are necessary to assure proper accountability and results.

These are general objectives of the Commission's program.

The identities of the contractor-operators at the Commission's major facilities are of course well known to the members of the joint committee. At Oak Ridge the production and the laboratory facilities are operated by the Carbide & Chemicals Corp., while the Roane-Anderson Co. is the principal contractor for town operations. Up on Long Island, the contractor-operator for the Brookhaven National Laboratory is Associated Universities, Inc., a nonprofit corporation organized by nine of the leading universities in northeastern United States. In Chicago area the Argonne National Laboratory, operated under contract by the University

of Chicago, is made up of 30 participating universities from the Middle West. At Hanford and at Schenectady, critical production and research operations are carried on pursuant to a contract with the General Electric Co. At Los Alamos our contractor for the laboratory and its weapon work is the University of California, while a number of town and services functions are performed by Zia Co. The Mound Laboratory at Miamisburg, Ohio, is operated by Monsanto Chemical Co. You will recall that many of the activities carried on at these major installations are described in some detail in the unclassified fifth semiannual report which the Commission made to the whole Congress on January 31.

The contracts covering each of these operations are cost-type contracts under which the Government reimburses the contractor for its actual costs and expenses of operations, plus in some cases a fixed fee. Because of the complexities of the operations, and the many uncertainties as to what the actual costs will turn out to be over an annual period no matter how carefully plans are made in advance, it has not been feasible for the work to be done except under a cost-type contract. Contracts provide for programs of work established by the Commission pursuant to its general budgetary programs. These work programs are reviewed by the Commission from time to time, and altered and changed in the light of changing circumstances, by the Commission at specified intervals, so that the work to be done by the contractor can be mapped out and planned in advance. Subject to controls, such as in the fields of costs and security, it is the desire and intention of the Commission to give encouragement to the exercise by the contractor of its own initiative and ingenuity, so that the atomic energy program will really have the full benefits of high caliber management and know-how.

For the successful conduct of the plant operations carried on at the Commission's major installations, there is required a very large amount of supporting contract activity, both through prime contracts and subcontracts. Continued conduct of research programs must be assured. Necessary raw materials must be obtained for both research and production purposes. Plants and laboratories must be built. Machinery must be installed, some of it of a high order of complexity. Supplies and materials (off-the-shelf items, as well as items especially adapted to the atomic energy program) must be procured. Public-utility services, such as gas and electricity, and rail, truck, and air transportation, must be contracted for. Necessary community and housing facilities must be provided.

Day-by-day supervision and guidance of these activities is essentially the responsibility of the field offices of the Commission. The Commission has felt that the atomic energy enterprise requires broad delegation of responsibilities and authority to the managers of its field offices, who work closely with the organizations carrying on important work and who are responsive to the every-day realities of the operation. Five offices of operations have been established. One is at New York, which has as its primary function the preparation of feed materials for the plants, but in addition administers other types of contracts, including the contract with Associated Universities, Inc., for operation of the Brookhaven National Laboratory. The second office is at Hanford, where the major task is the production of plutonium. The third office was set up at Los Alamos, which, as you know, is the center of weapons work. The fourth is at Chicago to administer the contract for the Argonne National Laboratory and to serve likewise for the research activities at Ames, Iowa, and Berkeley, Calif. The fifth is Oak Ridge.

Each of these five offices has become a fully integrated organization, with considerable self-sufficiency for handling the extensive business operations, and for providing technical supervision of the activities in its area. Under our reorganization placed in effect last September, each of these five field offices reports directly to the director of one of the program divisions in Washington. The basic programs are developed and reviewed by the program divisions in Washington, subject to the review of the Commission. Within the scope of the approved programs it is the job of the field offices to enter into the contracts necessary to give these programs effective implementation. The extent of the contractual authority delegated to the five field managers varies because of differing situations; it is \$2,000,000 for New York and Chicago, \$3,000,000 for Los Alamos, and \$5,000,000 for Hanford and Oak Ridge. Naturally, the local manager is required to bring to the attention of Washington for review and approval all new or unusual types of contractual

transactions. Moreover, in actual experience there is a broad and very wholesome practice of consultation and interchange of views between the staff in Washington and the staffs in the field offices on problems which arise in connection with the execution and administration of contracts.

In addition to determining the general scope of the programs, it is our objective to provide from Washington the standards and the policies, and in some cases the procedures, which will form the bases for action to be taken by the field offices. For example, we have recently adopted a contract manual to cover the letting of contracts for engineering and construction services. A copy of this manual has previously been furnished to the joint committee, and our director of production, Mr. Walter J. Williams, will later discuss in more detail its objectives and its provisions. I mention it now because it is illustrative of the kind of guidance which, on the basis of experience, we think the Washington office of the Commission can properly furnish to the field offices.

A large proportion of the Commission's prime contracts, especially those relating to the procurement of supplies and special materials, are executed and administered by our New York office. To the extent that it is practicable and is consistent with security requirements, such contracts are let by competitive bidding on a lump-sum or unit-price basis. At the same time, as I am sure you will understand, there are situations where it is necessary for the contract to be entered into on some other basis. Mr. Wilbur E. Kelley, the manager of New York operations, will describe for you in some detail the contract practices and procedures followed in that office. In many ways these practices and procedures will be illustrative of those followed at our other field offices.

It will also be helpful, I think to have a description of our procedures and practices with respect to research contracts. You will recall that by the Atomic Energy Act the Commission is directed to exercise its powers in such manners as to assure the continued conduct of research and development activities of private or public institutions or persons, and also to assist in the acquisition of an ever-expanding fund of theoretical and practical knowledge in such fields. Our research program, both in the physical sciences and biology and medicine, is on a country-wide basis. Some of the fundamental research is carried out through contracts supported jointly by the Commission and the office of Naval Research. Our Deputy Director of Research, Dr. Ralph P. Johnson, is prepared to describe to you the methods of selection of research projects and the objectives which the Commission hopes to attain through its contract-research program.

In connection with our research program, I should like to stress the fact that at our three national laboratories—Argonne, Brookhaven, and Oak Ridge—we have made arrangements which assure a very broad degree of regional participation by the institutions located in the areas. Moreover, in the case of the Knolls Atomic Power Laboratory, now under construction at Schenectady, our contract with the General Electric Co. contains provisions which will permit other industrial participation at the laboratory when it is completed.

Indeed, as I indicated at the outset, much of our planning is directed to broadening the basis of participation of industrial and educational institutions in the atomic energy program. The Commission is convinced that the vigorous progress of the program depends on the sustained interest, the participation and the contributions of the large number of persons, corporations, and institutions whose joint effort has in the past given America her scientific and industrial strength. It was for that reason that the Commission, in October 1947, appointed the Industrial Advisory Group, from which we requested advice on the most effective means of increasing the extent to which American industry might participate in atomic energy development. The report of the Industrial Advisory Group, you will recall, was submitted to the Commission in December 1948. It contained many helpful suggestions, and exemplified the extraordinary cooperation which the Commission is receiving from groups of leaders and experts in a variety of fields who are anxious to help in making possible the speedy progress of the Nation's atomic energy program.

It has been a source of great encouragement to note that in recent months more firms have entered atomic energy work on a straight investment and risk basis. This is true in several fields—first, the manufacture of com-

pounds containing radioisotopes for use in research and processing work; second, the mining, milling, and processing of uranium ores into high-grade concentrates; and third, the manufacture of instruments for detecting radiation.

The Du Pont company, which performed the great feat of the wartime construction and operation of the Hanford installation, has recently undertaken to make a complete survey of chemical-process problems involved in plutonium manufacture—a field in which there will already be found working several major industrial concerns, such as Blaw-Knox, Dow Chemical, General Electric, Kellogg, Monsanto, and Standard Oil Development Corp. Also, within the past 2 months, the Westinghouse Electric Corp., has undertaken the construction of test models on reactors for driving ships.

As the atomic energy program expands, we are utilizing an increased number of organizations, both large and small. The number of our prime contractors is in the hundreds and the Commission is making every effort to make industrial and scientific participation on as widespread a basis as possible.

UNITED STATES ATOMIC ENERGY COMMISSION,  
Washington 25, D. C., July 27, 1949.

Mr. WILLIAM L. BORDEN,  
Executive Director, Joint Committee on Atomic Energy,  
Washington, D. C.

DEAR MR. BORDEN: As was indicated in a recent telephone conversation with Mr. Bergin, there is forwarded for insertion into the record of the July 11 hearings (page 899 of the printed hearing) a copy of a statement on the Atomic Energy Commission Security Program 1947-49. Also forwarded is a copy of that part of a statement of the General Advisory Committee which relates to that Committee's view on the Commission's fellowship program.

Sincerely yours,

CARLETON SHUGG,  
Deputy General Manager.

Enclosures:

Statement on AEC Security Program, 1947-49.  
Statement from GAC on Fellowship Program.

STATEMENT FROM THE GENERAL ADVISORY COMMITTEE TO THE ATOMIC ENERGY  
COMMISSION REGARDING THE FELLOWSHIP PROGRAM

With regard to the proposals that have arisen in connection with the AEC's fellowship program, the following statement, which was drafted by two members of the subcommittee on research, was unanimously approved by the GAC as an expression of its views:

Our intention in recommending that a fellowship program be set up by the AEC was to implement one of the purposes of the Atomic Energy Act, section 3 (a), "to assist in the acquisition of an ever-expanding fund of theoretical and practical knowledge in such fields." The fellowship program, as it has been arranged by the AEC, assists young men and women of unusual abilities in the physical and biological sciences to devote themselves for a period of a year or more exclusively to specialized study and research.

The end results of this program are: specific scientific knowledge in the public domain and, as has been so successfully demonstrated in the past by the National Research Council fellows, the nation gains a pool of highly trained scientists of immeasurable benefit to the public welfare. The influence of these men and women in promoting the health and growth of our sciences in all fields of scientific endeavor, in medicine, in technology, in the physical and biological sciences, has contributed largely in putting this country in a position of world leadership.

We understand that proposals have been put forward that would require all holders of AEC fellowships to be cleared after an FBI investigation. We should like to register our strong disapproval of any such procedures. Admittedly, the tensions of the times and the secret nature of the atomic energy work require elaborate checks for all who have access to classified material. But to carry over the same security concepts to holders of

fellowships who will in no way have access to secret or confidential information seems to us both unwise and unnecessary.

It is clear that these requirements of FBI investigation of prospective holders of AEC fellowships would be to extend still further the area of federal interference with the private lives of citizens. We use the word "interference" advisedly, for it is evident that the type of questioning of friends, relatives, and acquaintances required by the investigative procedures of the FBI do constitute an encroachment on the private affairs of many people. To repeat, we grant this to be necessary in these times in those cases where persons are to be employed on secret government matters. But we are horrified by the prospects of moving this whole semi-police apparatus into the realm of youth. We believe that the reputation of many young people of the country might be adversely impaired by rumors growing out of such a system of investigation of prospective fellowship holders. Older people can see in proper perspective calls from FBI agents, they can answer questions about acquaintances without feeling that the man being investigated is under suspicion. But young people of university age are likely to react quite differently. An atmosphere of suspicion and uncertainty is likely to be generated by the activities of federal agents among many groups of friends in colleges, universities, and in local communities. In short, the results of requiring investigations of candidates of fellowships will have serious repercussions throughout the country; it will almost certainly have a serious adverse affect on both the atmosphere of our educational institutions and the outlook of one age group of the entire nation.

Against the evil effects which we believe will probably follow the adoption of the proposals for FBI clearance of AEC fellows, let us place the possible gains. Let us admit that without such clearance an occasional clandestine member of the Communist party might receive a fellowship. But even the proponents of the proposals do not contend that security will be thereby endangered, for the holder of the fellowship has no privileges in regard to classified information. If after completing his studies the fellow wishes to work for the government he will be subjected quite properly to a thorough check which will reveal his affiliations if he is a Communist and he will be rejected. At the worst the government will have then spent its money on a man who cannot be used for the furtherance of the national security. It should be noted in passing, however, that as a purely financial matter the amount of money thus wasted on the occasional awarding of a fellowship to a member of the Communist party would be more than offset by the additional expenses required for FBI clearance of prospective fellowship holders. But leaving aside the question of cost to the government, we submit the risk that a very few Communists may receive training though an open and uninvestigated fellowship program represents a negligible loss, as compared to the bad effects on the spirit of our nation which would result from a further extension of counterespionage methods to those of college age.

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### EXHIBIT 33

(Referred to on p. 877, pt. 22, July 11, 1949)

JULY 11, 1949.

#### UNITED STATES ATOMIC ENERGY COMMISSION

##### MEDICAL EFFECTS OF ATOMIC BOMB EXPLOSIONS

(Statement by Dr. Shields Warren, M. D., Director of Biology and Medicine)

At the Joint Congressional Committee's hearing on Thursday, July 7, 1949, the Chairman of the Committee, at the suggestion of Congressman Price, requested that the Atomic Energy Commission prepare and present at a later hearing a summary of what may be publicly stated about the medical effects of atomic bomb explosions.

Several agencies and numerous medical men and biologists have studied this matter. Medical effects of the explosions over Hiroshima and Nagasaki were first studied by the Joint Commission of Medical Officers of the Army, Navy, and Manhattan District; later by the United States Strategic Bombing Survey. Now,

and for some time past, further studies are being carried out by the Atomic Bomb Casualty Commission of the National Research Council whose work is financed by the Atomic Energy Commission. Data have been gathered also on effects at the Bikini explosions and the after effects at Alamogordo. The Commission is financing studies of these and related problems by the Los Alamos Scientific Laboratory, the Argonne and Oak Ridge National Laboratories, the University of California both at Berkeley and Los Angeles, the University of Rochester, University of Chicago, University of Tennessee, University of Southern California, Western Reserve University, Harvard University, Cedars of Lebanon Hospital, University of Kansas, University of Virginia, University of Denver, Washington University, Columbia University, University of Oregon, University of Michigan, University of Washington, College of Physicians and Surgeons (New York), and New York Post Graduate Hospital. The progress of these studies is carefully reviewed by the Advisory Committee for Biology and Medicine as well as by the staff of the Division of Biology and Medicine.

Of the results so far obtained in these studies, some are classified and cannot be publicly stated. There is, however, a considerable body of fact on medical effects of atomic bomb explosion which is unclassified or has been declassified. It has appeared piecemeal, in individual documents, which are listed at the conclusion of this statement.

Few if any of these have had wide circulation among the general public or even the professional public. My colleagues and I have compiled the salient points of the nonsecret literature on the subject into a summary which has been examined by the Declassification Branch of the Commission, found to contain no restricted data, and authorized for issuance by the Commission. It is as follows:

The effects of an atomic bomb vary with the method of explosion, but there are three basic types of injury produced: mechanical, from the blast effects; thermal, from the radiant heat of the burst and from the fires burning in the wreckage; and radiation, from the radioactivity released by the burst.

Hiroshima, Nagasaki, and the first Bikini test may be taken as typical of an explosion in air. At Hiroshima and Nagasaki a majority of the deaths and injuries resulted from blast effects due to the collapse of buildings and to falling debris. Many additional casualties resulted from burns, flash or secondary, incurred in the fires that raged after the explosion. Fifty to 60 percent of the casualties were due to blast effects and flame burns, 20-30 percent to flash burns and 15-20 percent to ionizing radiation. However, had there been protection from blast and fire, nearly as many people would have died from radiation effects alone. This is explained by the fact that death was officially attributed to the most obvious cause, either blast or burns. For instance, an individual crushed by falling concrete after being seriously burned was classed as a blast casualty, although the amount of ionizing radiation received would undoubtedly have resulted in death at a later date had not the blast or burn injuries proved fatal.

Perhaps the most readily understandable way of describing the effects of atomic explosions is to use zones bounded by concentric circles whose center is the point of explosion. The effects in these zones depend somewhat on local factors, and change gradually rather than abruptly.

#### EFFECTS WITHIN A HALF-MILE RADIUS OF GROUND ZERO

Within a half-mile radius of the ground point directly under a bomb (ground zero) similar to those used against Japan and detonated at a similar height in the air the following will occur. The explosion of the bomb creates blast pressure which will demolish all structures not of reinforced concrete or steel construction within this area. In well-constructed buildings of the latter type, structural damage of 70 percent or less will occur, accompanied by severe damage to windows, partitions, walls and contents. Persons not sufficiently protected by shelter able to withstand this amount of blast would undoubtedly be killed by falling buildings or flying wreckage.

Intense thermal energy generated by the explosion would likewise cause fatal burns to unprotected persons and would start fires in the wreckage.

The explosion of an atomic bomb results from the sudden simultaneous rupture of the nuclei of the atoms of the element composing the bomb. This releases an enormous store of energy as invisible radioactive waves or particles which are highly destructive to living tissues. The various particles and rays differ in their ability to penetrate objects, such as lead or concrete, and in their ability to penetrate the body. However, the quality of their effect on the body is the same. From the standpoint of quality of effect they are similar to the X-rays used widely in the treatment of disease.

Because of the concentration of radiation within this area, nearly everyone not protected by earth, steel or thick concrete will die. This does not mean instantaneous death, but the most serious cases would succumb from within a few hours to 4 to 5 days after exposure. A second group would develop susceptibility to infection due to the destruction of their white blood cells and would die from 4 days to 6 weeks after exposure. Another group would incur multiple hemorrhages and die within 2 to 8 weeks from this cause.

Radiation destroys white blood cells and bone marrow and injures the intestines. These injuries cause decrease in white blood cells with attendant susceptibility to infection, progressive anemia, increased bleeding tendencies, nausea, vomiting and bloody diarrhea. However, individuals vary in their sensitivity to radiation—thus, a dose fatal to one might only make another sick.

Other observed effects of radiation from bomb explosions on the human organism, are as follows:

Exposed expectant mothers who were within this area died.

There is no present evidence of alteration in female reproductivity.

As to male sterility, the male testicle is more exposed to radiation because of its position and covering than is the female ovary, and its cells are more easily damaged. There was evidence of diminished reproductivity for a period of 3 months in males who were within 1 mile of the explosion point. In the male, the sterilizing dose of radiation is very near the fatal dose.

Hair loss usually began about 2 weeks after the explosion and was largely restricted to the scalp hair. The survivors have shown regrowth of the hair.

#### EFFECTS WITHIN AREA ONE-HALF TO ONE MILE FROM GROUND ZERO

Structural damage due to blast and fire would be general within this area, with residential buildings almost completely destroyed, and only fire- and shock-resistant buildings immune to any appreciable extent. Casualties from attendant types of injury, flame burns, blast effects and trauma due to falling debris, flying glass, etc., would consequently be prominent.

Flash burns to a severity of second or third degree would be incurred by those persons not protected. Minimal protection from clothing or other sources serves to reduce drastically this type of injury.

Injury from ionizing radiation also is serious for exposed individuals. As the distance from the explosion point increases, however, shielding becomes more effective due to the lessening of energy of the rays and their dispersal and absorption.

#### EFFECTS WITHIN AREA ONE TO ONE AND ONE-HALF MILES FROM GROUND ZERO

Blast damage would be extensive for residential structures. Fire damage would be extensive in inflammable areas. Both types of damage are dependent upon terrain factors; as in the case of Nagasaki, steep hills act to delimit sharply the effects of blast and fire. Secondary injuries would be correspondingly decreased under such conditions. They remain fairly prominent in this area, in the absence of protection by natural or artificial barriers.

Flash burns could also be expected at this distance.

Radiation could be expected to be very prominent among the causes of injury up to approximately  $1\frac{1}{4}$  miles, from ground zero, above which distance such cases drop off sharply.

#### EFFECTS WITHIN AREA ONE AND ONE-HALF TO TWO MILES FROM GROUND ZERO

At Hiroshima the average limit of general structural damage was roughly at the outer edge of this zone. The delimitation of fire damage coincides to a certain extent with this boundary, but in specific locations may be divergent, depending upon existing wind and climatic conditions.

Flash burns will be incurred, although not of as great severity in this area.

Radiation sickness induced by the explosion would decrease markedly in this area, although a small number of recorded cases of such sickness were incurred at this distance at Hiroshima and Nagasaki.

#### EFFECTS WITHIN AREA TWO TO TWO AND ONE-HALF MILES FROM EXPLOSION POINT

Structural damage due to blast and fire is appreciably lessened in this zone, with resultant decrease in secondary injuries such as flame burns and mechanical trauma. (The maximum distance of recorded structural damage from ground zero at Hiroshima was 4.1 miles.)

The outer limit of this zone apparently marks the end of the danger zone for flash burns. However, second and third degree burns are possible even at this distance.

Radiation injury would be minimal in this zone, and probably would not be produced above this distance save in isolated cases.

#### RESIDUAL RADIOACTIVITY

The residual material deposited from an airburst atomic explosion will vary according to the height at which detonation occurs. In a burst fairly close to the ground, as at Alamogordo, a crater was produced which contained considerable radioactive material. This contaminated area was quite small.

The Japanese detonations occurred at much higher altitudes with no craters or serious ground-shock resulting, and with no serious amount of radioactivity remaining as residue. Experience following both explosions demonstrated that no harmful residue was present. Persons who had not been exposed to the blast entering the areas immediately after detonation and remaining for extended periods of time incurred no radiation injury.

The radioactive elements from such a burst are carried into the stratospheric and substratospheric levels in a circumscribed cloud which arises to 30,000 to 60,000 feet and is rapidly diluted. There may be a fall-out from this cloud as it moves away with the prevailing winds. This occurred in an area near Nagasaki so that detectable amounts of radiation were emitted. There was, however, no evidence of injury to exposed individuals. The possibility of radioactive fall-out applies also to explosions closer to the ground, i. e., within a few hundred feet.

#### UNDERWATER DETONATION

In an underwater explosion the problem of widespread damage from blast effects and heat does not apply, being muffled by the water, but, in contrast to a high air explosion, residual radioactivity is of considerable concern. While the gamma rays and neutrons are virtually all absorbed by the water surrounding the bomb, the radioactive fission products are carried aloft in the water comprising the column and cloud.

When this column descends, it spreads radioactive materials over the surrounding area. Also, rain from this mist and the cloud will disseminate the dangerous materials over an extensive area, depending on wind direction and velocity. Roughly, the lethal area may extend one-half mile upwind and 2 or more miles downwind. Dangerous concentration would result over a much larger area.

Since the radioactive material consists of a number of elements which emit radiation for periods of time varying from fractions of a second to thousands of years, the danger exists of these radioactive elements damaging human tissue through external or internal action.

The type of radiation they produce varies considerably. It may be alpha particles which are highly damaging, but are fortunately unable to penetrate; it may be beta particles which are less damaging and only superficially penetrating; and finally, it may be gamma rays which are highly penetrating, but relatively the least damaging.

With available instruments it is possible to detect the presence of these elements and so prevent external over-exposure to their emitted radiation. However, of serious concern is the possibility of accidental introduction into the body of an element which would lodge there for a period of time and emit radiations which would destroy tissue or induce formation of a cancer.

Assuming that it is necessary for persons to be within a contaminated area, what are the possibilities of these radioactive elements gaining entrance to the body? There is the possibility of their being swallowed with food or from contact with hands which have become contaminated. Fortunately, the more dangerous elements such as plutonium, are not absorbed in any considerable degree after being swallowed, but are carried off by the bodily processes.

Also, there is the possibility of entry by a cut induced by a contaminated instrument or the like. While fortunately there has been little opportunity to study this problem, apparently there is little danger from these materials.

#### ATOMIC BOMB CASUALTY COMMISSION

Delayed effects in those exposed to the Japanese atomic bomb explosions have not been found by the examinations of the Atomic Bomb Casualty Commission

of the National Research Council. This study, supported with funds furnished by the Commission, has especially searched for effects which were anticipated by some observers. These studies will continue over a number of years, however, and we will from time to time report on them. To date they have developed no evidence of increased incidence of any disease, including cancer.

## SOURCE DOCUMENTS

1. *The Atomic Bombings of Hiroshima and Nagasaki*, The Manhattan Engineer District.
2. *Medical Aspects of Nuclear Energy*, Armed Forces Special Weapons Project.
3. *The Effects of Atomic Bombs on Hiroshima and Nagasaki*, Chairman's Office, United States Strategic Bombing Survey.
4. *The Effects of Atomic Bombs on Health and Medical Services in Hiroshima and Nagasaki*, Medical Division, United States Strategic Bombing Survey.
5. *The Effects of the Atomic Bombs at Hiroshima and Nagasaki*, Report of the British Mission to Japan.

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EXHIBIT 34

(Referred to on p. 894, pt. 22, July 11, 1949)

[From First Report of the Secretary of Defense, National Military Establishment, 1948]

## MILITARY LIAISON COMMITTEE

Since the explosion of two atomic bombs over Japan, atomic energy has become an increasingly important factor to the security of the United States. Therefore, when the Atomic Energy Act of 1946 transferred primary responsibility for many atomic energy activities from the military to a civilian commission, a safeguard was inserted in the act to insure that the armed forces should have a voice in a field vital to the national defense. The Military Liaison Committee was established by the act to obtain this safeguard.

The Military Liaison Committee operated initially under a charter signed by the Secretaries of War and Navy on January 17, 1947. Until September 18, 1947, when the armed forces were placed under the National Military Establishment, the committee consisted of three representatives from the War Department and three from the Navy Department with one of the former, an Army Air Forces general officer, designated as chairman.

Even though the passage of the National Security Act of 1947 had no direct effect on the functions or responsibilities of the committee as assigned by law, it was apparent that the Military Liaison Committee should be adapted to the changes in the organization of the top military structure.

Both the organization and the functions of the committee were revised to reflect the reorganization of the national military structure. A civilian chairman was appointed, and was given the additional function of Deputy for Atomic Energy Matters to the Secretary of Defense. This concentration of the two functions in one individual does much to insure coordinated effort in the atomic energy program of the National Military Establishment. In addition, the military membership of the committee was revised so as to provide two members from each of the three services, and these members were empowered to act for their services in matters affecting the over-all National Military Establishment program.

In addition to the committee's functions prescribed by the Atomic Energy Act of 1946, a new charter was provided on April 12, 1948, which materially broadened its responsibilities and increased its powers as an executive and advisory agency for the Secretary of Defense. Under this charter the committee advises the Secretary of Defense on all atomic energy matters, acts as his agent in coordinating the National Military Establishment atomic energy program, and continuously surveys the activities of other Government agencies to determine whether such activities are in consonance with the interests of national security.

Since its reconstitution, the effectiveness of the committee has steadily increased and it has been and continues to be active in providing the closest possible integration of atomic energy activities within the National Military Establishment as well as between it and the Atomic Energy Commission. The highly classified nature of many of the committee's most important activities prevents their being discussed in this report.

Close-working relationships have been established by the committee with the Joint Chiefs of Staff, Munitions Board, Office of Civil Defense Planning, the Armed Forces Special Weapons Project, and the Atomic Energy Commission. Effective coordination of atomic energy matters among the services is enhanced by the present practice of having military members of the committee occupy principal atomic energy staff positions within their respective services. In addition, the senior Army member of the committee is the Chief of the Armed Forces Special Weapons Project, and one Navy and one Air Force member of the committee act as Deputy Chiefs of the Armed Forces Special Weapons Project.

The committee, with the addition of prominent scientific and industrial members, functions as the Committee on Atomic Energy of the Research and Development Board. This arrangement, whereby one committee serves in two closely allied capacities, results in a saving of key personnel. In this particular case, the arrangement serves also to establish a unity of purpose in the research programs in the Atomic Energy Commission and the National Military Establishment by having the same group of individuals working closely with both programs.

A committee known as the Combined Policy Committee was established in August 1943, composed of representatives of the United States, United Kingdom, and Canada, and having as its purpose the provision of general guidance to the atomic energy projects of these countries. The passage of the Atomic Energy Act of 1946 required a review of the wartime cooperation between these three governments. Recognizing the mutual benefits derived from cooperative effort during the war, the three governments are now continuing a program of technical cooperation under the general direction of the Combined Policy Committee, and the Military Liaison Committee is kept currently advised of these activities.

The work of the Military Liaison Committee consists largely of day-to-day review and evaluation of measures, policies, and activities of Atomic Energy Commission agencies and of military agencies concerned with atomic energy. During the past year, effort has been devoted to establishment of procedures for the continuous flow of required information between the Commission and appropriate agencies of the National Military Establishment. It is believed that a steady improvement in the mutual exchange of information is being effected.

In the past year the committee has visited many field installations of the Military Establishment and of the Atomic Energy Commission, including Oak Ridge, Hanford, and the Radiation Laboratory at Berkeley. In addition, individual committee members keep themselves intimately familiar with those Atomic Energy Commission activities with which they are primarily concerned. These visits have proved to be of great value to the committee in insuring a continuing clear understanding of the magnitude and scope of activities in the still relatively new field of atomic energy.

The past year has seen appreciable progress in the development of improved atomic weapons. The committee actively participated in preparations for the tests at Eniwetok and in the establishment of both present and future military weapon requirements.

Acting in its capacity as a committee of the Research and Development Board, the committee has sponsored a long-range study of the national atomic energy program to define further long-range military requirements. After its final review and approval this study should serve as a guide in plotting the direction of atomic energy activities.

The committee has undertaken a review of the organizational structure and functions of agencies within the National Military Establishment concerned with atomic energy, and has recommended changes which will improve the effectiveness of military consideration of problems related to atomic energy.

In order to insure that the Nation is kept ready for any emergency involving atomic warfare, the committee for the past several months has been working toward bringing up to date surveys of the over-all requirements of the Nation in the event of such an emergency.

#### SPECIAL WEAPONS

The Armed Forces Special Weapons Project is noteworthy as a unified interservice agency, in which representatives of the Army, Navy, and Air Force are assigned to jobs on the basis of their knowledge and abilities, with little or no reference to the uniform they wear. Its successful operation makes it a pilot model for the success of further unification measures in the National

**Military Establishment.** The requirements of security preclude a complete discussion of the organization.

The Armed Forces Special Weapons Project was established early in 1947 as a joint Army-Navy organization. Upon passage of the Unification Act its organization was broadened to include equal participation by the Air Force.

The project originally assumed responsibility for carrying on those military service functions of the Manhattan Project retained by the armed forces when the over-all atomic energy program was transferred to the Atomic Energy Commission. The program includes training of special personnel, military participation in the development of atomic weapons of all types, and coordination of joint radiological safety measures. It has also carried on certain special tasks for the Research and Development Board, the Joint Chiefs of Staff, and other interservice agencies.

It is the link between the Atomic Energy Commission and the armed forces in carrying on actual operations in the atomic energy field. The Atomic Energy Commission has its legal functions with respect to the control and manufacture of fissionable material and atomic weapons and the conduct of research relating to these activities. The Special Weapons Project is responsible for supporting the National Military Establishment in atomic weapon operations, assisting in research, participating in the determination of requirements of the armed forces, and then processing those requirements. It provides technical assistance to the various planning agencies in the Military Establishment.

The Chief and two Deputy Chiefs of the project are selected one each from the Army, Navy, and Air Force by mutual agreement of the Chiefs of Staff of the Army and Air Force, and the Chief of Naval Operations. The principal field installation is Sandia Base at Albuquerque, N. Mex.

Members of the group played important roles in the atomic weapons tests conducted in the Pacific in early 1948. The Radiological Safety Group, charged with the vital task of health safety throughout the Eniwetok tests, was directed and largely staffed with project personnel. In addition, about 40 percent of the joint civilian-military technical staff of the task force, concerned with the actual test operations, were permanent military members of the Special Weapons project. Working in close cooperation with the civilian scientists who carried out the tests for the Atomic Energy Commission, these men made contributions which proved the soundness of the training doctrines followed within the Military Establishment.

The project also has been charged with completing the residual functions of Joint Task Force ONE (JTF-1) and Joint Task Force SEVEN (JTF-7), the combined organizations of the armed forces engaged in the Bikini and Eniwetok weapon tests, respectively. These residual functions include preparing and publishing technical and operational reports; cataloging and distributing official photographs; and replying to general and scientific inquiries.

It is the coordinating agency for the military services in radiological defense training. The training program pursued is continuously reviewed and modified to anticipate changing requirements in this relatively new phase of the atomic energy field. Curricula in existing and proposed service schools involved in this training likewise are subject to continuous revision. Great emphasis has been given to the medical aspects of radiological defense. The project has been instrumental in organizing training courses in both civilian educational institutions and military schools to further this program. Within the limitations imposed by the shortage of trained personnel and the security requirements of the Atomic Energy Act of 1946, substantial progress has been made in this training, and increasing numbers of medical and line officers have completed courses of instruction in those parts of the field pertaining to their specialties.

A radiological defense manual for official military use has been distributed within the armed forces. This volume provides the fundamentals of nuclear and radiation theory, basic to indoctrination and training. A second classified volume is being prepared covering the technical, operational, and organizational phases of radiological defense, incorporating data resulting from the operational tests. The staff works closely with the Office of Civil Defense Planning, providing assistance and advice on organization and training in radiological defense.

The project also coordinates research for the military on such items as radiological instrumentation, and the protection and decontamination problems involved in radiological defense.

The original staff consisted of Manhattan District personnel who were not required for temporary service by the Atomic Energy Commission. Since that

time, participation in the project has been a matter of gradual assignment of personnel of the Navy and Air Force to augment the original Army group. Current plans provide that the largest share of personnel will hereafter be drawn from the Air Force. Organization throughout the project is composite. For example, one division is headed by a Navy captain, an Air Force colonel is his deputy, and three assistants are Army officers.

### EXHIBIT 35

(See also exhibits 16 and 24)

(Referred to on p. 897, pt. 22, July 11, 1949)

UNITED STATES ATOMIC ENERGY COMMISSION,  
Washington 25, D. C., August 2, 1949.

Mr. WILLIAM L. BORDEN,  
Executive Director, Joint Committee on Atomic Energy,  
Washington 25, D. C.

DEAR MR. BORDEN: Enclosed are articles from the Commission's contract with the East Tennessee Natural Gas Co. which set out the obligations of East Tennessee to deliver natural gas to Oak Ridge. We would appreciate your adding these provisions to the material we already have forwarded to you on this matter by letter of July 20, for insertion in the record of the hearings.

Sincerely yours,

CARLETON SHUGG, *Deputy General Manager.*

Enclosures: Articles I, II, and III of East Tennessee Contract.

ARTICLES I, II, AND III—CONTRACT NO. AT-40-1-GEN-244—EAST TENNESSEE  
NATURAL GAS COMPANY

#### ARTICLE I—SCOPE

1. The Gas Company shall apply for promptly and use due diligence (a) to obtain all necessary materials and authorizations for the construction of the facilities and for the purchase of a supply of natural gas necessary to enable it to deliver to the Government at the Points of Delivery, defined herein, the volume of natural gas contemplated by this agreement, and (b) to secure such certificates, licenses, or permits as may be found necessary to authorize the sale and delivery to the Government of said volume of gas. When requested by the Commission, and to the extent that the Commission may require, the Gas Company shall submit to the Commission adequate information concerning the status of its undertakings under this paragraph.

2. Upon the receipt by the Gas Company of authorizations therefor, deemed requisite and satisfactory by it, the Gas Company shall proceed with due diligence to construct the necessary facilities for its performance hereunder as expeditiously as practicable. When requested by the Commission, the Gas Company shall submit to the Commission written progress reports covering the construction of said facilities.

3. Upon the issuance of authorizations deemed requisite and satisfactory to the Gas Company for the construction of the requisite facilities and for the purchase and sale of the volumes of natural gas and natural gas service contemplated by this agreement, and upon the completion of the construction of such facilities so as to enable the Gas Company to deliver to the Government said volume of natural gas, the Gas Company shall be ready to sell and deliver to the Government, at the charges provided in Article IX hereof, a contracted demand of 60,000 MCF of gas per day.

4. The Government shall use due diligence (a) to secure necessary materials and (b) to construct or cause to be constructed the facilities necessary to enable it to receive gas by the time the Gas Company is prepared to deliver gas hereunder.

5. After completion of construction of the Government facilities and commencing with the initial delivery of natural gas hereunder, the Government may purchase and receive a contracted demand of 60,000 MCF of gas per day, and shall pay the Gas Company therefor at the charges provided in Article IX hereof.

6. Notwithstanding the provisions of paragraphs 1 and 2 of Article IX hereof,

the Demand payments and Commodity Payments therein provided for shall become applicable on the day specified in a written notice given by the Gas Company to the Commission at least thirty (30) days prior to the said day, provided that on the day so specified the Gas Company is actually ready to commence delivery of gas hereunder at the rate of 60,000 MCF of gas per day. In such event the specified day shall be deemed to be the day of commencement of delivery, and of initial delivery, of natural gas to the Government hereunder. The Gas Company shall give such notice as soon as practicable and, except with the prior written consent of the Commission, shall not make deliveries from its said facilities to any other customers prior to the said specified day.

#### ARTICLE II—TERM : TERMINATION FOR CONVENIENCE : AND OBLIGATION OF FUNDS

1. This agreement shall be effective on the date hereof first above written, and shall continue in effect for a period of twenty (20) years from the day of initial delivery of gas hereunder unless it otherwise expires or is terminated as herein provided.

2. The Commission may, at any time, upon at least twelve (12) months' prior written notice to the Gas Company, terminate this agreement after the initial delivery of gas hereunder.

3. Notwithstanding any other provisions of this Article and regardless of cause, this agreement shall expire upon the happening of the first of following events, (a) when and if the application of the Gas Company for the certificate of public convenience and necessity requisite to enable it to construct the necessary facilities for performance hereunder is finally denied, (b) when and if the Gas Company notifies the Commission in writing that it deems the certificate of public convenience and necessity issued to it to be unsatisfactory, (c) when and if construction of such facilities has not been substantially completed within two years after the Gas Company gives written notice to the Commission that the certificate of public convenience and necessity issued to it is deemed to be satisfactory, or (d) on June 30, 1952 or such substituted later date as the Commission, from time to time, may designate by written notice to the Gas Company, unless the Gas Company is actually ready to deliver 60,000 MCF of gas per day hereunder on or before such stated date or such later date, as the case may be. The Gas Company shall, upon receipt of said certificate of public convenience and necessity, promptly notify the Commission in writing whether or not it deems the same satisfactory unless the Commission consents in writing to a later notification.

4. The Commission has initially obligated for this agreement from obligational authority available to the Commission the sum of Four Million Four-Hundred Thousand Dollars (\$4,400,000.00). The Commission will for each Government fiscal year, beginning with the fiscal year in which gas is initially delivered hereunder, review and revise this obligation to provide for estimated payments hereunder for that fiscal year, in addition to the variable charge set forth in paragraph 5 of Article IX. It is understood that, except to the extent of the initial obligation of Four Million Four-Hundred Thousand Dollars (\$4,400,000.00) and any subsequent obligations, all payments under this agreement are subject to the availability of appropriations for this purpose.

#### ARTICLE III—CHARACTER OF SERVICE

Natural gas delivered by the Gas Company to the Government under this agreement shall not be subject to curtailment or interruption except that caused by force majeure and deliveries hereunder shall have priority over all other deliveries made or to be made by the Gas Company for industrial use. This agreement shall obligate the Gas Company to sell and be ready at all times, commencing with the day of initial delivery, to deliver to the Government the contracted demand and the Government shall have the right to purchase and receive from the Gas Company up to the contracted demand. Such deliveries of gas shall be as nearly as practicable at uniform hourly rates of flow and in uniform daily amounts, but on account of variations deemed for purposes of this agreement to be due to the inability of the Gas Company to maintain more precise control, daily deliveries shall be subject to an allowable variation of not more than ten percent either above or below the scheduled daily delivery, and total deliveries in any month of the calendar shall be subject to an allowable variation of not more than five percent above or below the average scheduled daily delivery multiplied by the number of days in said month.

## APPENDIX 2

## OFFICIAL CORRESPONDENCE RELATING TO THE INVESTIGATION

(The letters below represent official correspondence relating to the investigation which does not appear elsewhere in the record.)

UNITED STATES ATOMIC ENERGY COMMISSION,  
May 25, 1949.

Honorable BRIEN MCMAHON,  
Chairman, Joint Congressional Committee on Atomic Energy,  
Washington, D. C.

DEAR SENATOR MCMAHON: A full, compete, and speedy report on the charges that the United States atomic energy program is virtually a failure is a matter urgently necessary; the investigation initiated by the McMahon Committee and to be carried out by it is welcomed.

The charges by Senator Hickenlooper of "incredible mismanagement," "misplaced emphasis," and "maladministration" involve nothing less than the security of this nation and the peace of the world.

If it is true that the atomic energy program is in an almost bankrupt condition, then this Nation, far from being the custodian and trustee of a substantial stock pile of atomic weapons, and in a favorable production situation, is in a sadly weakened condition. If this were true it is difficult to imagine any single fact more disturbing to the peace of mind of the people of the country or to the security of the world's democracies.

The facts on this crucial test of our stewardship can be readily established.

That in an enterprise requiring the services of some 60,000 human beings there have been mistakes and errors goes without saying; this has been freely admitted. Working with the atom does not make human beings perfect and beyond error. For these errors and mistakes the Commission has and will continue to accept full responsibility. The failure to follow explicit Commission regulations in the matter of the uranium oxide at the Argonne Laboratory in Chicago is such an instance. In handling of many thousands of tons of crucial materials, in various forms, the Commission and its contractor-employees have sought and will continue to seek to improve on methods of accountability, that will keep the element of human fallibility at a minimum: no system can eliminate the human factor entirely.

Among the hundreds of decisions of policy thus far made by the Commission, and those that will be made in the future, there are many the soundness of which is and will be subject to differences of judgment among equally sensible men. Such a case is that concerning scholarships for nonsecret study, awarded by the National Research Council of the National Academy of Sciences as contractor for the Commission. The policy of the Council and the Commission has in the past ten days been changed to meet the objections, on public policy grounds, strongly expressed by members of the Congress. But the difference was one of judgment on which equally patriotic and reasonable men could have and do entertain differing views. The export to scientists abroad of isotopes, announced by the President in September 1947, is another instance. This was done upon the unanimous recommendation of distinguished advisors to the Commission. There are bound to be cases of underestimating of construction costs by contractors of the Commission in connection with urgently needed facilities of a wholly new kind. These are properly subject to criticism. But they were common experience during the war and today in industry generally.

The Joint Committee on Atomic Energy of the House and Senate was established by the McMahon Act to review and consider, among other things, differences of judgment on policy, and to receive and consider and appraise the rate of progress or lack of progress in the substantial work of this project—one of the largest enterprises and most complex in history. Numerous reports, largely secret or top secret, and frequent hearings, conferences, and staff liaison have made your Committee essentially—and rightly so—a continuous Congressional investigating Committee.

The test of whether there has been and is "incredible mismanagement" and a grave situation in this country's atomic energy program can be made a quite specific test, or series of tests. The country, I suggest, is entitled to and will want to know the answers to such specific questions as the following, among

others, and we welcome the decision of your Committee to proceed to the making of such analysis and report.

(1) Has the Commission failed in its stewardship at a time of great tension, in its obligation paramount to all others, i. e., the production and improvement of these complex scientific weapons? What is the state of our atomic weapons—the order of magnitude of the stock pile; the improvements made in the past two and a half years in new weapon design? What has been the progress in the past two and a half years of our stewardship? What is the progress today in still further improvements; and the quality of personnel and the morale of those engaged in this work?

(2) How about production of fissionable materials—the essential ingredients of atomic weapons? Is it on a secure basis? What situation did the project face concerning disruption of production and how successful were the steps taken to overcome them? We assert, and our reports to you have made clear, that production is now at the highest level in history, with the same facilities; that new facilities are approaching the production state.

(3) How has basic and applied research progressed since the Commission took responsibility—and where was it when the Commission took over?

(4) How about security?

What was the state of physical protection of plants when the Commission took over? Has this improved, and in what ways?

What about security of secret documents—what was the situation when the Commission began, and what is it today?

What about accountability for source and fissionable materials? What was the situation in 1947? What is it today?

(5) What about the investigation and clearance of personnel—what was the situation, and what is it today?

There are many other areas of inquiry that your Committee will engage upon, in addition to those carried on by it continuously as a regular practice in the past.

But the chief question I believe is this: Is this country weak today in atomic weapons and materials, and in their production and improvement, as implied by the broad and grave charges leveled against the Commission?

It can be stated categorically that the record in this respect is a proud one. It is one to give great reassurance to the peoples of the world who, as of this hour, rely upon the strength of the United States of America.

In order that the fears and misapprehensions on this score may be settled beyond peradventure and as promptly as it is possible, it is urged that the Joint Committee call before it immediately not only the Commission, its staff, its principal industrial and university contractors, but also other citizens of the highest renown and technical standing, including the distinguished members of the General Advisory Committee and other advisory groups, for their testimony and appraisal. In this way the dangerous cloud of uneasiness resulting from these charges will be dispelled.

Sincerely yours,

DAVID E. LILIENTHAL,

*Chairman, United States Atomic Energy Commission.*

DEL: mjb.

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UNITED STATES ATOMIC ENERGY COMMISSION,  
Washington 25, D. C., June 4, 1949.

HONORABLE BRIEN C. McMAHON,  
*Chairman, Joint Committee on Atomic Energy,  
Senate Office Building, Washington, D. C.*

DEAR SENATOR McMAHON: The Atomic Energy Commission this week transmitted to the Joint Committee on Atomic Energy the FBI investigative reports made to this Commission on most of the individuals listed by Senator Hickenlooper. The remainder will be transmitted under separate cover.

Most of these investigational records have previously been examined by the Joint Committee or its staff and have been constantly available to it and to its staff; many have previously been discussed in extensive sessions of the Committee. In fact, ten of the cases on the list were fully discussed in an executive session of the Joint Committee as long ago as November 28, 1947. Access at this time to these files could have been had without the public request made for them at the hearing by simply sending for them in accordance with the usual practice of the Joint Committee in obtaining such files.

It is, of course, true that the Commission can give full information in public hearings on the Commission's personnel security system, including general security standards and criteria and procedures for administrative review of individual cases. This we are prepared to do. We note, however, from press accounts that Senator Hickenlooper proposes in future open hearings to bring up and discuss the security status of certain individuals in the atomic energy program.

We believe that the greatest care is required in connection with any public discussion of individual cases in order to assure complete fairness to individuals and in order to avoid serious adverse consequence to the morale of all the people engaged in the atomic energy program. The difficulties of attracting and retaining competent people to which Senator Hickenlooper referred in his statements on last Wednesday are, of course, greatly increased if people in the atomic energy program run a risk of undeserved injury to their good names which cannot be immediately redressed.

The use of the contents of these files, in open hearings, directly or by indirection, raises questions of procedure and of just plain human fairness. These are questions that go very deep. Your Committee has made it abundantly clear that in pursuing its constitutional and statutory functions it does not intend to depart in any way from those fundamental decencies in the protection of the integrity of the individual which are so large a part of the American tradition of fair play and constitutional government.

The dangers of discussing so-called derogatory information cases in open hearings is not overcome by avoiding the name of the person. During the course of the open hearings before the Joint Committee on Atomic Energy this week, reference was made on several occasions to the personnel security status of several individuals who are or have been in the atomic energy program. As a matter of fact, a description of the place where a person is employed, the kind of work he is doing, and other such information, even though the person is not named, may identify a person as fully as if he were named. Furthermore, such a practice may have even more serious consequences because vague clues as to the identity of an individual may give rise to widespread speculation with a consequent spread of uneasiness and fear throughout the project and thereby injury to the interests of this country.

Any fair and adequate appraisal of whether a person should or should not be employed in the atomic energy program must include a careful analysis of many factors such as an evaluation of the reliability of the "derogatory" or unfavorable information regarding the person, the exact job the person is doing or has done, and how long the person has been engaged in the program. These cases are usually complex and must be viewed in the light of the total relevant information—including the elementary justice of hearing the individual's own side of the story. The investigative reports of the FBI are the foundation upon which the AEC personnel security system is based. As the FBI itself has pointed out, there are grave dangers in relying only on selected excerpts from FBI reports quoting anonymous persons. This danger, of course, is magnified when these excerpts are used in a public hearing.

As you know, the Commission has always made available to the Joint Committee upon request the personnel security files of all persons employed in the program for study and scrutiny by the members and by designated members of the staff of the Joint Committee. Indeed, as requested by the Committee, every step taken in some of the cases listed by Senator Hickenlooper was reported in detail to the Joint Committee last year. This close relationship has not been, in any way, disturbed by the President's directive of March 13, 1948, prohibiting the delivery of personnel security files to congressional committees by executive agencies without prior approval of the President. In fact, as you know, the Atomic Energy Commission at the time this directive was issued worked out special procedures with the Attorney General whereby the Joint Committee, provided strict confidence is maintained, continues to receive, upon request, the personnel security files, including the investigative reports, of any person in the atomic energy program.

The security of this country, that is to say, its basic strength, depends upon maintaining inviolate those fundamental decencies in protection of an individual's good name that have taken so many weary years to secure and safeguard. Security of the Nation is not only a matter of investigations and "clearances", of fences and guards, but of a tradition and practice, a regard

for the protection of the rights of individuals, even against the Government itself or its most powerful officials and legislators.

We know that your Committee is full aware of the serious dangers we have mentioned and are confident that you will insist upon complete adherence to procedures that assure fair play.

Sincerely yours,

UNITED STATES ATOMIC ENERGY COMMISSION,  
DAVID E. LILIENTHAL, *Chairman*.

DEL: mjb.

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UNITED STATES ATOMIC ENERGY COMMISSION,  
*Washington D. C., June 6, 1949.*

HON. BRIEN C. MCMAHON,  
*Chairman, Joint Committee on Atomic Energy,*  
*Washington, D. C.*

DEAR SENATOR MCMAHON: As we stated in our letter of June 4th, we believe that the greatest care is required in any public discussion of individual cases not only in order to assure complete fairness to an individual, but also in order to avoid serious adverse consequences to morale of all the people engaged in the atomic energy program. As we said, the difficulties of attracting and retaining competent people in the atomic energy program are, of course, greatly increased if people in the program run a risk of undeserved injury to their good names which cannot be immediately redressed.

Although Senator Hickenlooper stated this morning that he had no intention of identifying any individual, his inquiry referred to a so-called "Case A" in such specific terms as to identify clearly the individual in question. Senator Hickenlooper described the position of the individual in a way which makes his identity unmistakable to the many persons within the Commission's organization who are acquainted with the responsibilities which that individual discharges.

We wish to emphasize the adverse effects which we believe such a course may have on the atomic energy program if the matter is dropped at this point. Even though Senator Hickenlooper's statements referred particularly to the procedures followed in the case, they have inevitably caused unwarranted reflection on the decision that was rendered, and on the personnel security review program as a whole. The Commission is sure the Joint Committee will agree that, under these circumstances, a full and open hearing on the case, including the procedures followed, is required not only by elementary considerations of fairness and decency, but also by the welfare of the atomic energy program which requires that these matters be accurately understood. The Commission agrees with the statement that you made this morning that one-eighth of a hearing in public in a case of this nature is no hearing at all; unfortunately, the one-eighth which has now been heard in public can only lead to distortions and misunderstandings of the real facts.

We think the record in this case will serve the useful purpose of giving a clear and concrete example of the Commission's personnel security procedures and will thus contribute to the fuller understanding of these procedures. It also illustrates the view which the Commission has had for some time and has been attempting to express to the Joint Committee both previously and during the course of these hearings—namely that personnel security cases present many novel and complex problems of procedure as well as of substance, and that these problems require the most careful consideration of the entire course of events and the entire record in any given case. The record shows how necessary it is to recognize that charges are not to be confused with evidence, which in this case showed the charges to be utterly without foundation. A review of the record in this case will demonstrate the high degree of care that was exercised throughout the entire proceeding in order to assure not only that the individual was fairly treated but that the common defense and security of the country was protected in the fullest possible measure. After a lengthy hearing, in which many witnesses testified, the local board set forth its findings of fact and its conclusions in a detailed memorandum. The Joint Committee will recognize, we are sure, that full consideration of the case requires that the entire record, including the findings by this local board, should be fully examined in public hearing. The entire record, including the FBI investigative reports, the transcript and the local board memorandum, have been previously made available to the Joint Committee.

The Commission accordingly suggests that it is in the public interest that this case be fully explored in open hearing before the Joint Committee at the earliest opportunity. While normally the Commission would not favor any discussion in public of a particular security case, it is our view that to protect the atomic energy program and to make it better understood the discussion which Senator Hickenlooper initiated this morning should not now be left in mid-air.

Sincerely yours,

UNITED STATES ATOMIC ENERGY COMMISSION,  
DAVID E. LILIENTHAL, *Chairman*.

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UNITED STATES ATOMIC ENERGY COMMISSION,  
*Washington 25, D. C., June 14, 1949.*

HONORABLE BRIEN McMAHON,  
*Chairman, Joint Committee on Atomic Energy,  
United States Capitol, Washington, D. C.*

DEAR SENATOR McMAHON: Several times during the present hearings reference has been made to the procedural difficulties arising from the fact that there is no adequate notification to the Commission of the nature of the charges being brought against it. This lack of notification has been of two kinds—notification as to the detailed basis for the comprehensive charges that have been made, and notification as to the subject matter to be covered at each day's hearing.

As to the first, the Commission was charged as long ago as May 22 with "incredible mismanagement," "maladministration," "equivocation," "misplaced emphasis," and "waste." Since that time a number of specific areas of Commission activity have been the subject of public hearing. It is not, however, yet clear in what respects the management and administration, the systems, the procedures, and the controls are being attacked as inadequate. It is not clear, for example, whether the charges against the Commission in the field of several specific aspects of security represent anything more than disagreement with the exercise of the Commission's judgment in administering the Atomic Energy Act. Nor is it clear, for example, whether the broad charges relate to the Commission's policy of carrying out its major programs through private contractors—or whether, as a further example, the charges relate to the Commission's policy of labor relations in atomic energy plants.

We consider it very important that the Commission be notified not only of the specific subject matter to be discussed but also be notified as to what part of its management, structure, and practices are being condemned. In our opinion the existing procedures place the Commission in a position which has little precedent in government proceedings or courts of justice. Grave and comprehensive charges have been made against the Commission, and yet from day to day it is in ignorance of the basis for the particular charges that are presented in public hearings.

As to the second aspect of this problem, which relates to the lack of adequate advance notification of the subjects to be covered at each day's hearing, there is involved much more than a problem of determining staff attendance. The present lack of notification places the Commission at a serious disadvantage in responding to the charges.

Furthermore, certain of the charges have involved the operations of the Commission's contractors. Under existing procedures these contractors cannot be present at the time charges are publicly made which go directly to their competence and effectiveness. Also because in many cases they are the only ones with detailed knowledge of the facts in question, charges have been left hanging in the air for several days which might otherwise have been cleared up in a short time if the Commission had been notified and could therefore have called them to Washington ahead of time. For example, without prior notice, questions were asked on June 6 about a directive issued by the Austin Company in connection with its work for the Commission at the Argonne National Laboratory. After this hearing we requested contractor representatives to come to Washington and on June 8 a full explanation of the directive was given to the Committee by Mr. Charles K. Weldner, Project Engineer of the University of Chicago, supervising the work of the Austin Company.

An additional problem arises in connection with discussions of personnel security cases where the only complete personnel security files containing the relevant FBI reports have been transmitted by the Commission to the Joint Com-

mittee. In these instances the Commission should have sufficient advance notification of the cases to be discussed to permit us to recover the files from the Committee for detailed study prior to the hearing.

For these reasons we respectfully request in the interests of a fair, orderly, thorough, and expeditious examination of the charges against the Commission, that detailed agenda of the specific subjects to be covered be made available to the Commission at least forty-eight hours in advance of the hearing. We recognize that in some cases events may occur which make it necessary to change the agenda. However, if this procedure were established, we are convinced that the public interest would be served.

Sincerely yours,

UNITED STATES ATOMIC ENERGY COMMISSION,  
DAVID E. LILIENTHAL, *Chairman*.

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UNITED STATES ATOMIC ENERGY COMMISSION,  
*Washington 25, D. C., June 15, 1949.*

HON. BRIEN MCMAHON,  
*Chairman, Joint Committee on Atomic Energy,  
U. S. Capitol, Washington, D. C.*

DEAR SENATOR MCMAHON: We have been informed by Dr. W. H. Zinn, Director of the Argonne National Laboratory, that representatives of the Joint Committee have requested that he appear and testify tomorrow regarding the misplaced uranium at that laboratory.

We understand from Dr. Zinn that he will have with him a large number of his assistants in order to be as fully responsive to the questions of the Joint Committee as possible. We would like to point out, however, that there are certain matters regarding the missing uranium upon which neither Dr. Zinn nor representatives of the Commission can fully testify because certain phases of the investigation of the missing uranium were under the direction of the Federal Bureau of Investigation. For example, the FBI conducted the investigation in regard to the fingerprints on the bottle.

Sincerely yours,

UNITED STATES ATOMIC ENERGY COMMISSION,  
DAVID E. LILIENTHAL, *Chairman*.

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### APPENDIX 3

(The material contained in this appendix comprises letters, press releases, and statements submitted by members of the Joint Committee on Atomic Energy.)

UNITED STATES ATOMIC ENERGY COMMISSION,  
*Washington 25, D. C., July 14, 1949.*

HONORABLE BRIEN MCMAHON,  
*Chairman, Joint Committee on Atomic Energy,  
Senate Office Building.*

DEAR SENATOR MCMAHON: At the hearing of June 24, Senator Hickenlooper stated "My record shows that January 1, 1947 to September 22, 1948, Kruger received \$2,252,343.31 in architect fees" (page 643). Later in the morning the Chairman of the Joint Committee referred back to this figure (page 660).

This letter is written to correct the impression that may have been left by the testimony that the figure of \$2,252,343.31 represents fees or profits to the W. C. Kruger company. The figure given by Senator Hickenlooper represents total payments to the Kruger company between the two dates on lump-sum and unit-price contracts. These payments represent the total price of the work. Any profit accruing to the Kruger company is the difference between the payments and the costs incurred by Kruger.

Subsequent to September 22, 1948, additional payments in the sum of \$242,572 were made to Kruger for further work performed under these lump-sum contracts. In addition a partial payment remains to be made for work performed under one or the lump-sum contracts. The amount of this payment is now being

negotiated with Kruger. These payments, of course, include the total price of work performed and not merely profit.

We would appreciate it if this letter were made a part of the record of the current hearings.

Sincerely yours,

CARROLL L. WILSON, *General Manager.*

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CONGRESS OF THE UNITED STATES,  
JOINT COMMITTEE ON ATOMIC ENERGY,  
July 27, 1949.

Mr. TOM J. McGRATH,  
*General Counsel, Fuels Research Council, Inc.,  
324 Shoreham Building, Washington 5, D. C.*

DEAR MR. McGRATH: Your letter of July 20 requests a hearing on behalf of certain clients on H. R. 5147.

Since no such hearing is now scheduled by the Joint Committee on Atomic Energy, to which this bill was referred, I am taking the liberty of including your letter in the appendix to the hearing on the Atomic Energy Commission. You will recall that the subject matter of your letter came up for discussion at these hearings.

Sincerely yours,

BRIEN McMAHON, *Chairman.*

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FUELS RESEARCH COUNCIL, INC.,  
Washington 5, D. C., July 20, 1949.

Honorable BRIEN McMAHON,  
*Chairman Atomic Energy Committee,  
Senate Office Building, Washington, D. C.*

DEAR SENATOR McMAHON: Under date of June 29, 1949, I wrote you on behalf of certain clients requesting a hearing on H. R. 5147. In that letter I called attention to the fact that claims had been made that the installation of natural gas for boiler fuel as the Oak Ridge plant of the Atomic Energy Commission would result in a saving of \$1,250,000 per year. In connection with that matter I stated, "While this may have been substantially true at the time that the Atomic Energy Commission contracted for a supply of natural gas, reductions in the price of coal have since materially decreased, if not entirely wiped out savings that might otherwise have accrued."

At the request of the Atomic Energy Committee bids have recently been furnished covering a future supply of substantial quantities of coal for the Oak Ridge plant. One of the bids filed by one of the largest and most substantial of the southern coal producers offered coal conforming with the required specifications at \$4.50 per ton delivered at the plant. To this must be added, according to the testimony of Mr. Walter J. Williams, Director of Production for the Atomic Energy Commission, 24c per ton for handling and firing, making a total cost of placing the coal under boilers of \$4.74 per ton. The specifications call for coal possessing a calorific value of 13,200 Btu per pound. On this basis coal can be used as a fuel at a total cost of 17.95c per million Btu. The equivalent cost for gas would be 21.75c.

The bid to which I referred calls for the delivery of 10,000 tons of coal per day which would equal approximately one-half of the total coal requirements for Oak Ridge plant. I do not have the exact figures for other bids which were submitted, but it is reasonable to assume that they would approximate \$4.50 per ton. In order to approximate a break-even price as between coal and natural gas for an additional 10,000 tons per day, it would be necessary that the price of coal delivered plus handling would aggregate \$6.50 per ton. It will therefore be seen that coal at present prices can be purchased for the Oak Ridge plant at substantially lower cost than natural gas can be obtained for the same purpose.

If and when the hearing is held on H. R. 5147, we will be prepared to present figures showing what the total cost of the coal supply would be as well as an exact figure as to what the saving would be based upon the total coal requirements of the Commission.

There has also come to my attention through the medium of a press release excerpts from a statement purportedly filed with you by Mr. Wade V. Thompson,

president of East Tennessee Natural Gas Company, in which he is reported as stating that the Oak Ridge line will serve customers other than the Atomic Energy Commission. This statement cannot be accepted as categorically correct. It is subject to a number of speculative contingencies. The original plan of East Tennessee was to extend the pipe line beyond Oak Ridge in a northeasterly direction 137 miles to Bristol, Tennessee with a lateral line to Johnson City, Tennessee. The Tennessee Gas Transmission Company which proposes to supply gas for East Tennessee Natural Gas Company has a service agreement with East Tennessee which limits the former's obligation to supply gas for a certain defined area in eastern Tennessee. While this area includes the Oak Ridge plant, it does not include Bristol or Johnson City nor, in fact, any communities of substantial size east of the Oak Ridge plant.

Tennessee Natural Gas Company has up to the present time refused to sell gas to East Tennessee for the Bristol-Johnson City area. As a matter of fact its contract with East Tennessee has recently been modified so as to place a limitation upon quantities of gas to be served to East Tennessee for transportation in its presently authorized facilities. Such limitation can only be exceeded if East Tennessee makes a request two years in advance for additional quantities of gas, and then only if the Tennessee company has gas available to increase this service.

The present demand on the Tennessee company's line as well as its disclosed plans for expansion into other areas make it very doubtful that that company will ever agree to serve gas for the Oak Ridge line in excess of the amounts presently contracted for. There are no communities within the economically feasible serving distances along the proposed Oak Ridge line.

I am merely giving you a sketchy outline of the conditions and will be prepared to elaborate on them in greater detail if a hearing is granted. I repeat that I believe that the findings of your committee that the substitution of gas for coal at Oak Ridge will be contrary to the broad public interest are fully justified. I believe that your committee would be interested in knowing all the facts concerning this proposal so that necessary legislative steps may be taken to safeguard the public. I reiterate my request that we be granted a hearing on H. R. 5147.

Respectfully yours,

TOM J. McGRATH, *General Counsel.*

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1205 GEORGE WASHINGTON WAY,  
Richland, Washington, August 30, 1949.

Senator BRIEN McMAHON,  
*Chairman, Joint Committee on Atomic Energy,  
Washington, D. C.*

DEAR SENATOR McMAHON: I have just read the reports on the recent hearings before your Committee. Questions asked of others regarding my salary at Oak Ridge, Tennessee, and my background were inadequately answered.

My salary with Stone and Webster Engineering Corporation at Oak Ridge was \$35,000 per year, plus \$1,800 per year living expense. Both amounts were nonreimbursable.

I attended Massachusetts Institute of Technology for three and one-half years, at which time I left to enter the Army during World War I. I have been continuously engaged in engineering and construction activities since the close of World War I.

I performed the following work during the recent war. All of these tasks were unsolicited on my part. Attached are letters of commendation pertaining thereto:

1. In charge for the War Department of construction of the Munitions and Chemical Warfare Plants program (over four billion dollars).

Letter from General Leslie R. Groves, dated October 21, 1942.

Letter from General E. Reybold, dated October 12, 1942.

2. In charge of construction of the Synthetic Rubber plants program (about \$750,000,000).

Letter from William Jeffers, dated September 14, 1943.

Letter from Bradley Dewey, dated September 11, 1945.

3. General manager in charge of construction of Atomic Bomb Plant for Stone & Webster at Oak Ridge, Tennessee (over \$400,000,000).

Letter from Colonel K. D. Nichols, dated August 6, 1945.

4. Citation accompanying Award of the Medal for Merit by the President of the United States.

5. Since November 1, 1947, Manager, Design and Construction for General Electric Company at Hanford, Washington, Atomic Energy Works. (About 300 million dollars).

Sincerely yours,

(S) Frank R. Creedon.  
FRANK R. CREEDON.

CE 201 (Creedon, Frank R.) SPEKK.

OCTOBER 21, 1942.

Mr. FRANK R. CREEDON,  
*War Department, Office of the Chief of Engineers,  
Washington, D. C.*

MY DEAR MR. CREEDON: I cannot begin to tell you how much I regret your departure from the Office of the Chief of Engineers, despite the fact that I know that it is to the best interests of the United States that you be released in order that you may be free to insure the satisfactory completion of the rubber program.

The War Construction Program is well along towards completion, and it can now be carried on successfully, although not so easily, without your help. Your handling of over \$4,000,000,000 worth of construction in the Ordnance and Chemical Warfare programs involving the most complicated problems of engineering, procurement and construction, has been eminently satisfactory. I have always placed the utmost confidence in you, and you have never disappointed me. Your success has undoubtedly been enhanced by the organization serving under you. There is no question but that this organization, both as to the original selection of the personnel and as to its efficient operation, is distinctly your handiwork.

Your attention to duty, your good judgment and sound engineering and your diplomatic handling of the many difficult situations we have had to meet is fully recognized. May I assure you again how much I appreciate your personal loyalty to me during the last two strenuous years. You and your organization have rendered the United States a noteworthy service, and one of which you can and should always be proud.

Sincerely,

(S) Leslie R. Groves,  
LESLIE R. GROVES,  
*Brigadier General, Corps of Engineers,  
Deputy Chief, Construction Division.*

OCTOBER 12, 1942.

Mr. FRANK R. CREEDON,  
*Office, Chief of Engineers,  
Washington, D. C.*

DEAR MR. CREEDON: I am informed of the request of F. H. A. for your transfer, and of your desire to withdraw your letter of resignation, dated September 29, 1942, and to accept such transfer, effective October 31, 1942, in view of the approaching completion of the munitions plants construction program and your desire to find service in some other part of the war effort where the need is greater. This office will accede to your wishes and interpose no objections to such transfer.

Your immediate chief, Colonel F. S. Strong, head of the Operations Branch, Construction Division of this office, had by indorsement recommended the acceptance of your previously submitted resignation with regret and had stated in his indorsement that "Mr. Creedon's services as Chief of the Munitions Plants Section have been outstanding. To him and his able assistants is due great credit for the successful prosecution of this very important phase of the construction program."

I concur fully in Colonel Strong's expression, not only of regret of your leaving our organization, but of the outstanding services you have rendered in the organization and operation of the Munitions Plants Section of this office. Your direct superiors as well as other members of the organization of the Office of the Chief of Engineers who have come into contact with you and your assistants have all spoken to me of the highly efficient conduct of the operations of your Section, and I am aware that much of this efficiency has been due to your own experience

and ability in selecting and inspiring your competent assistants and in organizing and administering your work, to your tact and diplomacy in representing this office in its relations with the Ordnance Department and Chemical Warfare Service, and to the tireless effort you have given to driving your part of the construction program to the earliest possible conclusion.

You will leave this office with the admiration, respect and best wishes for your future career of every member of our organization who knows you and your work.

Very truly yours,

(S) E. Reybold,  
E. REYBOLD,  
Major General,  
Chief of Engineers.

W. M. JEFFERS,  
President, Union Pacific Railroad.

SEPTEMBER 14, 1943.

(Personal.)

Mr. FRANK R. CREEDON,  
Room 4153, New Municipal Building,  
300 Indiana Avenue NW, Washington, D. C.

DEAR FRANK: Now that I have returned to my desk in the Union Pacific Headquarters Building, and am back doing the job that I know best, viz., rail-roading, I can look back and more clearly evaluate the great job you have done in the synthetic rubber program.

I never claimed any knowledge of chemistry or of chemical engineering, in fact I have never assumed a speaking acquaintance with either, but I do claim to have some knowledge of construction; and so I can say with a great deal of emphasis that you and your organization did the greatest job of construction that I have ever seen. Your knowledge of details, your ability to get right to the point and also to maintain the sustained drive is, of course, the answer.

In expressing my thanks and appreciation for a job well done I want to tell you also how much the close association with you and your organization has meant to me during the past year. It has been my privilege down through the years to have been associated with some real men, and, at the moment I can think of no one that quite approaches the stature of Frank Creedon.

I hope that our paths will cross often, and that in the years to come I will be privileged to meet up with you frequently.

Remember me affectionately to your fine wife.

With all good wishes.

Sincerely,

(Signed) WM. JEFFERS.

BRADLEY DEWEY,  
President.

DEWEY AND ALMY CHEMICAL COMPANY,  
Cambridge, Mass., September 17, 1945.

Mr. FRANK CREEDON,  
Office of War Mobilization and Reconversion,  
The White House, Washington 25, D. C.

DEAR FRANK: The time has come when I want to put on paper to you my appreciation of the wonderful part you have played in this war.

To start off with you built the plants that gave the Army the powder to shoot with. Then you built the synthetic rubber plants that let the military and essential civilian population stay on wheels. And to cap the climax you stepped into the breach when everything was going to pot and built the plant that made possible the bombs that finished off Japan.

Many men have saved a life or many lives. Some have received no reward. Others have been highly publicized. Your contributions have not only saved hundreds of thousands of lives but have truly saved the country. I glory in having known you and in the attitude with which you have placed the good of your country ahead of everything else in every one of your duties. Good luck to you.

Best regards.

Very sincerely yours,

(Signed) Bradley.  
BRADLEY DEWEY

## ATOMIC ENERGY PROJECT

ARMY SERVICE FORCES,  
UNITED STATES ENGINEER OFFICE, MANHATTAN DISTRICT,  
August 6, 1945.

Mr. FRANK CREEDON,  
601 19th Street NW, Washington, D. C.

DEAR MR. CREEDON: With the mutual congratulations and general all-round excitement caused by the announcement of the dropping of the first atomic bomb on Hiroshima, comes the realization that the Manhattan District owes much to many persons for their outstanding work which made the announcement possible.

Among those persons, you come first to my mind. We can never thank you enough for stepping in and putting your shoulder to the wheel at the time when our most important vehicle was bogged down in the mud of disappointment and despair. Your ability to take control of a complicated job, apparently hopelessly behind schedule, with difficulties apparently unsurmountable to your predecessors, to revitalize it and get it back on schedule was an inspiration to us all.

Please accept my personal thanks for your contribution to the Manhattan District project.

Sincerely,

(Signed) K. D. NICHOLS,  
Colonel, Corps of Engineers, District Engineer.

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CITATION TO ACCOMPANY THE AWARD OF THE MEDAL FOR MERIT TO  
FRANK R. CREEDON

FRANK R. CREEDON for exceptionally meritorious conduct in the performance of outstanding service to the War Department, in brilliant accomplishments involving great responsibility and technical construction ability in connection with the development of the greatest military weapon of all time, the atomic bomb. As Project Manager directing construction of one of the largest and most vital plants for the production of material for use on this project during a crucial stage of the program, between 1944 and 1945, his driving force and energy, his technical experience and skill, his diplomatic handling of difficult situations, and his unswerving devotion to duty contributed immeasurably to the attainment of the objective. Mr. Creedon's accomplishments reflect great credit upon himself and upon the military service.

HARRY S. TRUMAN.

JANUARY 12, 1946.

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CITY OF KNOXVILLE, TENNESSEE,  
August 31, 1949.

HON. BRIEN MCMAHON,  
United States Senator, Senate Office Building,  
Washington, D. C.

DEAR SENATOR MCMAHON: Enclosed herewith is a resolution adopted by the Council of the City of Knoxville expressing full confidence in David E. Lilienthal, and commending him for his leadership and executive ability as former Chairman of the Tennessee Valley Authority, and as present Chairman of the Atomic Energy Commission.

This resolution was spread on the minutes of the Council on August 30, 1949.

Yours very truly,

J. W. Elmore, Jr.,  
J. W. ELMORE, JR.,  
Mayor.

[Resolution No. 1679]

A RESOLUTION EXPRESSING FULL CONFIDENCE OF THE COUNCIL OF THE CITY OF KNOXVILLE IN DAVID E. LILIENTHAL, AND COMMENDING HIM FOR HIS LEADERSHIP AND EXECUTIVE ABILITY AS FORMER CHAIRMAN OF THE TENNESSEE VALLEY AUTHORITY, AND AS PRESENT CHAIRMAN OF THE ATOMIC ENERGY COMMISSION

Whereas it appears that David E. Lilienthal, Chairman of the Atomic Energy Commission, is being investigated by certain members of the Congress of the United States regarding his management of the atomic energy program, and

Whereas David E. Lilienthal served with the Tennessee Valley Authority from June 3, 1933, until October 28, 1946, at which time he was appointed to his present position, and

Whereas David E. Lilienthal is a former resident of the City of Knoxville and the City of Norris, Tennessee, and much beloved and respected by his fellow citizens, and

Whereas under the direction and guidance of David E. Lilienthal, the Tennessee Valley Authority was greatly expanded and converted to fulfill its national defense function during war years, and

Whereas the Tennessee Valley Authority has proved itself in control of water in the rivers, upbuilding of the soil and forest, industrial development, and providing electric power for peacetime and defense purposes, and

Whereas the Tennessee Valley Authority, with its dams, lakes, flood control and electric power, has helped make this part of our great nation a better and happier place in which to live and work, and

Whereas much of the success of the Tennessee Valley Authority and the Atomic Energy Commission can be attributed to the leadership and executive ability of David E. Lilienthal, and

Whereas it is desired that this sentiment of the Council of the City of Knoxville be conveyed to Harry S. Truman, President of the United States; Senators K. D. McKellar and Estes Kefauver of Tennessee; Representative John Jennings, Jr., of the Second Congressional District of Tennessee; Senator Brien McMahon, Chairman of the Senate Atomic Energy Commission, and David E. Lilienthal: Now, therefore, be it

*Resolved by the Council of the City of Knoxville:*

SECTION 1. That this Council express full confidence in David E. Lilienthal, and commend him for his leadership and executive ability as former Chairman of the Tennessee Valley Authority, and as present Chairman of the Atomic Energy Commission.

SEC. 2. That a copy of this resolution be forwarded to the persons named in the preamble and spread on the minutes of the Council.

J. W. ELMORE, Jr.,  
*Presiding Officer of the Council.*

\_\_\_\_\_, *Recorder.*

[From the office of Senator Brien McMahon. For immediate release, Wednesday, May 18, 1949]

The Joint Committee on Atomic Energy has gone over with the Atomic Energy Commission and staff the matter of the reported loss of enriched uranium oxide at the Argonne National Laboratory.

The facts reported by the Commission at this time show that this shortage of uranium oxide was first discovered by the Laboratory on February 8, 1949. The item missing was a small container of uranium oxide which had been produced by oxidation, or burning, or machine turnings from a bar of uranium.

This is an important point because it indicates the care which must be taken with all the process residues. Machine turnings, scraps, waste, sweepings, drainings and all forms of residues from machine and chemical operations, are collected and treated to recover and reuse the uranium. The small container of oxide was to have been sent to a vault for safekeeping. It was recorded as being part of a shipment to the storage vault on September 16, 1948 when a section of the laboratory was moved. When the material in this shipment was to be used again, one container containing approximately one ounce of U-235 in uranium oxide was missing. This was determined on February 8, 1949.

The Laboratory started a search for this material and, being unable to find it, notified the Commission representatives at Chicago on February 14. An intensive investigation was begun at that time into the handling of the receptacle prior to its placement in the safe. When the container itself was not found, the FBI was notified on March 28.

In the meantime the Commission reports samples were taken from all the containers for residues in the section of the laboratory where the material had been used. The samples had to be purified, concentrated and put into the pile and tested in order to determine the presence of U-235. The container which was thus found to contain some of this material was sent to Oak Ridge for detailed analysis. A preliminary report by the Commission shows that six-sevenths of the missing material was contained in this drum.

The Commission is continuing analysis and tests to eliminate doubts as to the identity of this material. The Commission reports, however, that the degree of enrichment permitted identification of the material since there was no other material of this exact composition in the laboratory. While the analyses and investigation are not complete, it appears from the report of the Commission that the material was not surreptitiously removed from the premises. The FBI has indicated that in its opinion no espionage is involved in this case. As matters stand now, one-seventh of an ounce of material is not accounted for. A seventh of an ounce of U-235, should it not be accounted for, would be of value in chemical and physical research. However, it is of no value for use in an atomic weapon.

The investigation is continuing and the Joint Committee is determined to get a full and satisfactory accounting of this matter, particularly with respect to the accounting system which would permit such a situation to develop.

The Chairman of the Joint Committee was notified of the shortage on April 27 in a Top Secret report. Action by the Committee was deferred pending completion of the FBI investigation and submission of a final Commission report.

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[From the office of Senator Brien McMahon. For release upon delivery, Thursday, May 19, 1949]

STATEMENT BY SENATOR BRIEN MCMAHON IN UNITED STATES SENATE, MAY 19, 1949

Mr. President, yesterday afternoon, a three-hour session was held by the Joint Committee on Atomic Energy with the members of the Atomic Energy Commission and its staff, relating to the loss of some uranium-235 in the Argonne Laboratories in Chicago.

At eight o'clock last night I issued a statement which I ask to be printed at this point in my remarks. The statement was a report to the people of the United States of the facts as given to us by the Atomic Energy Commission. I now call particular attention to the fact that I stated that it was my intention to conduct a most searching and intensive investigation of their report and every aspect of this matter as quickly as possible.

Quite frankly, there are several aspects of the matter with which I am not satisfied and which obviously need vigorous attention. Members of the staff of the Joint Committee have been and are now engaged in gathering first-hand facts on this matter. Some of the staff are now in the field.

When our investigation is completed, it is my belief that open hearings on the matter should be held. The matters developed in the executive session were largely not of a secret nature. This is the Public's business and we must, as the watch-dog Committee of the Congress, keep the public informed as to the true facts on the management of the Commission. Obviously, this does not include information which must be kept secret in the interest of national security.

The Committee will meet in executive session on Monday, and at that time, I intend to take up with the Committee the matter of holding public hearings.

With regard to the matter of one Freistadt, who was heard by the Committee yesterday, it is, I think, the unanimous opinion of the Joint Committee on Atomic Energy that public funds should not be used to make gifts to members of the Communist Party. It is quite possible that Freistadt is not the only case, and I propose to see to it that we shall continue our investigation until we become satisfied that there are no Communists in the Atomic Energy program.

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[Statement from the office of Senator B. B. Hickenlooper, May 22, 1949. For immediate release]

In the national interest the time seems to have come for some plain talk about the Atomic Energy Commission. The AEC is now staggering under daily disclosures of evidence of incredible mismanagement; the Joint Congressional Committee is about to begin a series of public hearings which could turn into a carnival of confusion; so, as a senator who has devoted most of the last three years to this subject, I feel it my duty to speak plainly before major damage may be done to our atomic energy establishment and to the principle of civilian control.

On the matter of the missing uranium the facts are:

1. A container of about 9 or 10 ounces of uranium oxide enriched with 32 grams of uranium 235 was discovered missing at the Argonne National Laboratories, Chicago, on February 8, 1949.

The AEC Chairman, David E. Lilienthal, has attempted to minimize this quantity. He has sneered at the nation's "four-gram jitters." The truth is that for research in the field of weapon development this is a vast quantity of this precious material. Dr. Allan Nunn May, the British scientist, drew a ten-year prison sentence for stealing one one-thousandth of a gram of U-235; and we began building Hanford before we had as much as is still missing.

2. The AEC, in direct violation of its duty, did not notify the Federal Bureau of Investigation of this loss until March 28, 1949.

Mr. Lilienthal has declared that there was no suspicion of theft or espionage. This is completely untrue. The FBI was called in *only* because there was suspicion of theft and espionage; and though the trail was completely cold, the FBI made its investigation on the assumption of theft and espionage.

3. The AEC did not notify the chairman of the Congressional Committee until April 27, 1949, though the law requires that such notification be made immediately.

4. When this loss was reported publicly on May 17, 1949, by the New York Daily News, Mr. Lilienthal replied that the loss was trivial and that it was being partially recovered from "waste."

There is no satisfactory evidence to support this claim. It is true that some U-235 is being recovered from waste—this is a process which goes on constantly—but there is no satisfactory evidence that what is now being reclaimed is, indeed, from the missing parcel.

We have no conclusive evidence that a theft has been committed; but neither do we have conclusive evidence that a theft has not been committed.

What makes this situation deeply disturbing to me and other colleagues is this: We have learned from the records that there are numerous persons employed on our atomic projects who have strong communistic leanings. We have urged Mr. Lilienthal to adopt a realistic attitude toward these dangerous persons, but he has not been responsive to our urgings. And if two-thirds of a pound of uranium compound can disappear without either the FBI or the Joint Committee being notified for six weeks, how can a responsible member of Congress have any confidence in Mr. Lilienthal's management?

In the matter of the fellowship program the situation is this:

Tomorrow Dr. Isidore S. Edelman, a 29-year-old scientist, will appear before the Congressional Committee to try to salvage his career. He is, no doubt, a brilliant young man; and the publicity given him is tragic to himself, perhaps even to the nation. But this is a tragedy which must be laid at Mr. Lilienthal's door.

Dr. Edelman had earlier applied for work in the AEC laboratories but the AEC's own security department ruled that he could not be cleared for access to restricted atomic information. When Mr. Lilienthal insisted in the face of this report on awarding Dr. Edelman a fellowship, the Joint Committee warned him that he was being unrealistic and unfair.

A student or his wife having been attracted by Communism does not render him ineligible for public education in America. It doesn't render him ineligible for aid from private foundations. But because of the realities of our time, because there is a Communist conspiracy against democracy and peace in the world, it does render him ineligible for education in the atomic field at Government expense.

Because of this reality, Mr. Lilienthal was urged to approve no student for an AEC fellowship until the applicant had been given an FBI investigation. Mr. Lilienthal flatly refused to admit even the propriety of investigation; and Dr. Edelman's tragic experience is the result of this doctrinaire obstinance.

It is my hope that after Dr. Edelman's appearance the necessity for making public spectacles of Mr. Lilienthal's mistakes will be eliminated. I hope that the AEC will quietly cancel all fellowships of students who cannot qualify as good security risks.

Public hearings should, of course, be afforded those persons involved who themselves insist on it.

In addition to these two highly publicized flascos by Mr. Lilienthal and the AEC, in my opinion there is now perhaps even more serious evidences of maladministration. Our atomic program is suffering from equivocation, misplaced emphasis, and waste. There are a number of important problems the solution of which requires administration through the chairman of the AEC, which is competent, realistic, and courageous.

It is my considered opinion in the light of the record of the past 2 years, that the interests of the Nation can best be served by the President's requesting the resignation of Mr. Lilienthal.

MAY 22, 1949.

## STATEMENT BY DAVID E. LILIENTHAL, CHAIRMAN, UNITED STATES ATOMIC ENERGY COMMISSION IN REPLY TO SENATOR HICKENLOOPER

When the Atomic Energy Commission assumed its responsibility 2½ years ago, the atomic weapons position of this country was nothing less than tragic. Continuity of production of fissionable materials was threatened. The morale of scientific forces was at a very low ebb. No real inventory of fissionable materials or of secret documents existed. The state of physical security was defective. The crucial supply of raw materials was tenuous.

Today, the Project requires continual improvement, of course, but the United States of America now has a substantial stock pile of atomic weapons, including those of new design. The production of atomic materials has been made secure and very greatly increased. The raw materials supply situation has been vastly improved. Business accounting methods have been installed and secret documents and fissionable materials inventories developed. The morale of scientific talent has been restored. Development of peacetime applications has made a favorable beginning.

The Joint Congressional Committee on Atomic Energy has had reported to it by the Commission at frequent intervals during the past 2½ years, largely in secret and top secret reports, the full story of the substantial progress of this country in atomic energy. By reason of these reports, the Committee knows of this Nation's preeminence in the world today. The sole exception to this reporting is in the number of weapons, which information, at the Committee's own request, is not supplied to it. This information is, of course, reported to the President and the Joint Chiefs of Staff.

The accomplishment of this advance in this period of time is the answer to Senator Hickenlooper's vague and ungenerous indictment.

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[From the office of Senator Brien McMahon. For immediate release, May 25, 1949]

Senator Brien McMahon, Chairman of the Joint Committee on Atomic Energy, announced today the appointment of Dr. Ernest Thiele, Assistant Director of Research of the Standard Oil Company of Indiana, to act as the Committee's Consultant in the matter of the reported loss of U-235 at the Argonne National Laboratories in Chicago.

Dr. Thiele will make an independent survey of the scientific data which has been presented, and will be presented to the Committee, relating to this loss.

The officials of the Argonne Laboratory, headed by Dr. Zinn, have assured the Committee that the material that has been recovered at Oake Ridge from a waste container is the missing material, with the exception of one-eighth of an ounce.

Dr. Thiele will check on the investigation and render an independent report to the Committee as to his conclusions on the matter.

Dr. Thiele has been for 24 years a member of the Research Staff of the Standard Oil Company of Indiana. He was graduated with an A. B. degree from Loyola in 1916. He received a Bachelor of Science degree in chemical engineering in 1919 at the University of Illinois. In 1923, he was awarded a Master of Science degree by the Massachusetts Institute of Technology, and a Doctor of Science degree by the same University in 1925.

Senator McMahon stated that he believed Dr. Thiele to be an outstanding scientist and a man of distinguished accomplishments in the field and that his independent judgment will be extremely valuable.

Dr. Zinn, when he testified before the Joint Committee, heartily endorsed the suggestion that an independent effort be called in—so that the American people could be absolutely certain that the situation had been properly and completely investigated.

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LETTER FROM SENATOR BRIEN MCMAHON, CHAIRMAN OF THE JOINT COMMITTEE ON ATOMIC ENERGY, TO SECRETARY OF DEFENSE LOUIS JOHNSON, AND REPLY FROM SECRETARY JOHNSON TO SENATOR MCMAHON

JUNE 2, 1949.

The honorable the SECRETARY OF DEFENSE,  
Washington.

MY DEAR MR. SECRETARY: In connection with the current investigation of the Atomic Energy Commission, it has been alleged that the Armed Forces are some-

how involved. According to these allegations, the Armed Forces desire military control of atomic energy and they are dissatisfied with present guiding civilian principles.

I just want to ask whether or not there is any truth in these allegations. Your comments would be very much appreciated.

Sincerely yours,

(S) BRIEN McMAHON, *Chairman.*

JUNE 6, 1949.

HON. BRIEN McMAHON,  
*United States Senate, Washington 25, D. C.*

MY DEAR SENATOR: This will reply to your letter of June 2, 1949, asking me to comment on the report that the Armed Forces desire military control of atomic energy and they are dissatisfied with present guiding civilian principles.

The Military Establishment has not attempted, and will not attempt, to take atomic energy away from civilian control and turn it over to the military. We have had no desire to handle the matter. We have none now. We want none of it in the future. We have plenty of jobs of our own to handle. I intend to see to it that this attitude is maintained by the Military Establishment.

It may interest you to know that in his Annual Report to the President and the Congress, Secretary of Defense Forrestal went on record to this same general effect. At page 16 of his report, he said "I want to record my personal satisfaction with the existing statute governing matters in the field of atomic energy, and to express my pleasure, also, at the way in which relationships between the National Military Establishment and the Atomic Energy Commission are being conducted."

With warm personal regards, I am,  
Sincerely yours,

(S) LOUIS JOHNSON.

UNITED STATES DEPARTMENT OF COMMERCE,  
NATIONAL BUREAU OF STANDARDS,  
*Washington 25, June 8, 1949.*

HON. BRIEN McMAHON,  
*United States Senate, Washington, D. C.*

DEAR SENATOR McMAHON: I see by the morning paper that reporters asked you whether I have asked to appear before the Joint Committee on Atomic Energy of the Congress in connection with current hearings on the work of the Atomic Energy Commission. The matter was brought up in connection with the statement that Senator Frank Graham, of North Carolina, made such a request. As you know, Senator Graham and I have in common the fact that Mr. Lilienthal testified that we were cleared by the Atomic Energy Commission for access to restricted data after the Commission received adverse recommendations about us from its own staff.

I think you know my general position. It is that of complete willingness to cooperate fully with your committee. Therefore, if your committee feels that that there is any way whatever that I can be helpful please let me know. On the other hand, I am not asking to be called up because your committee has a very full schedule and I am myself heavily loaded with urgent scientific work.

It is a matter of public record that I have been subjected to unfair attacks since the spring of 1947. A particular one of these was fully analyzed in a speech before the House of Representatives by Congressman Chet Holifield (Cong. Rec., July 22, 1947). Later I was made the subject of a special report of a subcommittee of the House Committee on Un-American Activities released to the press on March 1, 1948. This report was also fully analyzed in a speech by Congressman Chet Holifield (Cong. Rec., March 9, 1948).

The files of your committee will show that within a few days after March 1, I wrote a letter to Senator Bourke B. Hickenlooper, who was then chairman of the Joint Committee on Atomic Energy, urging that a full investigation be made since atomic energy matters were involved. I took this letter to Senator Hickenlooper personally and spent about an hour discussing it with him. Since I never heard anything more about the matter from him, I think it was fair for me to assume that the committee, or least its chairman, Senator Hickenlooper, felt satisfied that there was no need to investigate further so far as my own case is concerned.

This is all the more so since so many members of that committee know me personally from the daily intimacy of the many meetings in the spring of 1946 when I had the honor of serving under you as scientific adviser to the Senate Special Committee on Atomic Energy of the Seventy-ninth Congress.

Several months later (on July 15, 1948) the Atomic Energy Commission made public a statement clearing me for access to restricted data in the matters falling within its jurisdiction. This statement is to be found in the Congressional Record but I do not have the exact reference at hand. So far as I know, this public action of the Atomic Energy Commission received no adverse comment from the Joint Committee on Atomic Energy or its chairman, Senator Hickenlooper.

Until a week or two ago I had not known that the Atomic Energy Commission had received an adverse recommendation from its staff. I have not the slightest idea therefore what kind of false accusations or malicious gossip led the staff to such an error of judgment. I do know that the members of the Atomic Energy Commission staff did not communicate with me in any way to give me a chance to reply to the allegations which led them to take the step they did. I think that this was not a good procedure, but I do not criticize the Atomic Energy Commissioners themselves for that.

Allow me to congratulate you on the care and thoroughness with which you are handling the present hearings. You are already aware of the fact, from our long association together while working on the legislation for the Seventy-ninth Congress, that I have some scientific and administrative background in atomic energy matters. If there is any way whatever that I can again be of help to your committee, please feel free to call on me.

With sincere best regards,

Sincerely,

E. U. CONDON, *Director.*

[Letter from Senator Brien McMahon, Chairman of the Joint Committee on Atomic Energy, to Secretary of Defense Louis Johnson, and Secretary Johnson's reply. For release Sunday morning, July 10, 1949]

JUNE 14, 1949.

The honorable the SECRETARY OF DEFENSE.

MY DEAR MR. SECRETARY: The Joint Committee on Atomic Energy has asked me to write you regarding photographs of atomic energy installations contained in two publications: (1) The Fifth Semiannual Report of the Atomic Energy Commission to Congress, and (2) an article entitled "The Atom and the Businessman" which appeared in the January, 1949, issue of Fortune magazine.

The Committee seeks an answer to such questions as the following: Does the National Military Establishment regard publication of the pictures as a security breach? Do your experts on target analysis and photo reconnaissance feel that damage may have been done to the United States? Have responsible generals or admirals expressed concern, prior to the present date, regarding the pictures? Was the Military Liaison Committee consulted, formally or informally, before publication? Has the National Military Establishment communicated with the Commission, formally or informally, with respect to any of the photographs? How do the pictures released by the Manhattan Engineer District bear upon the situation? Is it felt that damage to security, if any, accrued at the time they were released, or did separate damage accrue with publication of the Fifth Semiannual Report and the Fortune article?

These questions are not intended to be inclusive but merely to suggest the kind of information in which the Joint Committee is interested. Your comments will be greatly appreciated.

I am sending a copy of this letter to Mr. William Webster, Chairman of the Military Liaison Committee, and to Mr. David E. Lillenthal, Chairman of the Atomic Energy Commission.

Sincerely yours,

(S) BRIEN MCMAHON, *Chairman.*

THE SECRETARY OF DEFENSE,  
Washington, June 21, 1949.

HONORABLE BRIEN MCMAHON,  
*Chairman, Joint Committee on Atomic Energy,  
United States Senate, Washington, D. C.*

MY DEAR SENATOR: I have your letter of June 14, 1949, regarding the photographs of atomic energy installations which appeared in the Fifth Semiannual

Report of the Atomic Energy Commission to the Congress and those pictures which appeared in the January 1949 issue of Fortune Magazine.

In order to place this matter in proper perspective, I should like to make several general observations at the outset. From a strictly military point of view, the release of any material (written or pictorial) which, either alone, or in conjunction with other material, makes publicly available any information of military significance not heretofore published, runs the danger of causing some harm from a security standpoint. The extent of such harm may vary in given cases from insignificant to extremely serious, and reasonable men may frequently differ as to the extent of harm, if any, in a particular instance. Moreover, in reaching a decision as to a specific release, the possibility and degree of such harm must always be balanced against the importance of keeping the public and the Congress as fully informed as possible on vital matters affecting the national security. Turning now to the photographs in question, I am of the opinion that their publication caused no significant harm, although it is true that at the time of publication some senior officers expressed deep concern. This concern was greatly lessened when it was learned that, in most part, republication only was involved.

Arrangements have been made with the Atomic Energy Commission to insure that in the future new photographs which show major atomic installations will be submitted to the National Military Establishment for military clearance prior to public release. I can assure you, however, that the National Military Establishment will, in reviewing such submissions, be as liberal as possible within such limits as are imposed by the interests of national security.

The photographs you mention were not specifically cleared with the Military Liaison Committee prior to publication, although nearly all of these pictures or similar ones had previously been released for publication and had been widely published. Some of the pictures used in the Fifth Semiannual Report and in Fortune appeared in the Princeton edition of the Smyth Report in 1945. Others have appeared in various scientific journals and newspapers during and since the Fall of 1945. However, the Atomic Energy Commission has been informed that the National Military Establishment is concerned over the possibility that pictures of this sort could result in an improper exposure of significant information.

You ask whether any responsible officers have expressed concern over the publication of these pictures. I referred to this matter at the end of the second paragraph but believe I should expand upon it here. It is only fair to say that in any case of this sort opinions shade over a very wide range and this one is no exception. Many officers hold the view that the Congress and the United States public are entitled to all possible information even at the risk of infringement upon security considerations and believe that these particular pictures were proper subjects for release. Other officers believe that once approved for release and very widely published, a subsequent issue is of no import. Some able officers feel that pictures such as these should never be released at all; still others even believe that despite extremely wide public circulation, photographs of his type should not be republished. In any event, however, the Atomic Energy Commission and I are in agreement that only information and photographs which do not jeopardize security will be released for publication in the future.

With kind regards, I am

Sincerely yours,

(S) LOUIS JOHNSON.

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UNITED STATES ATOMIC ENERGY COMMISSION,  
Washington 25, D. C.

[Information for the press, No. 190. For immediate release, Tuesday, June 14, 1949]

Press dispatches today have carried statements concerning the costs of a facility constructed at Hanford Works at Richmond, Washington, by the General Electric Company for the Atomic Energy Commission. The Commission and the General Electric Company feel that facts pertinent to a consideration of the statement should at once be made public.

The original General Electric estimate of cost of this project made in December 1947, was \$6,255,000 for a facility which when completed will probably cost in the neighborhood of \$25,000,000. The original estimate was necessarily tentative because there were no detailed plans available at that time. Construction work was undertaken without awaiting completion of design because

the facility is of urgent importance to the national defense. In it is to be carried on the final refining and fabrication of plutonium metal.

Because of the great urgency of the project, construction was begun as soon as the design was started. Drawings were put into construction immediately upon their individual completion. This involved much doing over and undoing which is typical of this emergency method of operation and was fully realized at that time.

It is common knowledge that where speed is essential there must be some sacrifice in terms of cost.

As the project went forward, considerations of safety brought about changes in design. Plutonium is a deadly material. The General Electric Company and the Commission have modified the design of this plant to assure safety not only of the workers engaged in processing the material in the plant but also of people and animals even at considerable distances from the plant.

Design changes were made not only for safety but also to insure more dependable and continuous production of higher quality materials. These added to the cost.

The validity of these costs can be judged properly only in the light of the circumstances in which they were incurred. The overriding consideration was earliest possible completion of this vital installation because of its relation to the results of the 1948 Eniwetok tests. A part of it will be in production on June 27 and the remainder will be completed as rapidly as possible.

Taken as a whole, the record of design and construction at Hanford postwar, the Commission and the General Electric Company believe is a good one and should be laid before the American people. This can be done without disclosing secret information.

At Hanford between July 1, 1947, and April 30, 1949, 65 major construction projects were undertaken and have been completed or are in their final stages. The initial estimated cost of these projects was \$230,602,000. The presently indicated actual cost will be \$237,162,000, an overrun of approximately 3 percent in spite of increased costs of material and labor and necessary revisions in the original plans and the haste with which the work was done.

This construction program not only included piles for producing plutonium, chemical separation plants, and laboratories, but also houses, schools, sewage and water systems, a temporary village to house construction workers, etc., essential auxiliaries to the carrying on of the production work. In a program of this magnitude it is not at all uncommon to have projects which substantially exceed their estimated costs along with those that are completed for less than their estimates.

Another Hanford project in which there was a big percentage of overrun was the Junior High School where the original estimate was \$1,786,000 and the final cost approximately \$3,800,000. The original estimate was made before designs were at all complete and contemplated a conventional high school of 86,000 square feet of floor area. As finally completed, the school contains approximately 101,000 square feet, and provides facilities to adapt the building for use not only as a Junior High School but for many community activities for which Richland did not have other available and adequate facilities. Nevertheless the company and the Commission are of the opinion that the costs of school have proven to be high.

Both the Commission and the General Electric Company have for months been critically examining experience in construction projects to find ways of reducing costs and bringing estimates closer into line with final expenditures. Detailed reports on the matter have been made both by the staffs of the Commission and the Company. Some problems of cost estimating and controls have been overcome. However, if the Company and the Commission had waited to solve these problems before going ahead with the work on the plutonium fabricating facility, it would today be many months away from production. Rushing the work on this facility, though expensive, was the only choice consistent with the security of the United States.

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[Statement by Senator Brien McMahon, chairman, Joint Committee on Atomic Energy, June 17, 1949. For immediate release]

The Joint Committee on Atomic Energy briefly discussed Mr. Price's belief that the article in Nation's Business for June 1949, written by William B. Huie entitled "Is The A-Bomb Secure," contained matter which breached security.

The Committee took note of the fact that Mr. David S. Teeple's name was contained in this article and was read into our record by Mr. Price yesterday. At the time, Mr. Price stated that he did not intend to cast any reflection on Mr. Teeple who, at the present time, is on leave as an inspector for the Air Force for the purpose of assisting Senator Hickenlooper in the preparation of his presentation of his charges against the Atomic Energy Commission.

Mr. Teeple was for two years the Deputy Director of the Joint Committee's staff under Senator Hickenlooper's chairmanship.

The Committee has authorized me to state, after hearing from Mr. Teeple, that it has full confidence in Mr. Teeple.

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[Statement of Senator Brien McMahon, Chairman of the Joint Committee on Atomic Energy, June 23, 1949. For immediate release]

Today the testimony which the Joint Committee heard regarding the uranium inventory at Oak Ridge, Tennessee, is being published—in as much detail as national security permits.

This testimony suggests the difficult and complex problems involved in keeping track of the materials used in our atomic energy program.

As regards the production facility concerned in the present case, eighty people are employed to do nothing except analyze and account for materials. They conduct more than 2,000 separate analyses and weighings to arrive at their inventory figures. In each of these 2,000 analyses and weighings, there is an experimental error, over and above the process losses which inevitably occur in each phase of the manifold production operations.

The printed testimony states the precautions taken to protect our supplies of uranium. There are numerous fence barriers and barriers within barriers. There is the procedure for passes and identity cards. There are the armed guards and the regular lie-detector tests.

To prevent uranium dust from escaping through the air, there are electrical precipitators in the ventilating system. To be sure that nothing is thrown away, the production facility in question has no drains and no waste outlets. Every byproduct of production, whether in liquid, gaseous, or solid form, is analyzed for uranium. Each employee wears special clothing which is later burned so that any uranium adhering to it may be recovered. Such are a few of the elaborate safeguards now in effect.

I want to point out that so far as the present case is concerned, the FBI has been consulted and has stated that it believes its investigation must be delayed until after further inventory analyses have been made.

The Joint Committee will continue to follow this matter with meticulous attention.

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[From the offices of Senator Brien McMahon, Chairman of the Joint Committee on Atomic Energy. For Monday, July 11, release]

The Joint Committee on Atomic Energy has received from its expert consultant, Dr. Ernest W. Thiele, a final report of his investigation into the circumstances surrounding the misplacement of approximately one ounce of uranium-235 in a glass container from the Argonne National Laboratory, and its reported recovery in a salvage can. Dr. Thiele is assistant director of research for the Standard Oil Company of Indiana.

Dr. Thiele has devoted several weeks of his time to interviewing personnel, visiting the Argonne and Oak Ridge laboratories, and scrutinizing all pertinent inventory, transfer, and analysis documents which pertain to this reported loss.

Dr. Thiele submitted a nineteen-page classified report to the Joint Committee, but the following is his own unclassified summary of this report:

"After a careful survey of the data (including analyses recently completed) relating to the disappearance of a jar of uranium enriched in the fissionable isotope, uranium-235, at the Argonne National Laboratory, I have reached the following conclusions:

"There can be no reasonable doubt that the enriched material detected by Argonne in the can of ordinary uranium scrap is the material which was in the missing jar.

"A perfectly accurate determination, either of the amount of uranium in the containers or the fraction of that uranium which was uranium-235, is not possible; there is always a margin of uncertainty in analytical work. The weight of

analytical evidence indicates that the amount of uranium-235 in the missing jar was between 30.3 and 31.7 grams (slightly more than an ounce). Similarly, the evidence indicates that the amount of uranium-235 in the enriched material found in the scrap uranium can was between 29.0 and 31.1 grams. Since these figures overlap, it follows that the best available data do not indicate the loss of any uranium, by theft or otherwise, but neither do they exclude the possibility that some small amount may have been stolen. The attendant circumstances make it extremely unlikely that any was stolen. The remaining uncertainty cannot be substantially reduced by any further measurement.

"The original report of a discrepancy of  $3\frac{1}{2}$  grams arose from an erroneous analysis of the amount of uranium-235 in the scrap uranium can. This analysis showed a content of uranium-235 lower than the correct value by about one-twentieth to one-tenth of 1 percent."

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[Statement of Senator Brien McMahon, August 25, 1949. Immediate release]

On July 8, more than a month and a half ago, I wrote to all the members of the Joint Committee on Atomic Energy and asked that, if they had in mind any witnesses whom the Committee should call regarding the investigation of the Atomic Energy Commission, please to notify me. The next day I wrote Senator Hickenlooper requesting that he advise me as to matters which he desired to take up in executive session—and also asking whether or not he desired to examine any additional documents to be furnished by the Commission. To date I have received no reply letters.

More recently, the Joint Committee has held six meetings in executive session for the purpose of discussing personnel security cases; and at five of these, including the one today, a quorum was not present.

On August 2, after the second meeting at which a quorum failed to appear, I wrote all the Committee members and called their attention to this fact—saying in addition that it was obviously necessary to complete the investigation. On August 12, after three meetings without a quorum, I again wrote all members and included the following statement:

"\* \* \* I am sending you herewith a group of summaries of the FBI files and other relevant material relating to personnel security cases \* \* \* It was the opinion of those present this afternoon that each Joint Committee member should read the summaries, if he so desires, and be prepared at a meeting scheduled for next Thursday afternoon, August 18, at two o'clock, in Room 48-G, to make such comments as he wishes. The thought is that, in this way, we may be able to bring the matter of personnel security cases to a close during Thursday's session. If you desire to see the original files on any particular case, they can be delivered to your office."

On August 19, after the fourth meeting had taken place without a quorum, I once again wrote all the members, as follows:

"\* \* \* I am, of course, still aware of the pressing business which militates against attendance, but I do think that the time is rapidly approaching—in fairness to those who have attended, and in fairness to the Commission personnel \* \* \*—when we must either be in a position to do business on the personnel security cases or else declare that this matter, the last item on the agenda of our investigation of the Atomic Energy Commission, is terminated.

"Accordingly, after consultation with the members present yesterday, I am scheduling a meeting for next Tuesday night, August 23, at seven o'clock. A night session impressed us as desirable because at that time we could be fairly sure of avoiding conflict with other legislative affairs. Unless the Committee members, by their presence, indicate that they wish the hearings to continue, I don't see how, under the circumstances, I can help concluding that they have nothing more to pursue and that consequently they wish the investigation to be considered closed—in which case I will make an announcement to this effect."

The Joint Committee has, in all, devoted upwards of ten meetings to problems growing out of personnel security. Of 34 cases brought specifically to the Committee's attention, 14 or more have been discussed in considerable detail, and much additional meeting time has been spent considering the standards that should be applied in evaluating the Commission's personnel security decisions. Even further, summaries of all the 34 specific cases have been made available to individual Committee members for some time.

I feel that the Committee, as regards personnel security cases, has already done its job and done it thoroughly. Moreover, in the investigation as a whole, the Committee has spent nearly three months and has held 44 separate sessions—representing more than 120 hours of work and more than 15 full work days.

Except at recent meetings, when lack of attendance indicated recognition that all significant matters had previously been covered, the Committee members have worked diligently and conscientiously to make the investigation full, fruitful, and just. I want to express my appreciation of this contribution, made at a time when competing demands upon the members' attention have never been more pressing.

I believe that, in accordance with the principles which I enunciated at the start of the investigation, all parties concerned have had complete and fair opportunity to develop the facts and to present their respective cases.

Under all the circumstances—particularly in light of my August 19 letter, in light of the fact that the Committee has already laboriously explored personnel security problems, and in light of the further fact that most House members will be away from Washington beginning next week—I consider the Committee's investigation of the Atomic Energy Commission to be closed. Those present at the meeting today unanimously concur in this view. Of course the Committee will continue to perform its regular watchdog functions under the McMahon Act.

The Committee's immediate task, however, is the writing of a report to Congress on the investigation.

#### APPENDIX 4

##### ANALYSIS OF PRESS AND RADIO STATEMENTS REGARDING THE ISSUES INVOLVED IN THE INVESTIGATION INTO THE POLICIES AND ADMINISTRATION OF THE UNITED STATES ATOMIC ENERGY COMMISSION FOR THE PERIOD OF MAY 7 THROUGH JULY 31, 1949

The following is an analysis of press and radio statements, disseminated through leading metropolitan newspapers and broadcasting stations, regarding the issues involved in the investigation into the policies and administration of the United States Atomic Energy Commission. The press analysis is based on a review of 56 leading newspapers throughout the country during the months of May, June, and July.

The designation "pro" has been used to indicate substantial agreement with Senator Hickenlooper on a specific issue. The designation "con" has been used to indicate disagreement with Senator Hickenlooper and defense of Mr. Lilienthal on a particular charge. Articles or broadcasts which merely report the news have been listed as "news only."

Issues	Pro	Con	News only
Fellowships (favoring FBI investigations of all students, or at least loyalty oaths)			
AEC investigation:	4	33	38
General charges	40	141	197
Security	17	15	24
Lost uranium	4	13	25
Military control	6	12	9
Waste	17	12	19
Foreign shipment of isotopes	4	10	8
Town management	0	1	1
Total	162	237	321
Total number of items listed			720

*Analysis of public opinion regarding the issues involved in the investigation into the policies and administration of the Atomic Energy Commission*

Date	Issues	News items	Editorial	Columns	Radio	Pro	Con	News only	Sources quoted :
May 7	Fellowships requiring FBI investigation for all fellows.				X	X			AEC charged with not handling fellowship program properly and an investigation of the whole program is to be expected (Fulton Lewis, Jr., MBS).
May 10	Fellowships				X	X			Continuation of criticism of AEC's administration of the fellowship program (Fulton Lewis, Jr., MBS).
May 11	do				X	X			Do.
May 13	do				X	X			Do.
	do						X		Sees possibility of dilemma if FBI investigations are required (Edward R. Murrow, CBS).
	do						X		Thinks the Hans Freistadt case was an error and that there will be red faces at AEC over it; generally the program is well administered (Leif Eld, NBO).
	do	X						X	Senator Hickenlooper states his intent to seek a revision of the Atomic Energy Act if Communists are not denied grants (Baltimore Sun; New York Times; New York Herald Tribune; Washington Post; Spargo; Washington Times-Herald; Greene; Philadelphia Inquirer; New York Post; New York Journal American, May 12; Washington Star; New York Sun).
May 14	do	X						X	Senator McCarran advocates cutting off AEC funds unless Communists are barred from fellowship grants (New York Times; Washington Post).
	do	X						X	Senator Russell says he will support any move in the Senate Appropriations Committee to cut funds if AEC doesn't bar Reds (New York Sun; Washington Star).
	do	X						X	Story regarding Senator Hickenlooper's desire to have the Act changed if AEC doesn't bar Communists (New York Herald Tribune; Washington Times-Herald).
	do		X				X		(Washington Post.)
	do		X			X			(Washington Star.)
	do		X				X		(New York Times.)
May 15	do	X						X	Continuation of story re: movement to change the law if Communists are not barred from fellowships (New York Herald Tribune; Washington Times-Herald; Washington Star; New York Times; Baltimore Sun; Philadelphia Inquirer).
May 16	do				X	X			Continuation of theme (Fulton Lewis, Jr., MBS).
May 17	do	X			X	X		X	Criticizes Mr. Lilienthal on this issue (Earl Godwin, ABC). Mr. Lilienthal and Dr. Richards questioned in open hearing admit "mistake" in the Freistadt case, but are opposed to FBI investigation of all students (Washington Post, Mary Spargo; Baltimore Sun, Short; New York Times, H. B. Hinton; New York Herald Tribune, McConnell; Washington Times-Herald, Stephenson; Philadelphia Inquirer).

[illegible]

**Date item received at the Joint Committee on Atomic Energy.**

**Date item appeared in the source quoted.**

*Analysis of public opinion regarding the issues involved in the investigation into the policies and administration of the Atomic Energy Commission—Continued*

Date <sup>1</sup>	Issues	News items	Editorial	Columns	Radio	Pro	Con	News only	Sources quoted <sup>2</sup>
May 18.....	Lost uranium. Re: Opinion that loss is a serious matter, and amount important. Lost uranium, etc.....	X						X	AEC's announcement with regard to the loss of uranium at Argonne (Washington Post; New York Times, Jay Walz
May 19.....	Fellowships.....	X				X		X	President Truman not informed of the loss, FBI admits making an investigation but refuses details (Washington Times-Herald, Frank Holeman).
	do.....				X	X			Continuation of his theme and further criticism of AEC and NRC (Fulton Lewis, Jr., MBS, May 17).
	do.....				X		X		Thinks that the attitude of Congress will change the liberal attitude of AEC in this regard (Earl Godwin, ABC, May 17).
	do.....						X		Feels that the uproar is unwarranted and that such students are not in a field where they can harm United States and that others are investigated (Elmer Davis, ABC, May 17).
	Lost uranium.....	X						X	Senator McMahon announces that FBI has stated that espionage is not involved but certain committee members demand a full investigation (Washington Post, Spargo; New York Herald Tribune, J. E. Warner; New York Times, Hinton SP; Washington Times-Herald, Holeman and Greene).
	do.....	X						X	Text of Senator McMahon's statement on lost uranium.
	do.....	X						X	Loss of uranium 235 will be subject of congressional investigation (Washington Times-Herald).
	Fellowships.....	X						X	Hans Freisadt testifies before JCAE, contends that there is no contradiction between his Communist Party membership and his loyalty to the United States (Washington Post; Washington Times-Herald; New York Herald Tribune).
	do.....	X						X	Senator McMahon states that all scientists who testified before JCAE agree that selection of Freisadt was a mistake and has done harm to the program (New York Herald Tribune).
	do.....						X		Criticizes Dr. Smith and Mr. Lilienthal with regard to their views that FBI checks should not be made on fellows (New York Herald Tribune, Ruth Miller. Letter to editor).
May 20.....	do.....				X	X			Continuation of theme; claims that he knows of two others who have communistic connections; surface of whole security question has been scratched and the full facts will yet be known. (Fulton Lewis, Jr., MBS June 19).
	do.....				X	X			Thinks that Senators who want a check made have a strong point; says that scientists are not in favor of such checks (Leaf Eid, NBC, May 1).



*Analysis of public opinion regarding the issues involved in the investigation into the policies and administration of the Atomic Energy Commission—*  
*Continued*

Date	Issues	News items	Editorial	Columns	Radio	Pro	Con	News only	Sources quoted *
May 21	Investigation, general	X						X	Senator Smith (Wisconsin) sends wire to President Truman asking resignation of Mr. Lillenthal because public has lost confidence in his administration (New York Journal American).
	Investigation and fellowships							X	Reports that GOP will try to keep alive the "soft policy" toward Reds by administration until after the primary elections (Washington News).
	Fellowships			X		X			Denounces award of fellowship to Freistadt (New York Sun, Daniel Boone May 20).
	do			X		X			Feels a dangerous trend in requiring of FBI checks but says that some measure of protection is necessary (C. P. Ives, Baltimore Sun, May 23).
	do		X			X			Criticizes Mr. Lillenthal for defending the giving of a fellowship to a Communist. (New York Journal American).
	Investigation, security		X			X			Cites loss of U-235 and fellowship policy as reasons for a full-scale investigation of the over-all security policy of the AEC (Philadelphia Inquirer).
	Fellowships					X			Granting a fellowship to a Communist is equal to subsidizing Soviet Russia (New York Times, H. Adler. Letter to editor.)
May 23	do	X						X	AEC announces that loyalty oaths and anti-Communist affidavits will be required of all present and future holders of fellowships (New York Times, New York Herald Tribune, Washington Star, Washington Post, Washington Times-Herald, Baltimore Sun, Philadelphia Inquirer, New York Mirror).
	Investigation, general	X						X	Senator Vandenberg doubts that Mr. Lillenthal is doing the best possible job; if his name was up for Senate confirmation now the Senator might not be for him (Washington Star, Martin Hayden).
	Lost uranium	X						X	JCAE met in secret session to discuss lost uranium; committee to hear from three staff investigators and from AEC officials (New York Journal American, Washington Post, May 21, Washington Times-Herald, May 20).
	do	X						X	AEC issues statement that it is routine for security officers to take slugs of uranium to check how well security regulations are working; regulations were tightened after the test (New York Times, Washington Times-Herald, May 21).
	Fellowships		X				X		Stresses the fact that scholarship holders have no access to secret data and that if "propaganda against Communists" is to be included in the criteria, it must be done so as not to frustrate the program of scientific inquiry" (Washington Post).

Investigation, general.	X								Investigation is a "new campaign" to "get" Mr. Lillenthal who is one of the Nation's ablest public servants (New York Post).
Lost uranium.	X								Case still involves some "murky" details that should be cleared up but ridicules alarmists. Fear and suspicion will increase until we have international control (Washington Star).
Investigation, lost uranium and fellowships.			X						Sees no connection between the loss of the U-235 and the granting of fellowships; sees a blend of motives in the investigation, politics and a long-standing hostility toward Mr. Lillenthal and AEC among the military (Elmer Davis, ABC, May 20).
Investigation, general.			X						The vigor with which charges against Mr. Lillenthal are pressed suggests an attempt to shake his position as Chairman, at the very least (R. C. Hottelet, CBS, May 20).
Fellowships.			X						Thinks Senator McMahon is firing before he sees the target in questioning Dr. Isidore Edelman before the JCAE; notes that no Senator has yet expressed concern about what the scientists can contribute to American welfare—only about what scientists think politically (Eric Sevareid, CBS, May 20).
Lost uranium.			X						Senate Members feel that Mr. Lillenthal doesn't reveal a deep interest in the loss of a few ounces of U-235. Cites report that he objected to being quizzed by FBI; hopes the welfare of Nation will be better assured as a result of the investigation (Edwin Hill, ABC, May 20).
do.			X						Observes that the uranium loss is being used as a means to discredit civilian controls and returning it to the military (Robert Lewis, CBS, May 20).
Investigation, general.	X							X	Senator Hickenlooper issues formal designation, charging Truman ask Mr. Lillenthal's removal. (New York Herald-Tribune, C. Jones, Philadelphia Inquirer; New York Mirror; Baltimore Sun, Washington Post; New York Times, C. Krumpholtz).
Fellowships.	X							X	Writer sees dangerous effects that might result from Government interference in education (Baltimore Sun, C. P. Jones).
do.								X	Olga, wife of German scientists brought to United States also of Dr. Joliet-Curie in answer to those who denounce the selection of Hans Freistadt for a fellowship (Washington Post, G. Levy. Letter to editor.)
do.							X		Argues against the granting of scholarships to avowed Communists (New York Herald-Tribune, M. K. Epstein. Letter to editor.)
do.			X					X	Senator Saltonstall disapproves of granting fellowship to Hans Freistadt; thinks AEC program should be kept as quiet and secret as possible (Meet the Press, MB, May 20).

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*Analysis of public opinion regarding the issues involved in the investigation into the policies and administration of the Atomic Energy Commission—*  
Continued

Date <sup>1</sup>	Issues	News items	Editorial	Columns	Radio	Pro	Con	News only	Sources quoted:
May 23	Investigation, general				X		X		Predicts that AEC will be cleared of charges, but that Mr. Lilienthal will resign; predicts the establishment of a more powerful Commission composed of military members with a civilian Chairman (Dannon Walker, MBS, May 22).
May 24	Lost uranium and investigation, general issues.	X						X	Senator McMahon announces that an independent scientific expert has been engaged to check AEC's report of the loss of uranium at Argonne; mismanagement charges to be brought up in full committee hearings; Dr. Edelman testifies before committee (Baltimore Sun, Philip Potter, Philadelphia Inquirer, N. Gregory, New York Times, H. B. Hinton, Washington Post, Mary Spurge, New York Mirror, Fred Mullein, New York Herald-Tribune, D. McConnell; Washington Times-Herald, New York Post, May 23; Philadelphia Bulletin, May 23; New York Sun, May 23; Washington News, May 23; New York Journal American, May 23; Washington Star, May 23).
	Fellowships	X						X	Hans Freistadt states that he is willing to take an oath of loyalty to the United States but will not renounce his membership in the Communist Party (New York Herald-Tribune).
	Investigation, general; fellowships.			X			X		Denounces JCAE and Appropriations Committee for investigation and for requesting FBI check on students (Daily Worker, R. F. Hall).
	Investigation, general.		X				X		Criticizes Senator Hickenlooper for demanding Mr. Lilienthal's resignation; warns against joining forces with military who are seeking control of the AEC work (Washington Post).
	do		X				X		Considers the grave seriousness of the charges and feels that true information can't be obtained unless whole program and evaluation of progress is made clear in meetings (New York Times).
	do		X			X			Accuses Mr. Lilienthal of political finagling and that his removal will benefit the politics of the country (Washington Times-Herald).
	Fellowships		X			X			Welcomes the AEC statement that loyalty oaths and anti-Communist affidavits will be required of all present and future fellows (Philadelphia Bulletin, May 23).
	Investigation, general.		X				X		Commends Senator Vandenberg for his withholding of final judgment until testimony is heard; calls attention to weaknesses in Senator Hickenlooper's case against the AEC (New York Herald-Tribune).

do.	X			X		Charges should be looked into seriously but feels that, so far as the public can see, the charges made are not of great importance (Baltimore Sun).
do.				X		Criticizes Mr. Lillenthal and states that he has demonstrated his total unfitness for the job he holds (Washington Post, B. C. Moise. Letter to editor.)
Fellowships.					X	Such action will impoverish the whole educational system (New York Herald-Tribune, Fleming. Letter to editor.)
do.				X		Criticizes Mr. Lillenthal on fellowship policy (New York Sun, May 23, G. Adams, letter to editor).
Lost uranium, fellowships.	X		X	X		General criticism of Mr. Lillenthal on counts of lost uranium, fellowships, etc. (Fulton Lewis, MBS, May 23).
Investigation, general.			X		X	Hopes that if there is to be an investigation of the administration of AEC that it will be a real one, not a lot of charges and countercharges (Edward R. Murrow, CBS, May 23).
Fellowships.			X		X	Whole issue will wind up as a contest between Mr. Lillenthal and those in Congress who opposed him (Robert Lewis, CBS, May 21).
Investigation, general.	X				X	Sees Senator McMahon in the middle of the whole affair; statements about issues have been oversimplified (Hartford Courant, May 22).
do.		X			X	Issues of lost uranium and fellowships are minor in themselves but points the question of how to safeguard the public safety under the present secrecy policy, (Wall Street Journal, Vermont Royster, May 23).
Fellowships.				X		Criticism of the AEC stand on fellowships (Los Angeles Times, May 17).
do.	X			X		Criticism of statement by Dr. Robert Oppenheimer in defense of the grant to Freistadt (Dallas News, May 19).
do.	X			X		Thinks it is time that CAE should investigate the infiltration of Communists into AEC program (Spokane Spokesman-Review, May 19).
do.	X			X		Loyalty oaths alone may not uncover the really dangerous subversives. (Christian Science Monitor, May 20).
do.	X				X	No danger in granting Freistadt a fellowship, as no secret work is involved (Louisville Courier-Journal, May 20).
do.	X			X		Says that the general public feels that Freistadt is unfit for a fellowship grant (Detroit News, May 20).
Investigation, general.	X				X	Senator Hickenlooper may have gone to extremes in his demands, but recent events have raised some doubts regarding the administration of the AEC (Washington Star).
do.	X				X	Investigation may be delayed until the JCAE finishes its survey of missing uranium and the fellowship program (Washington Star, O'Leary).

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*Analysis of public opinion regarding the issues involved in the investigation into the policies and administration of the Atomic Energy Commission—*  
*Continued*

Date	Issues	News items	Editorial	Columns	Radio	Pro	Con	News only	Sources quoted <sup>2</sup>
May 24	Fellowships	X						X	S. Senator Wherry insists on FBI clearance for all fellows, whether or not they are doing secret work (Washington News).
	do		X				X		Supports Mr. Lillenthal's statement that to limit fellowships because of political views is to limit education (Providence Journal, May 19).
May 25	Lost uranium			X	X	X			Denounces Carroll Wilson and his explanation of the loss of bars of uranium at Hanford; states that Admiral Gingham rich stayed on the Navy pay roll because he didn't want any responsibility (Fulton Lewis, MBS, May 24).
	do			X	X			X	No one has any idea what is true in the jumble of stories and statements re AEC administration, since it is all carried on in secrecy (Left Eid, CBS, May 24).
	do			X	X			X	Discusses testimony before Senate Appropriations Committee regarding loss of bars of uranium and security regulations at Hanford (Edward R. Murrow, CBS, May 24).
	Investigation, general			X	X			X	Discusses the possibility of a jurisdictional dispute between Senate Appropriations Committee and JCAE over AEC investigation; sees no real justification for Senator Hickel's charges (Elmer Davis, ABC, May 24).
	do			X	X			X	Retreat of Senate Appropriations Committee before the JCAE doesn't mean that the investigation of issues is off (Richard Eaton, WOOK, May 24).
	do			X	X	X			AEC placed in the balance and found lacking before Senate Appropriations Committee (Richard Harkness, NBC, May 24).
	do			X	X			X	Public needs to know more about the whole atomic energy program (Monitor News, ABC, May 24).
	Fellowships		X				X		Continues Mr. Lillenthal's support regarding the granting of fellowships (Providence Journal, May 23).
	do		X			X			Calls for full FBI investigation for all grants (Knoxville Journal, May 20).
	do		X			X			Disapproves of grants to Communists; thinks it is fortunate that Congress has "whipped" through the Appropriations Committee (Cleveland Plain Dealer, May 21).
	do		X			X			Ridicules House Freisheid's statement that Communist Party is solely a political one just like the others (Schenectady Gazette, May 20).
	do		X			X			JCAE seems to have regained control of the investigations; Admiral Gingham testifies before Joint Committee on Atomic Energy (Washington Star, O'Leary).
	Investigation, general	X						X	



*Analysis of public opinion regarding the issues involved in the investigation into the policies and administration of the Atomic Energy Commission—*  
Continued

Date	Issues	News items	Editorial	Columns	Radio	Pro	Con	News only	Sources quoted :
May 26.	Investigation, general.	X						X	Investigation stems too much from political reasons according to belief voiced in Washington (Christian Science Monitor, May 24).
	do	X						X	Reports announcement of VFW Post No. 8892, Maynardville, Tenn., that it will endorse in full the demand for Mr. Lillenthal's resignation (Knoxville Journal, May 22).
	do		X				X		Senator Hickenlooper's charges lack open-mindedness and condemn in advance of receipt of facts (Raleigh News and Observer, May 22).
	do		X				X		Joins Senator Vandenberg in view of reserving judgment until facts are in (Hartford Courant, May 24).
	do		X			X			Feels that those who supported Mr. Lillenthal at first would not do so now; thinks President Truman is "dull" on him too (Knoxville Journal, May 24).
	Fellowships		X			X			Even though there may be encroachment on education, Communists should not be given awards (Hartford Courant, May 20).
	Lost uranium		X				X		Criticism of the New York Daily News for rushing into print story of the loss (Providence Journal, May 20).
	Fellowships		X				X		Feels that Hans Freistadt is entitled to the award; political and religious views should not enter into decision (San Francisco Chronicle, May 20).
	do		X			X			Denounces award to Hans Freistadt; feels that that and loss of U-235 will make public demand Mr. Lillenthal's scalp (Omaha World-Herald, May 21).
	Investigation, general		X			X			Feels Mr. Lillenthal is not a safe man for AEC leadership (Knoxville Journal, May 22).
	Fellowships		X				X		Supports Mr. Lillenthal's warning of danger that lies in Federal control of education (Christian Science Monitor, May 24).
	do		X			X			Objects to granting of fellowships to Communists (Los Angeles Times, May 20).
	do		X			X			Feels the issue will lead to clarification of AEC spending policies (Knoxville Journal, May 23).
	do						X		Outright defense of Mr. Lillenthal's views here (Washington Post, M. Walker, letter to editor).
	Investigation, general					X			Urges Mr. Lillenthal's removal from office (Knoxville Journal, May 22, G. B. Houk, letter to editor).
	do	X						X	Indications are that Mr. Lillenthal will offer as his defense comparison of AEC under civilian as compared with military control (Washington News, May 26; Washington Star, May 26).

do	X					X	Thinks Senator Vandenberg is right in asking that investigation call for complete inquiry to assess AEC's responsibilities in past and determine future policies (Washington News, May 25).
do		X				X	Thinks Mr. Lillenthal is the man to keep on the job; constant check and balance provided by JCAE will be help to him (Washington Star, May 25, David Lawrence).
do						X	Correspondent casts a vote of complete confidence in Mr. Lillenthal (Washington News, May 25; letter to editor, A. Needham).
do						X	Defense of public officials and criticism of those who drive them to despair (Washington News, May 25, letter to editor).
do	X					X	Senator Hickenlooper still ready to back up his charges against Mr. Lillenthal; the President warns against hysteria whenever the word "atom" is mentioned; Senator Cain introduces a bill to return AEC to military control (New York Herald Tribune, J. E. Warner; Baltimore Sun, P. Potter; New York Times, H. B. Hinton; New York Sun, May 26; New York Post, May 26; Washington News, May 26; Washington Times-Herald, F. Holeman and Jarry Greene; New York Mirror, James Lee; Washington Post, Mary Spargo; New York Journal American, May 26, Frank B. Allen; Washington Star, May 26, J. A. O'Leary).
Fellowships	X					X	76 members of the Cornell University Association of Scientists send message to Senator McMahon opposing the requiring of political affidavits for fellowships (Washington Post; New York Herald-Tribune; New York Sun, May 26).
do	X					X	Reports the receipt by Senator McMahon of telegram from the executive committee of the American Institute of Physics opposing loyalty pledges and anti-Communist affidavits for fellows in nonsecret fields (New York Times).
Investigation, general		X				X	Declares Mr. Lillenthal should never have been confirmed in the first place (New York Journal American, May 26, George R. Brown).
do		X				X	Denounces Mr. Lillenthal's administration and wonders why he is allowed to stay when men like Forrestal are forced out of Government (New York Journal American, May 26, Leslie Gould).
do		X				X	Thinks Mr. Lillenthal is big enough for the job; feels that if he is ousted because of petty charges, it will be a departure from our traditions of freedom and life (New York Post, May 26, Samuel Gratton).
do		X				X	Accuses Mr. Lillenthal of turning AEC into a "meeting place for the comrades" (New York Journal American, May 26, Frank Conruff).

May 27.

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*Analysis of public opinion regarding the issues involved in the investigation into the policies and administration of the Atomic Energy Commission —*  
Continued

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May 27	Investigation, general			X		X			Claims that treatment of General Groves was scandalous; Mr. Lillenthal wanted the job and Mr. Acheson helped him get it; now Senator Hickenlooper and Senator Vandenberg are forced to change their views on him (Washington Times-Herald, George Sokolsky).
	do		X			X			Criticizes AEC for laxness in administration; and the JCAE for being weak in its surveillance of AEC (New York Journal American, May 26).
	do		X					X	Investigation will be of value if they stick to management of AEC; useless if they inject partisan politics (New York Times).
	do		X				X		Feels Senator Hickenlooper has retreated somewhat in his original charges; criticizes Senator Cain's bill; calls for more public information of Atomic Energy matters (New York Herald Tribune).
	do		X				X		Praises Mr. Lillenthal's letter to Senator McMahon; hopes investigation will serve to restore sense of balance on Hill; questions Mr. Strauss' statement on shipment of isotopes (Washington Post).
	Investigation, fellow-ships						X		Criticism of Senator Hickenlooper for keeping quiet about whole program when he knew of many things during his chairmanship (Washington Post, Scheer, letter to editors).
	Investigation, general						X		Praises Mr. Lillenthal's administration of AEC; believes attacks threaten real achievement of AEC (New York Times, Messrs. Bainbridge, Birch, Kistiakowsky, Ramsey, Zacharias, Harvard and MIT facilities, letter to editor).
	do				X			X	Notes anger of Senators McCarran and McKellar over AEC investigation story being beamed over voice of America; maintains that it was a defense of Mr. Lillenthal (Fulton Lewis, Jr., MBS, May 26).
	do				X			X	Expects President Truman to defend Mr. Lillenthal; points out that military control question was one to be expected (Leif Eid, NBC, May 26).
	do				X			X	Senator Hickenlooper says that AEC program is progressing well but that dislike for Mr. Lillenthal's policies motivated his charges (Robert McCormack, NBC, May 26).
	Investigation, military control				X		X		Commends President Truman's defense of Mr. Lillenthal; believes Senator Cain's bill to turn over AEC to military is an indication of the real reason for the investigation (Richard Eaton, WOOK, May 26).

Investigation, general.					X					X	Notes that President Truman had statement on Mr. Lillenthal already and read it upon questioning (Frank Bourgholtzer, NBC, May 26).
do.					X					X	Thinks Mr. Lillenthal will keep his job and that AEC will remain in civilian hands; rules will be changed (Gabriel Heater, MBS, May 26).
Investigation, military control.					X				X		Doubts if Senator Cain's bill will be passed; feels that AEC investigation has now settled down to whether the atom is Republican or Democratic (Earl Godwin, ABC, May 26).
Investigation, general.					X					X	Claims Senator Hickenlooper is not quarreling with the progress of AEC but only with Mr. Lillenthal's policies; says that some military people still are trying to regain some phases of the work (Eric Sevareld, CBS, May 26).
do.					X					X	Hopes Senator McMahon will keep promise that investigation will remain cool and open-minded; agrees with Hanson Baldwin that public and Congress must not depend too much on the bomb (H. R. Baukhage, ABC, May 26).
do.					X					X	Reports that many feel that Mr. Lillenthal is public-power-minded and AEC may be another TVA in that respect (Bill Shade, CBS, May 26).
Investigation, military control.					X					X	Thinks Senator Cain's bill brings into open the fight between the military and civilian for control of AEC; agrees with Senator McMahon that all phases of the AEC's work must be reviewed; questions Senator Hickenlooper's motives (Elmer Davis, ABC, May 26).
Fellowships.				X				X			Thinks it is startling that Freidrich was given the award; reviews his testimony before JOAE (Los Angeles Times, May 22, Bill Lantry).
Investigation general.			X						X		May 22, Bill Lantry has done a splendid job (Louisville Courier-Journal, May 24).
do.			X				X				If confidence is to be maintained in AEC then adequate steps to correct any deficiencies in AEC must be taken (Cleveland Plain Dealer, May 25).
do.			X						X		Agrees with Senator Vandenberg that a "complete inquiry" should be made in justice to Mr. Lillenthal and the public (Boston Herald, May 25).
do.			X				X				Outlines Mr. Lillenthal's viewpoint and policies as revealed by his testimony before the Senate committee (Memphis Commercial-Appeal, May 20).
do.			X				X				Feels that secrecy isn't security and that the investigation may prove a boon to the public's understanding of the AEC (Christian Science Monitor, May 25).
Fellowships.			X				X				Denounces National Research Council for granting fellowship to Haus Freistadt (Pocatello Tribune, May 22).
Investigation general.			X				X				Claims dissatisfaction with AEC is so general that a thorough investigation is in order (Omaha World-Herald, May 23).

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Date	Issues	News items	Editorial	Columns	Radio	Pro	Con	News only	Sources quoted :
May 27	Investigation, military control.	X				X			Leading Republican and Democratic leaders have come out in opposition to Senator Cain's bill (Washington News, May 27).
	Investigation, general.	X					X	X	JCAE meets in Star, J. A. O'Leary.
	do			X					Claims that had Senator Hickenlooper pressed the Act and closely examined the policies of Mr. Lillenthal on security etc., he would not now be so far out on a limb (Washington News, Peter Edson).
	do			X				X	Thinks this is a way to let the people know something about the AEC and that JCAE should not rest until all information has been placed before the people (Washington Star, Thomas Stokes).
	do						X		Debounces those who are making bitter attacks on Mr. Lillenthal (Washington Star, letter to editor).
	do		X				X		Thinks fairness demands that Mr. Lillenthal be given the kind of investigation he has requested (Washington Star).
May 28-30	do	X						X	Senator Hickenlooper states that he wants to confront Mr. Lillenthal in public hearings with specific evidence in supporting his charges (New York Post, May 29; Washington Post, May 29; New York Herald Tribune, May 29; Washington Star, May 29; New York Times, May 29; New York Mirror, May 28; New York Journal American, May 29; Baltimore Sun, May 29; Washington Times-Herald, May 29; New York Journal American, May 27; Philadelphia Inquirer, May 29; New York Journal American, May 28).
	Investigation, waste.	X						X	JCAE unanimously adopts report criticizing certain aspects of natural gas pipeline to Oak Ridge, Tenn. (Baltimore Sun, May 28; Potter; Washington Post, Mary Spargo; Philadelphia Inquirer, May 28; Washington Times-Herald, May 28; New York Herald Tribune, May 28; New York Times, May 28; New York Sun, May 27).
	Investigation, security.	X						X	Mr. Lillenthal has given JCAE information as to security of atomic energy under military; Senator Johnson and Senator Knowland insist that has nothing to do with the investigation (Washington Post, May 29; Washington News, May 28; New York Journal American, May 29).
	Investigation, general.	X						X	Sees many factors in the investigation; military versus civilian; Mr. Lillenthal's personality, etc. (New York Times, May 29; H. B. Hinton).

Fellowships.....	X								X	Association of Oak Ridge Scientists write to Senator McMahon in opposition to the requiring of clearance for fellowships (Baltimore Sun, May 30; New York Times, May 30; New York Herald Tribune, May 30). Graduate students of Princeton University join protests against loyalty clearance for fellows (New York Times, May 28). Thinks that the investigation will boomerang: it has given AEC the chance to tell the public about AEC's total record (New York Herald Tribune, May 28, Joseph Alsop).
do.....	X								X	Mr. Lillenthal's error was in placing academic freedom above faith in America (Washington Times-Herald, May 29, George Sokolsky).
Investigation, general.....									X	Mr. Lillenthal has what it takes to weather the storm; he has a deep unshakable faith in American democracy (Washington Star, May 28, Lowell Mellett).
Fellowships.....										AEC's accounting system for uranium, etc., beats United States minis' systems; MED had no such security regulations (Washington News, May 28, Peter Edson). Doubts if Mr. Lillenthal will break under this new attack (New York Mirror, May 28, Walter Winchell).
Investigation, general.....	X								X	Challenges those who oppose the loyalty checks (Baltimore Sun, May 30, C. P. Ives).
Fellowships.....	X									Investigation and other hysteria rests on theory that so long as we have secrets we are safe (New York Times, May 29, Hanson Baldwin).
Investigation, security.....	X								X	Criticizes AEC for order requiring oaths and anti-Communist affidavits for fellowship grants (Daily Worker, May 30, Peter Stone).
Fellowships.....									X	Mr. Lillenthal has a philosophy which prevents his becoming discouraged; points out that AEC's real function is fostering public knowledge (New York Times, May 28, feature article, R. L. Duffie).
Investigation, general.....									X	Denounces the whole idea of military control (Washington Star, May 28).
Investigation, military control.....										Believes it is a good thing JCAE is investigating AEC and it may bring to public mind that secrecy doesn't make us secure (Philadelphia Bulletin, May 27).
Investigation, security.....									X	No sound basis for the current investigation of AEC; objects to FBI checks on fellows (New York Herald Tribune, May 30, letter to editors).
Investigation, general, fellowships.....									X	Scores Members of Congress for attacks against AEC without first knowing facts (Washington Post, May 30, Gillette, letter to editors).
Investigation, general.....									X	Contents that investigation is only a smoke screen to get atomic secrets out of Mr. Lillenthal is an able man (Washington Post, May 28, A. Williams, letter to editors).
do.....									X	

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Continued

Date <sup>1</sup>	Issues	News items	Editorial	Columns	Radio	Pro	Con	News only	Sources quoted <sup>2</sup>
May 28-30..	Fellowships.....					X			Criticizes Mr. Lillenthal for approving fellowship to Hans Freisladt (New York Herald Tribune, May 30, Frank Fox letter to editors)
May 31.....	Investigation general.....	X						X	Chairman Lillenthal accuses Senator Hickenlooper of an attempt to arouse fear; Senator Hickenlooper in reply says Mr. Lillenthal is commenting on evidence not yet produced (New York Herald Tribune; New York Times; Washington Post; Washington Times-Herald; Philadelphia Inquirer; Baltimore Sun)
	do.....	X						X	Some senators state that they don't believe the whole controversy between Senator Hickenlooper and Mr. Lillenthal can be aired in public (Philadelphia Bulletin, May 30; Washington Star, May 30)
	Fellowships.....			X			X		Deplores fear that has developed since the war and contends that we must concede the right of the Government to impose political restrictions on grants (Washington Post, Marquis Childs)
	Investigation, military control.....			X		X			Contends that the replacing of General Groves with Mr. Lillenthal was an error (Washington Times-Herald, George Sokolsky)
	Investigation general.....			X		X			Feels that JCAE can render a real service through investigation even though all phases cannot be held in public (Philadelphia Bulletin, May 30, Ernest Lindley)
	do.....			X				X	Sees no reason why Mr. Lillenthal should not receive a prompt hearing (New York Mirror, Walter Kiernan)
	do.....		X				X		Lost uranium and fellowship errors hardly measure up to a charge of "incredible mismanagement" (New York Times)
	do.....		X			X			Feels that Communists have infiltrated AEC under Mr. Lillenthal and that he should be removed from office. (New York Mirror)
	do.....				X	X			Mr. Lillenthal's efforts to have JCAE compare AEC now with MED has failed. General attack upon Mr. Lillenthal (Fulton Lewis, Jr., MBS May 30)
	do.....				X		X		Feels that secrecy item is overdue in AEC, but scientists like Mr. Lillenthal and are willing to work for him (Kaltenborn, NBC May 30)
	do.....				X			X	Feels that scientists dwell in a world of their own (Edwin C. Hill, ABC, May 30)
	do.....			X	X		X		Says that many believe the effort against Mr. Lillenthal is one to discredit civilian control of atomic energy (Jack Beal, ABC, May 29)

June 1.....	do.				X		X			Feels that AEC merits serious criticism but fears that more harm than good may result from "meet-ax" tactics (Christian Science Monitor, May 26; R. Drummond). Reports that President Truman feels Mr. Lillenthal has embarrassed the administration with the loss of uranium and the fellowship grants (Rochester Democrat-Chronicle, May 26; Vern Croop).
	do.	X						X		Recalls that Senator Bridges predicted that those who voted for Mr. Lillenthal's confirmation would regret it (Boston Herald, May 26; W. E. Mullins).
	do.	X			X					Doesn't believe that mistakes warrant the charges made against Mr. Lillenthal (Wall Street Journal, May 27).
	do.			X				X		Feels the charges demand a sweeping investigation and that world conditions do not warrant wholesale security regulations (Providence Journal, May 28).
	do.			X				X		Regardless of what has been said, AEC has brought about far more efficiency and less confusion than MED (Raleigh News-Observer, May 28).
	Fellowships.			X						Supports Mr. Lillenthal's warning against control of education (Christian Science Monitor, May 23).
	do.			X			X			Commends JCAE and Senate Appropriations Committee for stand on fellowships (Spokane Spokesman Review, May 23).
	Investigation, general.	X							X	JCAE meets in secret to discuss Senator Hickenlooper's charges (Washington Star and Washington News).
	Fellowships.			X			X			Criticism of fellowship grant to Communist (Salt Lake City Tribune, May 21).
	do.			X			X			Policy of AEC on fellowships was naive and feels an investigation is in order (Memphis Commercial-Appeal, May 25).
	Investigation, general	X							X	Hearings open: Senator Hickenlooper says it will take him several days to develop evidence (New York Herald Tribune, Washington Post, Spargo; New York Times, Morris; Baltimore Sun, Knighton; Washington Star, May 31; New York Sun, May 31; Washington Times-Herald, Greene; Philadelphia Inquirer, D. Rockwell; Washington News, May 31; New York Journal American, Allen, May 31).
	Fellowships.	X							X	Reports Representative Dondero's remarks on the floor re fellowships (New York Mirror, May 31).
	do.	X							X	Executive Committee, Princeton University Association of Scientists, oppose FBI checks of fellows (New York Times).
	Investigation, general.				X			X		Thinks Mr. Lillenthal brought it all on himself (New York Sun, May 31, Dave Boone).
	do.				X			X		Deplores the issues; feels that Mr. Lillenthal has done a brilliant job (New York Post, May 31, Samuel Grafton).
	do.			X					X	First requirement is that investigation be fairly conducted else great harm may be done (Philadelphia Inquirer).

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*Analysis of public opinion regarding the issues involved in the investigation into the policies and administration of the Atomic Energy Commission—*  
*Continued*

Date <sup>1</sup>	Issues	News items	Editorial	Columns	Radio	Pro	Con	News only	Sources quoted <sup>2</sup>
June 1.....	Investigation, general		X					X	Fears political squabble when, if properly done, the investigation could do a great deal of good (Washington Post).
	do.		X				X		The worst that can be said is that AEC made 2 mistakes; fears that the investigation may turn into a "get Lillenthal" case (Denver Post, May 26).
June 2.....	do.	X						X	AEC investigation gets under way. Turn-over of personnel taken up (Washington Post, Spargo; Washington Times-Herald, Greene; Philadelphia Inquirer, Rockwell; New York Post, June 1; Van Devander; Philadelphia Bulletin, June 1; Washington Star, June 1; Washington News, June 1; Daily Worker, June 1; New York Journal American, June 1; F. Allen).
	do.			X			X		Doubts that investigation will bring out enough facts on which to base an opinion; discusses William Bradford Huie's article (Washington Post, Marquis Childs).
	do.			X			X		Whole AEC program must be examined and if Senator Hickenlooper accuses without proof JCAE must intervene (Christian Science Monitor, May 31, R. Drummond).
	Investigation, lost uranium.			X			X		Questions whether U-235 was stolen; notes that Commissioner Strauss is on close terms with Senator Hickenlooper (Atlanta Constitution, May 30, F. Allen).
	Investigation, general		X				X		Investigation thus far has not proven any charges; Senator Hickenlooper approved of AEC as late as last January (Washington Post).
	do.		X				X		Maintains that serious damage can be done by bringing into the open small errors (Christian Science Monitor, May 31).
	do.		X					X	Hopes that investigation will be based on facts (St. Louis Post Dispatch, May 27).
	do.		X				X		Denies accusations against Mr. Lillenthal (Hartford Courant, May 27).
	do.				X			X	Representative Melvin Price on press interview states that the issue involves return to military control (Capitol chamber, CBS, June 1).
	do.			X				X	Didn't get very far the first day (Lief Eld, NBC, June 1).
	do.			X				X	As investigation is being handled in press, accusation is converted (Edward Davis, ABC, June 1).
	do.			X				X	Appears that it will be a long and bitter struggle (Bill Hunter, MBS, June 1).
	do.			X				X	Thinks Reeses, Drummond's story in Christian Science Monitor is the best résumé of the whole AEC story (Richard Eaton, WOOK, June 1).

do	X							X	Sees a conflict between the executive and legislative branches of the Government in the investigation (San Francisco Chronicle, May 29).
do	X							X	Executive committee of North California Chapter Federation of American Scientists, declare that investigation is an effort to discredit civilian control (Rochester Democrat-Chronicle, May 10).
do								X	Welcomes President Truman's statement that it is time to stop the atomic hysteria (Raleigh News and Observer, May 28).
do								X	President Truman has committed himself to full support of Mr. Lillenthal no matter how investigation turns out (Los Angeles Times, May 28).
do							X		Thinks evidence is against Mr. Lillenthal (Omaha World-Herald, May 28).
do									Thinks that Mr. Lillenthal is accused of things that were policy under MED (Louisville Courier-Journal, May 31).
do								X	Weapons of war being used against AEC; real issue is return to military control (Grand Junction Sentinel, May 27).
do								X	Agrees with Mr. Lillenthal in asking for a full study (El Paso Times, May 27).
do								X	Regrets that politics has been injected into affair (Spokane Spokesman-Review, May 28).
do							X		Says list of questions presented by Mr. Lillenthal shows he is trying to evade the issue (Schenectady Gazette, May 28).
Investigation, ost uranium.							X		Commends New York News for breaking the story and putting AEC on the spot (Omaha World Herald, May 28).
Investigation, military control.								X	Denounces any such proposal as military control (Portland Oregonian, May 28).
Fellowships							X		Regrets that Mr. Lillenthal had not required oaths from the beginning (Boise Statesman, May 31).
do								X	Thinks AEC is unwise in reversing policy on fellowships (Memphis Commercial Appeal, May 29).
do								X	Thinks loyalty oaths are absurd, since no Communist would hesitate to sign such oaths (Los Alamos Skyliner, June 2).
do							X		Supports Senator Hickenlooper's stand on the fellowship question (Omaha World Herald, May 30; Dayton News, May 30). 2 letters to editors.
do	X						X		All 10 letters object to educating Communists with AEC funds (Providence Journal, May 30; St. Louis Post Dispatch, May 28; San Francisco Chronicle, May 28, May 27; Detroit News, May 30; Denver Post, May 28). 10 letters to editors.

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*Analysis of public opinion regarding the issues involved in the investigation into the policies and administration of the Atomic Energy Commission—*  
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Date <sup>1</sup>	Issues	News Items	Editorial	Columns	Radio	Pro	Con	News only	Sources quoted <sup>2</sup>
June 2	Fellowships	X					X		Agrees with Chronicle on its defense of granting fellowship to Hans Freistadt (San Francisco Chronicle, May 27). Letter to editor.
	Investigation, general, personnel	X					X		Cites Civil Service Commission figures on turn-over of personnel in departments; AEC's turn-over slightly below the average (New York Times (James Reston)).
	Investigation, general		X				X		Investigation should go beyond loss of uranium and the fellowship error to be of any benefit (New York Times).
	Investigation, security	X						X	Senator Hickenlooper accuses AEC of mass emergency clearances (Washington Star).
	Investigation, general	X						X	AEC to give all data requested by the JCAE (Washington News).
June 3	do.	X						X	Bottle in lost uranium case recovered; Senator Hickenlooper continues charges against Mr. Lillenthal (New York Times (J. D. Morris); Baltimore Sun (L. Potter); New York Herald Tribune (J. E. Warner); New York Mirror (L. Schloss); Washington News, June 2; Washington Times-Herald (Holzman and Green; Washington Post (Mary Spargo); New York Journal American (F. B. Allen); Washington Star (J. A. O'Leary, June 2).
	do.			X			X		Rebuts Senator Hickenlooper's conduct of investigation (Washington Post) (Alsop).
	do.			X			X		Senator Hickenlooper is using the investigation as campaign material for next year (New York Post, June 2, Van Dusen).
	Investigation, military control			X				X	Says Representatives Cole and Elston are trying to reinstate military control (New York Mirror, Drew Pearson).
	Investigation, general			X			X		Deplores insinuating stories and charges against Mr. Lillenthal and other public men (Washington News, June 2, Eleanor Roosevelt).
	do.			X			X		Thinks Mr. Lillenthal is a patient man and anyone else would "drop one on his enemies" (New York Mirror, W. Winchell).
	do.		X				X		Thinks Senator Hickenlooper is giving too many evidences of his own "incredible mismanagement" (New York Herald Tribune).
	do.			X	X				AEC in for a change in policy if not personnel; Senator Hickenlooper well on his way to making a case (R. Harkness, NBC, June 2).
	do.			X	X		X		Feels that the Jules went out of the investigation with the news that the uranium bottle is found (Elmer Davis, ABC, June 2).
	do.								

do.					X				X	Investigation not living up to its advance billing (Alder Eid, NBC, June 2).
do.					X				X	Describes the scene in room where hearings are going on (H. R. Baughage, ABC, June 2).
Investigation, security					X					Feels Mr. Lilienthal has the better definition of security—being concerned with the wider security of bomb production (Eric Sevareid, CBS, June 2).
Fellowships				X				X		Scientists not entitled to grants unless they are loyal (Louisville Courier-Journal, June 1, E. K. Lindley).
Investigation, general									X	Criticism of Senator Hickenlooper for making charges without producing full evidence (Raleigh News & Observer, June 1).
Investigation, lost uranium.				X				X		Demands immediate removal of Mr. Lilienthal (San Francisco Chronicle, June 1).
Investigation, security				X				X		Warns against too much dependence on security and military control (Providence Journal, June 1).
do.				X				X		Hopes the real of secrecy will be removed (Hartford Courant, June 1).
Fellowships				X				X		Demolishes grants to Communists (Knoxville Journal, June 1).
do.				X						Demo Hays grants to Communists (San Francisco Chronicle, May 2, May 28, 2 letters to editor).
do.								X		Upholds such grants (San Francisco Chronicle, May 28; 2 letters to editor).
do.								X		Opposes fellowships to Communists (Raleigh News & Observer, May 27; letter to editor).
do.									X	Compares views of Post and the ones expressed by M. Childs (Denver Post, May 28; letter to editor).
Investigation, security									X	Senator Hickenlooper says he will soon take up the question of Communists in AEC (Washington News).
Investigation, general				X				X		Deplores "police-state" atmosphere of investigation (Washington Star, (Stokes).
Investigation, personnel.				X				X		Much of turn-over due to restricted budget, not AEC's policy (Washington News, Peter Edson).
Investigation, general								X		Commends AEC for fighting back (Washington Star, letter to editor).
Investigation, military control.								X		Criticizes Star editorial for denouncing Senator Olin's bill (Washington Star, letter to editor).
Investigation, general									X	Senator Tydings says investigation has proven nothing so far (Washington Post, June 6).
do.				X					X	Senator Hickenlooper to resume his charges (New York Times, June 6; New York Herald Tribune, June 6).
do.				X					X	Chairman McMahon says investigation may prove the need for reversal on policy of secrecy on stock pile, etc. (Baltimore Sun, June 5; New York Herald Tribune, June 5; Washington Times-Herald, June 5; Washington Post, June 5; Washington Star, June 5; Philadelphia Inquirer, June 5).

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*Analysis of public opinion regarding the issues involved in the investigation into the policies and administration of the Atomic Energy Commission—*  
Continued

Date <sup>1</sup> June 4, 5, and 6	Issues	News items	Editorial	Columns	Radio	Pro	Con	News only	Sources quoted <sup>2</sup>
June 4, 5, and 6	Investigation, lost uranium.	X						X	Senator Hickenlooper tells press that possibility of espionage cannot be discounted (New York Times, June 4; Washington Star, June 4; Washington News, June 4; Washington Post, June 4; Philadelphia Bulletin, June 4; Philadelphia Inquirer, June 4; New York Mirror, June 4; Baltimore Sun, June 4; Washington Times-Herald, June 4; New York Herald Tribune, June 4; New York Post, June 5; New York Sun, June 4; New York Journal American, June 4).
	Investigation, security.	X						X	Chairman McMahon tells press that one Communist, employed by MED, was not detected until AEC took over; Senator Hickenlooper says he will go into it further (Washington Times-Herald, June 3; Washington News, June 3).
	Investigation, general.	X						X	Discusses political, economic and military factors involved in the investigation (New York Times, June 6) (C. Phillips).
	.do.	X						X	Senator Hickenlooper's case is collapsing; Mr. Lillenthal's answers appear to have satisfied majority of members. (New York Post, June 3; Van Deventer).
	.do.	X						X	Dr. E. U. Condon thinks Mr. Lillenthal has done a fine job, (Washington Post, June 4).
	Investigation, general and fellowships.	X						X	Atomic Scientists, Inc. of Chicago express grave concern over pressure exerted by congressional Members on Mr. Lillenthal and object to loyalty oaths and anti-Communist affidavits, (New York Times, June 4).
	Fellowships.	X						X	Association of Brookhaven Scientists oppose FBI checks on fellows (New York Times, June 6).
	Investigation, general.			X			X		Discusses investigation; says Senator Hickenlooper has failed to prove his charges (Philadelphia Bulletin, June 4, M. K. Whiteleather).
	.do.			X			X		Belittles Senator Hickenlooper's handling of investigation (Washington Star, June 4, Lowell Mollett).
	Investigation, security.			X		X			Denounces AEC General Manager's statement that two "bad risks" were given jobs (New York Sun, June 3, Dave Boone).
	Investigation, general and military control.			X				X	Although denial has been made that certain elements in Congress wants to return AEC to military control, Senator Cain has introduced a bill to do just that (New York Mirror, June 5, Walter Winchell).
	Investigation, security.			X				X	Says Senator Hickenlooper will cite one of Mr. Lillenthal's women assistants as a red (New York Mirror, June 6, W. Winchell).

Investigation, general.	X								Senator Hickenlooper has failed to prove his charges thus far. Says he should get down to cases at once, else JCAE must act to restore faith in AEC (Philadelphia Inquirer, June 5).
Investigation, lost uranium.	X								Finding of bottle indicates that this caused undue alarm; cautions that AEC must guard against further losses (Washington Post, June 5).
Investigation, general.	X								Senator Hickenlooper has failed to prove charges: will be on the spot if he insists that a comparison of M&D and AEC is not important (Washington Star, June 4).
Investigation, personnel.	X								Compliments Senator Hickenlooper for bringing out personnel security matters; urges measures to keep people in the Government (Philadelphia Inquirer, June 5; New York Post, June 5).
Investigation, general.				X				X	Discusses the effects of investigations on Government personnel (C. Collingwood, CBS, June 5).
do				X				X	Discusses unseen political and military motives back of the investigation (G. Bancroft, CBS, June 4).
do				X				X	Senator Hickenlooper has not yet produced any real evidence, while proceeding is a let-down (J. Beall, ABC, June 5).
do				X				X	Order that AEC furnish its records to Senator Hickenlooper proves a Republican-Democratic coalition hostile to Mr. Lillenthal (Minneapolis Tribune, June 1).
do	X							X	Investigation continues; stated it may prove to be good for AEC. Charges and the public (Providence Journal, June 2, F. W. Collins).
do	X							X	Consider AEC hearings the "best show in town." Representative Jackson says the whole thing is "silly and ridiculous." AEC takes it seriously (Rochester Democrat-Chronicle, June 2).
Investigation, military control.	X							X	Criticizes the proposal to return AEC to the military (Denver Post, May 31).
Investigation, general.	X							X	Investigation might be worth while but this one may prove to hamper the whole AEC project (Salt Lake City Tribune, May 31).
do	X								Sees strong evidence of mismanagement in evidence thus far presented (Omaha World-Herald, June 1).
do	X						X		Hopes politics will be kept out so that real worth will result (Minneapolis Tribune, June 1).
Investigation, general security.	X							X	Fact that hundreds of scientists were turned down as bad risks more to be deplored than the fact that a few were left in AEC (Dallas News, June 1).
Investigation, security								X	Senator Knowland questions AEC's security work at Argonne, etc. (Washington News, June 6).

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*Analysis of public opinion regarding the issues involved in the investigation into the policies and administration of the Atomic Energy Commission—*  
Continued

Date	Issues	News items	Editorial	Columns	Radio	Pro	Con	News only	Sources quoted
July 7	Investigation, general	X						X	Inquiry halted over JCAE dispute as to whether or not security cases may properly be discussed in public (Washington Post; Washington Times-Herald; New York Times; New York Mirror; Washington News, June 6; New York Journal-American, June 6; Washington Star, June 6; New York Sun, June 6; New York Herald Tribune).
	do	X					X		Senator Hickenlooper's charges have collapsed so badly he is being deserted by other Republicans (New York Post, June 6, Van Devanter).
	do			X			X		Senator Hickenlooper's charges based on pretty "flimsy stuff" but criticizes Mr. Lillenthal for appeasing reactionaries (Daily Worker, R. Hall).
	do		X					X	Calls for JCAE to get on with the investigation (Washington Post).
	Investigation, general military control		X			X			Criticism of Mr. Lillenthal; asks for the abolishment of AEC and return to military control (New York Journal American, June 6).
	Investigation, general							X	Regardless of motives in the charges, it must not be overlooked that Mr. Lillenthal's success with TVA earned him enemies in private power industry (New York Herald Tribune, letter to editor).
	do							X	Trappings of hearings impede the wise conduct of the case (New York Herald Tribune, letter to editor).
	do				X			X	Thinks the hearings will run for some time; General Groves could be heard on MED (Elmer Davis, ABC, June 6).
	do				X			X	Wonders how hearings will be conducted in view of security cases (Bill Shadel, CBS, June 6).
	do			X				X	Wonders why Senator Hickenlooper is taking such a political risk; Mr. Lillenthal a clever man well versed in defense (Chicago News, June 4, Fleeson).
	do			X				X	Feels that the disagreement between Senator Hickenlooper and Mr. Lillenthal is a matter of a difference of opinion (Louisiana Times, June 2, Bill Henry).
	do		X					X	One outcome of investigation will be that Mr. Lillenthal will never be confirmed again (Knoxville Journal, June 6).
	Investigation, security		X						Congress should lay down the basic security rules since AEC has been careless (Los Angeles Times, June 2).
	Investigation, general		X			X		X	Investigation should help to inform public; AEC has been neglecting to do so (Spokane Spokesman-Review, June 1).
	Investigation, security		X			X			AEC has been careless on security matters (Knoxville Journal, June 4).

Investigation, general.	X					X		Senator Hickenlooper's appearance in headlines will result in his being remembered for this (Portland Oregonian, June 2).
do.	X					X		Criticizes President Truman for his statement on investigation; those who are attacking Mr. Lillenthal may only be interested in the welfare of the country (Reno Gazette, May 31).
do.	X							AEC's work should be reviewed but deplores attack on AEC and scientists' loyalty (Santa Fe New Mexican, June 1).
do.	X						X	Mr. Lillenthal will weather the storm as he has other vicious attacks against him (Louisville Times, May 25).
do.	X							Commends Senator McMahon for confining hearings to questions at hand as to efficiency of AEC (Providence Journal, June 5).
Investigation, security.	X						X	If AEC Commissioners fail to keep better checks, we had better replace them with better men (Boise Statesman, May 31).
Investigation, general.		X						JCAE meets to decide on procedures (Washington Star, June 7; Washington News, June 7).
Investigation, security.			X					Newspaper men could not print name of case A since, under the law, it is a violation of security (Washington News, F. Othman).
Investigation, general.		X						JCAE still discussing procedure for discussing security cases (Baltimore Sun; Philadelphia Inquirer; Washington Post; Washington Times-Herald; Washington Star, June 7; Washington News, June 7; New York Times; New York Herald-Tribune; New York Journal American, June 7; New York Sun, June 7; Philadelphia Bulletin, June 7).
do.		X						Case A may ask a hearing on his own. His name is known since information given has identified him (New York Post, June 7; Van Deventer).
do.	X						X	Terms investigation a "tragic farce," "three-ring circus" (New York Herald Tribune).
do.	X							Points up controversy between executive and legislative branches of Government as seen in use of secret files (Washington Times-Herald).
Investigation, general (letter to editor).							X	Defense of Mr. Lillenthal (Washington Post).
Investigation, security (letter to editor).								Burden of proof in case A is with Senator Hickenlooper; AEC should reserve right to see all the evidence (New York Times).
do.			X				X	Claims that Mr. Lillenthal injected additional evidence into case A and then blamed Senator Hickenlooper for method of procedure (Fulton Lewis, Jr., MBS, June 7).

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Date <sup>1</sup>	Issues	News items	Editorial	Columns	Radio	Pro	Con	News only	Sources quoted <sup>2</sup>
June 8.....	Investigation, military control.	-----	-----	-----	X	X	-----	-----	Criticizes AEC Deputy Manager Shugg for saying we had a powerful atomic weapon that baffles imagination in describing; says A-bomb belongs under the Army and it was a powerful clique which turned it over to AEC (Edwin C. Hill, ABC, June 7).
	Investigation, general	-----	-----	-----	X	-----	X	-----	Nothing very serious will be revealed at investigations (H. R. Bauknight, ABC, June 7).
	do.....	-----	-----	-----	X	-----	X	-----	Nothing definite has been produced by Senator Hickenlooper, but atmosphere of hearings is good (Erwin Canham, ABC, June 7).
	do.....	X	-----	-----	-----	-----	-----	X	Reports attitude of AFL's League for Political Education as saying that attack against Mr. Lilienthal is sponsored by private power lobby (St. Louis Post Dispatch, June 8).
	do.....	X	-----	-----	-----	-----	-----	X	Impression left by hearings is that Senator Hickenlooper has failed to produce any proof (Christian Science Monitor, June 8).
	do.....	X	-----	-----	-----	-----	-----	X	Discusses "secret fights" in background of hearings; thinks secret does equipment and Airo plant will come into the discussion (O'Day Post, June 8).
	do.....	X	-----	-----	-----	-----	-----	X	Gives impressions of Mr. Lilienthal and says he tries to deal in generalities (Princeton Journal, June 8).
	do.....	X	-----	-----	-----	-----	-----	X	Hearings may reveal a fight between legislative and executive branches of Government (Harford Courant, June 8).
	Investigation, security	X	-----	-----	-----	X	-----	-----	General discussion of security problems at Oak Ridge (Knoxville Journal, June 6, Cecil Jones).
	do.....	X	-----	-----	-----	-----	-----	X	Journal reporter traveled through restricted areas of Oak Ridge (Knoxville Journal, June 6).
	Investigation, general	X	-----	-----	-----	-----	-----	X	Town Council at Los Alamos goes on record as in favor of AEC policy in telegram to Senator McMahon (Santa Fe New Mexican, June 2).
	Investigation, military control.	X	-----	-----	-----	-----	X	-----	South New England Methodists go on record as against military control (Boston Herald, June 5).
	Investigation, general	-----	-----	X	-----	-----	X	-----	Says it a habit in Congress to make wild charges and then start investigations to see if charges are true (Christian Science Monitor, June 6, Drummond).
	Investigation, personnel.	-----	-----	X	-----	-----	X	-----	Says it is very difficult to get workers under the strict security regulations and that Senator Hickenlooper knew all about personnel turn-over while he was chairman (Raleigh News and Observer, June 3, Stokes).
	Investigation, general	-----	-----	X	-----	-----	-----	X	Mr. Lilienthal's failure to foresee political dynamite resulted in the investigations (Christian Science Monitor, June 3, Harlan Trotter).

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June 9	Investigation, general	X						X	Comments on Senator Vandenberg's attitude and silence during hearings (Dayton News, June 3).
	.do.	X						X	Dr. James Arnold, member of Atomic Scientists of Chicago, defends Mr. Lillenthal and his work in AEC (Chicago News, June 3).
	.do.	X						X	Faculty members of University of Washington Physics Department defend Mr. Lillenthal (St. Louis Post Dispatch, June 3).
	.do.	X						X	Iowa Negro Democratic League supports Mr. Lillenthal's administration (Des Moines Register, June 5).
	.do.		X				X		Senator Hickenlooper's charges not yet proven. AEC conducting itself well at hearings (Denver Post, June 4).
	.do.		X				X		Wonders if JCAE will accept responsibility if, by forcing Mr. Lillenthal's resignation, other scientists resign (Grand Junction Sentinel, June 3).
	.do.		X			X			Some have tried to block real inquiry on the theory that the secrets must be kept (Omaha World-Herald, June 5).
	Investigation, security.		X			X			Criticism of Mr. Lillenthal on the granting of emergency clearances (Portland Oregonian, June 4).
	Investigation, general		X				X		Hearings have not revealed as much as was expected, and Mr. Lillenthal has not yet been proven inefficient (Omaha World-Herald, June 4).
	Investigation, security.		X			X			Criticism of Mr. Lillenthal on matter of personnel security (Knorrville Journal, June 7).
	.do.	X						X	Senator Knowland promises to pursue his attack on "loose controls" over materials at installation (Washington News, June 9; Washington Star, June 9).
	Investigation, general		X				X		Criticizes Senator Hickenlooper's about face with regard to Mr. Lillenthal (Des Moines Register, June 5). (Letter to editor.)
	Investigation, military control.	X				X			Views charges against Mr. Lillenthal with alarm and feels AEC should be turned over to military (Des Moines Register, June 5). (Letter to editor.)
	Investigation, general	X						X	Discusses problems of JCAE in trying to resolve question of how best to solve the handling of security personnel cases, etc. (Washington Star, Doris Flesson).
June 10	Investigation, isotopes	X						X	Commissioner Strauss testifies that he opposed the isotope shipment to Norway; that it can be used for "a vast field of industrial and military application" (New York Herald Tribune; New York Times; Washington Post; New York Mirror; Philadelphia Bulletin, June 9; New York Sun, June 9; Washington Times-Herald; Philadelphia Inquirer; Baltimore Sun; Washington Star; New York Journal American, June 9).

Investigation, general.	X								X	At news conference President Truman reiterates his support of Mr. Lillenthal (Washington Post, Washington Times-Herald, New York Herald Tribune).
do.	X							X	X	Reports 'Fulton Lewis' broadcast as stating that Mr. Lillenthal is accusing his opponents of half truths, etc., to try to destroy him (New York Journal American, June 9).
Investigation, military control.	X								X	Secretary Johnson's letter to Senator McMahon discussed and praised (Philadelphia Bulletin, June 9).
Investigation, general.									X	Real story behind JCAE-AEC row is series of personality clashes (Washington Times-Herald, Philadelphia Inquirer, June 11; Philadelphia Bulletin, June 11; Philadelphia Inquirer, June 11; Washington Star, June 11; Washington Times-Herald, June 12).
Investigation, isotopes.									X	Senator Hickenlooper's logic evaporates if he objects to exporting some isotopes and not others (Washington Post).
Investigation, general.									X	Secretary Johnson may have to show his authority on investigation (Philadelphia Bulletin, June 9).
Investigation, security.									X	Denounces Mr. Lillenthal for objecting to security phase of public hearing (New York Times, New York Mirror, New York Herald Tribune, June 9).
Investigation, general.									X	Outlines criticism of Mr. Lillenthal (Fulton Lewis, Jr., NBC, June 9).
do.									X	Finds that Mr. Lillenthal no longer fears Senator Hickenlooper's charges (E. S. S. News, June 9).
Investigation, isotopes.									X	Thinks Commissioner Strauss' testimony is a serious statement (Commando, Richard Harkness, NBC, June 9).
Investigation, general.	X								X	Praises Mr. Lillenthal and says AEC is brilliantly administered agency (Manchester Guardian, Alistair Cooke, May 27).
do.									X	Wonders whether revealing size of stockpile wouldn't make JCAE's job in investigation easier (Hartford Courant, June 8).
Investigation, security.	X								X	Senator McMahon thinks "Case A" may be granted a public hearing (Washington News).
Investigation, isotopes.	X								X	Senator Vandenberg calls for a strict check on all isotope shipments (Washington Star).
do.									X	Disagrees with Commissioner Strauss on isotopes (Washington Star).
Investigation, general.	X								X	Hearings resumed, JCAE votes to hold security case hearings in secret session. Dr. Oppenheimer testifies (New York Herald-Tribune, June 12; Washington Post, June 12; Baltimore Sun, June 12; New York Journal American, June 12; New York Post, June 12; Washington News, June 11; Philadelphia Bulletin, June 11; Philadelphia Inquirer, June 11; Washington Star, June 11; Washington Times-Herald, June 12).
do.	X								X	Democratic members of JCAE say there's not enough votes to adopt resolution censuring Mr. Lillenthal unless something more sensational comes to light (Washington News, June 11).

June 11-13

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*Continued*

Date <sup>1</sup>	Issues	News items	Editorial	Columns	Radio	Pro	Con	News only	Sources quoted *
June 11-13	Investigation, general.	X					X		"Not proven" is best Senator Hickenlooper can hope for; better understanding of AEC program may result (New York Herald Tribune, Werner, June 12).
	Investigation, security.	X						X	Senator Hickenlooper insists he will bring into open "derogatory information" on at least a score of AEC employees (New York Post, Van Devanter, June 9).
	Investigation, general.	X						X	Senator Tydings feels Mr. Lillenthal has done a good job in many respects but has been careless in safeguarding AEC secrets (Washington Post, June 13; Baltimore Sun, June 13).
	do	X						X	Senator Hickenlooper has lost political prestige in Iowa over AEC hearings (Washington Post, John Ball, June 13).
	Investigation, fellow-ship.	X					X		Loyalty of Hans Freistadt upheld (Daily Worker, June 12).
	Investigation, general.			X			X		Attempt to "A-X" Mr. Lillenthal has blown up; he may resign at end of his term (New York Post, Robert Allen, June 12).
	Investigation, isotopes.			X		X			Articles Mr. Lillenthal for shipment to Norway (New York Sun, Dave Boone, June 10).
	Investigation, general.			X			X		Senator Hickenlooper sorry he ever started it—has tried to urge Senators McMahon and Vandenberg to "get him out of it" (New York Mirror, Walter Winchell, June 13).
	do			X			X		Mr. Lillenthal has made some "border line" judgments, but that "national security obsession" is cause of investigation (New York Herald Tribune, Joseph Alsop, June 13).
	do		X				X		Senator Hickenlooper should know when he is licked (New York Post, June 10).
	Investigation, military control.		X				X		Secretary Johnson's statement most reassuring (New York Times, June 11).
	do		X				X		Agrees with Secretary Johnson but feels that Secretary should state that Army can't have custody of bombs either (Washington Post, June 11).
	Investigation, general.		X					X	Deplores congressional investigations but it should shed much-needed light (Philadelphia Inquirer, June 13).
	Investigation, fellow-ships.					X			In letter to son writer explains why he opposes fellowship for Communists (New York Herald Tribune, June 12) (letter to editor).
	Investigation general.							X	Only thing that will be gained is that Senate will be more careful in confirming appointees in future (Washington Times-Herald, June 12, letter to editor).

do.				X				X		Senator Hickenlooper says his charges are a result of a culmination of complaints—denies leaks to press (Meet the Press—MBS, June 10).
do.				X						Says Commissioner Strauss intends to resign due to his opposition to AEO policies (Danton Walker, MBS, June 12).
do.				X						Praises Senator McMahon for his handling of hearings (Richard Eaton, WOOK, June 10).
do.			X							Discusses problems of hearings—"Arabian Nights" atmosphere—etc. (Christian Science Monitor, R. L. Stout, June 9).
do.		X								American Legion Post No. 2, Knoxville, prepares resolution asking for Mr. Lillenthal's resignation (Knoxville Journal, June 8).
do.			X					X		Senator Hickenlooper making little progress; wonders how his charges can be proved unless stock-pile data is released (Denver Post, Barnet Nover, June 7).
do.			X						X	Believes hearings based on attitudes more than fact; Senator Hickenlooper hopes to prove that secrets are not properly guarded (Los Angeles Times, June 5, Bill Henry).
do.						X			X	Is AEO a dumping ground for politicians? How are AEO contracts let? (Wall Street Journal, June 9).
do.						X			X	Believes Senator Hickenlooper will have election troubles because of AEO probe. (Omaha World-Herald, June 8).
do.								X		Balities charges made by Senator Hickenlooper (Louisville Courier-Journal, June 9).
do.								X		Ridicules Senator Hickenlooper's "ranting around Capitol Hill." (Boston Herald, June 9).
Investigation, military control.								X		Approves of Secretary Johnson's stand on issue. (St. Louis Post Dispatch, June 8; Providence Journal, June 9).
Investigation, general.								X		Says Senator Hickenlooper is not willing to measure AEO efficiency by private industry standards—his charges won't stick if measured thus. (Grand Junction Sentinel, June 6).
do.		X							X	Dr. J. R. Oppenheimer defends Mr. Lillenthal and AEO Administration on all counts. (New York Herald Tribune; New York Times; Washington Times-Herald; New York Mirror; Philadelphia Inquirer; Washington Post; Baltimore Sun; Philadelphia Bulletin, June 13; Washington News, June 13; New York Sun, June 13; New York Journal American, June 13).
do.								X		Discusses hearings—contends AEO can't do a good job if always called on to deny some new allegation, etc. (New York Herald Tribune, Walter Lippmann).
do.									X	Believes Mr. Lillenthal will be "impressively cleared" of all charges. (New York Times, Arthur Krock.)

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*Continued*

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June 14	Investigation, isotopes		X				X		Respects Commissioner Strauss' position but accepts Dr. Oppenheimer's statement that no harm has been done by shipment of isotopes. (New York Times.)
	Investigation, military control							X	Asks recreation of AEC with equal representation for military and civilian factors. (Philadelphia Inquirer.) (Letter to editor.)
	Investigation, general	X						X	Notes that Mr. Lilienthal shows strain of hearing. (Knoxville Journal, June 12.)
	do.	X						X	Senator Hickenlooper expects his critics to reverse their positions soon. (Dayton News, June 12.)
	do.	X					X		"Largest campaign to get Lilienthal" is a complete flop. (Louisville Courier-Journal, June 12, R. L. Riggs.)
	Investigation, isotopes		X					X	"Battle of the isotopes" is controversy between guarding of bomb secrets and scientific ideal of greater progress. (Louisville Courier-Journal, June 12.)
	Investigation, general		X				X		Expects little good from investigation; efficiency of the AEC will remain a matter of opinion. (Pocatello Tribune, June 8.)
	do.		X				X		Believes AEC regulations will be stricter after hearings. (Los Angeles Times, June 7.)
	Investigation, military control		X					X	Notes Secretary Johnson's attitude on issue; thinks it will come up again. (Detroit News, June 12.)
	Investigation, waste		X			X			Feels it is time secrecy on expenditures is removed (Knoxville Journal, June 12.)
	Investigation, general		X				X		Feels the investigation tends to make United States more vulnerable (Grand Junction Sentinel, June 7.)
	Investigation, security			X				X	Army's objection to pictures is that they show how much information has been accomplished (Richard O. Hotellet, CBS, June 13.)
	Investigation, general			X				X	Notes Senator Hickenlooper's complaint that cry of "secrecy" has been used up every time he offers evidence (Elmer Greer, AEC, June 13.)
	do.	X						X	Dr. Oppenheimer "called the day" in his testimony before the Joint Committee on Atomic Energy (Washington News, June 14, Red Othman.)
June 15	Investigation, waste	X						X	AEC explains increased cost of plutonium plant at Hanford (Washington Post, June 14.)
	Investigation, general	X						X	Senator Hickenlooper explains his position re decision to discuss secret files in closed meetings and other phases of hearings. (New York Times, New York Post, June 14, New York Sun, June 14, Philadelphia Bulletin, June 14.)
	do.			X				X	Senator Hickenlooper's political future rests on outcome of investigation (New York Journal American, June 14, Geo. Rathwell.)

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Continued

Date <sup>1</sup>	Issues	News items	Editorial	Columns	Radio	Pro	Con	News only	Sources quoted <sup>2</sup>
June 16	Investigation, general			X			X		Defends Mr. Lillenthal; observes that attacks on him haven't been successful (Atlanta Constitution, Ralph McGill).
	do	X				X			Claims Senator Hickenlooper has been "gagged" whenever he tried to submit real evidence (Chicago Tribune, June 14).
	Investigation, security		X					X	Considers the problem of the use of FBI files in this and other cases. What will the result be? (Raleigh News and Observer, June 13).
	Investigation, waste				X		X		Testimony regarding purpose of plant at Hanford has backfired on Senator Hickenlooper, so far as waste is concerned (Richard Harkness, NBC, June 15).
	Investigation, general				X		X		Evidence thus far has proven nothing (Elmer Davis, ABO, June 15).
	do					X			Criticizes cartoons in paper depicting Senator Hickenlooper in an unfavorable manner (Des Moines Register, June 13, letter to editor).
June 17	do						X		Praises cartoon regarding Senator Hickenlooper; feels they "hit the spot" (Des Moines Register, June 13, letter to editor).
	Investigation, lost uranium	X						X	Dr. Walter H. Zinn testifies regarding the loss of uranium (Washington News, Washington Star).
	Investigation, waste			X				X	Discusses testimony of Dr. Winne of General Electric, and Mr. Lillenthal regarding increased construction costs at Hanford (Washington News, Othman).
	Investigation, general	X						X	Observes that bystanders feel that the investigation has played itself out (Dayton News, June 14).
	Fellowships	X				X			AEC was advised a year ago to require FBI clearance on fellows, but did not heed such advice (Rochester Democrat-Chronicle, June 15).
	Investigation, general		X				X		Senator Hickenlooper has made no headway in proving charges (Raleigh News and Observer, June 15).
	Investigation, security		X				X		Claims that the incidents of which Senator Hickenlooper is making so much are "routine" even in such agencies as AEC (Detroit News, June 14).
	Investigation, waste	X						X	Senator Hickenlooper says he will give evidence of waste at Oak Ridge, Los Alamos, and Hanford (Washington News, Washington Star).
	Investigation, general			X				X	People in Senator Hickenlooper's home town are puzzled at his head-hunting (Washington Star, Stokes).

Investigation, lost uranium.	X							X	Dr. Zinn testifies regarding the uranium loss (Washington Post; New York Herald Tribune; Baltimore Sun; New York Times; Washington Star, June 16; Washington News, June 16; Philadelphia Bulletin, June 16; New York Sun, June 16).
Investigation, general.	X							X	Cites strict regulations which govern the shipment of isotopes to refute impression that shipments can be made capriciously (Philadelphia Bulletin, June 16; Marshall).
Investigation, isotopes.								X	Cites Dr. Oppenheimer's testimony that refusal to ship isotopes to foreign countries would force them to produce isotopes independently and that they might outstrip us in this field (New York Post, S. Grafton).
AEC investigation, waste in using gas at Oak Ridge.	X							X	Commissioner Pike defends the use of natural gas at Oak Ridge, etc. (Washington Times-Herald; New York Herald-Tribune; Washington Post, Mary Spargo; Baltimore Sun; Philadelphia Inquirer; New York Times; New York Sun, June 17; Washington Star, June 17; Washington News, June 17).
AEO investigation, general.	X							X	Senator Hickenlooper states another week will be sufficient to complete his case against AEC; personnel cases to be reviewed in secret sessions (Washington Star; Philadelphia Inquirer; New York Journal American; New York Post, June 19).
AEO investigation, waste.							X		Thinks that charges of waste at Hanford plant may not seem so great to the public in comparison to the cost of the first bomb (Baltimore Sun).
AEC investigation, general.							X		General Groves supports investigation of AEC program if any Member of Congress is even doubtful of its efficient operation; cites danger to our future if AEC is taken out of the scope of congressional investigation (New York Mirror). (Feature story).
Fellowships.	X							X	Objects to any sort of political screening of fellowship students (Washington Post, Hechinger).
AEO investigation.								X	Questions the procedure employed by Senator Hickenlooper in borrowing Messrs. Teepie and Rhodes, former JCAE staff members, in this investigation (Washington Post, Drew Pearson).
Investigation, general.	X							X	Senator McMahon suggests that if size of bomb stock pile was made known, the JCAE could better determine whether the AEC is guilty of Senator Hickenlooper's charges (New York Times). (Feature story).
Investigation, isotopes.								X	Denies the shipment of radioactive isotopes (Baltimore Sun).
Investigation of AEC, waste.	X							X	Reports that Senator Hickenlooper will quiz Mr. Lillenthal on use of "secret fund for counterespionage at Los Alamos" for entertainment purposes (Washington Times-Herald).
Investigation of AEO.	X							X	Notes that most columnists label charges against Mr. Lillenthal as irresponsible (Salt Lake Tribune, June 14, John Barden).

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Date <sup>1</sup>	Issues	News Items	Editorial	Columns	Radio	Pro	Con	News only	Sources quoted <sup>2</sup>
June 20	Investigation		X				X		Criticizes Senator Hickenlooper's "fishing expedition" against AEC; thinks JCAE should first sift facts and then hold hearings if evidence warrants them (Christian Science Monitor, June 19).
	Investigation, waste		X			X			Denounces Mr. Lillenthal's statement that "national security" warranted the costs at Hanford (Knoxville Journal, June 18).
	Investigation					X			Claims investigation proves that AEC is not in good hands and that Senator Hickenlooper is not conducting a smear campaign (Milwaukee Journal, June 18, E. J. Miltimore, letter to editor).
	Investigation, waste				X		X		Thinks AEC has right to go ahead with pipe line. (Elmer Davis, AEC, June 17).
June 21	do	X						X	Mr. Lillenthal expresses fear that AEC program will be slowed down by excessive criticism of costs of construction at installation; Dr. Winne and Commissioner Pike testify at the JCAE hearing (Baltimore Sun, New York Times, New York Herald Tribune, Washington Times-Herald, Philadelphia Inquirer, Washington Star, June 20).
	Investigation, security	X						X	Senator Hickenlooper charges that September 1948 Scientific Bulletin contained a digest of AEC security files similar to ones he was denied use of in open hearings (Washington Star, June 20, J. A. O'Leary, Philadelphia Inquirer, Dorothy Rockwell).
	Investigation, general			X		X			Claims that public understanding is that Congress should keep a check on public officials and expenditures; that the AEC investigation is merely routine and not a smear campaign (Washington Times-Herald, George Sokolsky).
	Investigation, security		X				X		Contends that the FBI and not the Congress should investigate, William Bradford Huie's article in the Nation's Business for possible security leaks (Louisville Courier-Journal, June 18).
	do		X			X			Cites the "security" obsession which surrounds the hearings and warns against letting "secrecy" become a sacred word (Providence Journal, June 18).
	Investigation, general		X			X			Maintains that average citizen expects the AEC to be responsible to the people through the Congress, and expects the JCAE to keep a check on the policies and operation of the AEC (Spokane Spokesman-Review, June 16).
	Investigation, waste				X	X			Views with alarm Mr. Lillenthal's statement that criticism of the cost of construction may "inject a note of caution in the whole atomic energy program" (Fulton Lewis, MBS, June 20).



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June 22	Investigation, lost uranium.		X				X		Criticizes Senator Hickenlooper for continuing to insist that espionage is a possibility in the case of the missing Truman. Hopes that other JCAEC members will join Dr. Zinn in labeling this new as "fantastic" (Raleigh News and Observer, June 17).
	Investigation, waste.		X			X			Claims that Senator Hickenlooper has proven his charges of "rags" and extravagance, and that the Commission should be made accountable to the people and the Congress (Reno Gazette, June 18).
	Investigation, general.		X				X		Thinks Senator Hickenlooper's loud noises as voiced in hearings increases hysteria; welcomes President Truman's calm comments (Dayton News, June 17).
	do.		X				X		Discounts charges against Mr. Lillenthal and AEC; advises people to disregard the hue and cry and base decisions on the facts that will come out of it all (Atlanta Journal, June 15).
	do.		X				X		Defends Mr. Lillenthal; declares that if he is forced out of office, it will be most difficult to get able men to take positions at AEC (Birmingham Age-Herald, June 15).
	do.					X			Belittles Mr. Lillenthal; points to his work at TVA (Knoxville Journal, R. I. Green, letter to editor).
	Investigation, lost uranium.			X			X		Notes denial of AEC that uranium is missing at Oak Ridge; states that the headlines on this story apparently came from the "less responsible press" (Eric Sevareid, CBS, June 21).
	Investigation, waste.			X			X		Asks whether it is the business of AEC to make bombs as fast as it can; or wait until it can perform such work with complete advance plans and at less expense. Which is better? (Elmer Davis, ABC, June 21).
June 23	Investigation general.	X						X	William Bradford Huie charges that Mr. Lillenthal consumes loyalty with security risks and that he is not "fit for the job" (Santa Fe New Mexican, June 17).
	do.	X					X		Supports Mr. Lillenthal and feels he has done a good job (Des Moines Register, June 19, 3 letters to editor).
	do.	X				X			Calls for more men like Senator Hickenlooper to expose blunders of public men (Des Moines Register, June 19, letter to editor).
	Investigation, waste.	X						X	Cites Senator Hickenlooper's statement that he will discuss waste at Los Alamos at meeting today (Washington News).

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June 25	Investigation, general	X				X			Notes that Fulton Lewis broadcast says letter of resignation of Dr. C. W. J. Wende appears to substantiate some of the charges made by Senator Hickenlooper (New York Journal American, June 24).
	Fellowships	X						X	National Research Council handling AEC fellowships, considers proposal to screen supervisors for loyalty as well as the students. AEC orders NRC to drop 1 supervisor who was dismissed from MED in 1945 for "indiscretion" (Washington News).
	Investigation, waste			X		X			Continues discussion of residential repair costs at Los Alamos (Washington News, Fred Othman).
	Investigation, general, towns		X				X		Feels that there may be some modicum of truth in Senator Millikin's accusation of "fascistic" operations of towns by AEC—JCAE should be a real watchdog instead of either a "poodle" or a hound of the chase" (Washington Post).
June 26	Investigation, general			X			X		Senator Hickenlooper's trial of Mr. Lillenthal is fast becoming Mr. Lillenthal's trial of Senator Hickenlooper (New York Post, Arthur Schlesinger).
June 27	Lost uranium	X						X	Believes that the furor over missing uranium at Oak Ridge can be traced to the sale of uranium nitrate about 6 months ago—claims such was sold but doesn't know to whom (Knoxville Journal, June 22, Cecil Jones).
	Investigation, town management	X						X	Observes that current investigation brings up the question as to whether AEC should be operating the towns at all: AEC inherited this burden; never asked for it; but can see no reason for its continuation (Providence Journal June 23, F. W. Collins).
	Investigation, general		X			X			Commends General Groves for statement that JCAE is only doing its duty (Knoxville Journal, June 23).
	Investigation, waste		X			X			Criticizes Mr. Lillenthal for supporting the policy of "reckless spending and damn the costs" on the theory that restrictions will slow up the project (Knoxville Journal, June 22).
	do				X	X			Debunks the idea that increasing costs at Hanford are due to isolation, etc. Contends that there is no reason why AEC towns can't be operated like any other town (Fulton Lewis, Jr., MBS, June 24).
	do				X		X		Senator John McClellan assumes that AEC was not investigated by the Hoover Commission because of secrecy of work; sees no reason why expenditures of AEC should not be scrutinized (Meet the Press, MBS, June 24).

JCAE investigation to resume June 28; wonders if Senate Appropriation Committee's plan to add a "rider" to budget bill will raise a question of jurisdictional procedures (Washington Star, June 27).  
 Reports that communists in Washington are fed up with the atomic and Communist jitters which they think underlie the AEC investigation (Pocatello Tribune, June 21, John Barden).  
 Scores W. B. Huie for his article attacking Mr. Lilienthal and accepts Dr. J. Robert Oppenheimer's view that AEC has done a good job (Santa Fe, N. Mex., June 23).  
 Shipment of isotopes in violation of act must be serious charge made against Mr. Lilienthal (Knoxville Journal, June 26).  
 Scores AEC's reckless spending (Hartford Courant, June 26). (Letter to editor).  
 Cites Senator Hickenlooper's statements in speech in Iowa that he has AEC "out of the run"—regulations are being tightened since his investigation started. Defends "spot-check" hiring in much the same fashion as was done under military control when situation demanded it (Elmer Daily AEC, June 27).  
 R. W. Cook, acting manager at Oak Ridge, replies to Senator Hickenlooper's charges that too much money is being spent to operate the town. States that cost of producing U-235 has been halved in 2 1/4 years and that production of isotopes has been increased 600 percent (Baltimore Sun, P. Potter: Washington Star, June 28; Philadelphia Inquirer: New York Herald Tribune; New York Times, J. D. Morris, SP; Washington Times-Herald).  
 Senator Hickenlooper states at a news conference in Des Moines that "substantial evidence of mismanagement" has already been proven; more to come (Philadelphia Inquirer, June 28).  
 Hans Freistadt says he will go to court to hold AEC fellowship unless he can secure other funds to pay costs of education (New York Herald Tribune).  
 Iowa editors held news conference at Des Moines with Democratic farmers and agreed that Senator Hickenlooper is making a bad impression among home folks by attacking AEC (Washington Post, Drew Pearson).  
 States that President Truman has ordered Democratic National Committee to get Senator Hickenlooper's scalp "at all costs" for smearing AEC (Philadelphia Inquirer, June 28, Drew Pearson).

Investigation, general.	X									X
do.	X									X
Investigation, security.				X						X
Investigation, isotopes.		X							X	
Investigation, waste.								X		
Investigation, general.					X					X
do.	X									X
do.	X									X
Fellowships.	X									X
Investigation, general.				X						X
Investigation.				X						X

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Continued

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June 29	Investigation, general	X						X	Discusses manner in which questions which "almost strike sparks" arise out at the hearings (Christian Science Monitor, Marian Roth, June 24).
	Investigation, isotopes	X						X	Dr. Wm. F. Sauer, Yale faculty member, says he can see no connection between work with isotopes and the A-bomb (Hartford Courant, June 27).
	Investigation, waste		X			X			There is no more excuse for waste in AEC than in any other agency; presents criticism of waste at Hanford (Portland Oregonian, June 22).
	Investigation, general		X				X	X	Contends that Senator Hickenlooper hasn't presented any important charges and has been the cause of wasting time and money (St. Louis Post-Dispatch, June 26).
	Investigation, security					X			Official Mr. Linnenthal for suggesting that FBI check W. B. Huie's article for security breaches (Reno Gazette, June 21).
	Investigation, general		X					X	Thinks the investigation may result in reintroduction of bill vetoed last year to have Members of the Commission and General Manager investigated by FBI (El Paso Times, June 24).
June 30	Investigation, waste	X						X	Senator Wherry thinks that AEC is acting "Holler than Thou" and recommends cutting fund (Washington Star, June 29).
	do			X		X			Discusses the cost of concrete slabs for garbage cans at Oak Ridge (Washington News, Fred Othman).
	do	X						X	R. W. Cook, acting manager of Oak Ridge, says that he is proud of the job AEC management has done there.
	Investigation, security	X						X	Advises public to get real facts (New York Journal American).
									AEC discloses that only 37 of 4,095 who were granted emergency clearances were later dismissed. Senator Hickenlooper demands lists of trips taken by Mr. Lillenthal at Government expense (Washington Post; Washington Times-Herald; New York Herald-Tribune; New York Times).
	Investigation, general	X						X	Dr. J. Robert Oppenheimer states in an interview that the investigation may crystallize opinions, but doubts that it will do anything to improve the Commission; may make it clear in one's mind what is important and really worth fighting for (San Francisco Chronicle, June 23).
	Investigation, isotopes			X			X		Discusses use made of isotopes and rules laid down by the AEC for all purchasers (New York Journal American, Inez Hobbs, June 29).



*Analysis of public opinion regarding the issues involved in the investigation into the policies and administration of the Atomic Energy Commission—*

Continued

Date	Issues	News items	Editorial	Columns	Rad.	Pro	Con	News only	Sources quoted
July 2	Fellowships	X						X	Emergency Committee of Atomic Scientists curtail their activities in order to avoid taking a stand on fellowship question (Washington Post; Washington Star; New York Herald Tribune; Baltimore Sun).
	Investigation, general		X				X		Questions Fulton Lewis' statement that no one has anything against Mr. Lillenthal and that they just want to see if he is doing a good job (New York Post, July 1).
July 3	do	X						X	Observers feel that Senator Hickenlooper has hardly proved his charges (Philadelphia Inquirer, F. G. Hyde).
	Fellowships	X						X	Altho Haus Frieftadt has received notice that his grant has been revoked, he says he will continue to attend classes (Philadelphia Inquirer).
July 5	Investigation, general	X						X	Mr. Lillenthal to open his defense against charges made by Senator Hickenlooper on Wednesday. Scientists to be called (New York Herald Tribune; Washington Times-Herald; New York Times; Philadelphia Inquirer).
	do		X					X	Thinks that congressional investigations benefit democracy but there should be a change in the manner in which they are conducted (Washington Post).
	do	X						X	Dr. R. W. Burnett, AEC consultant, says that the way Senator Hickenlooper and JCAE are conducting the investigation is 'shoddy and dangerously stupid' and military influence can be seen in the whole thing (Minneapolis Tribune, June 29).
	Investigation, isotopes		X			X			Commends Commissioner Strauss on his stand regarding isotopes (Los Angeles Examiner, June 21).
	do		X				X		Denounces "outburst" over shipment of isotopes (Santa Fe New Mexican, June 27).
	Investigation, waste		X			X			Cites costs of bus service at Oak Ridge and wonders how many more such cases have been uncovered (Cleveland Plain Dealer, June 26).
	Investigation, general			X			X		Recalling that Senator Hickenlooper feared hearings would turn into a 'carnival of confusion' as his reason for asking the President to demand Mr. Lillenthal's resignation, points out that it is not Mr. Lillenthal's mistakes that have proven to be the public spectacle (Elmer Davis, ABC, July 4).
	do			X				X	On Meet the Press, Senator Millikin refuses to say whether charges have been proved against AEC (MBS, July 1).
	do						X		Attacks Senator Hickenlooper for taking up so much of the AEC's time and doubts if this is the best way to promote good management (Washington Star, Lowell Mellett).

July 6.....	Investigation, security.....	X						X	Editorial objects to General Groves' suggestion that FBI be given direct charge over security of the A bomb (Washington Post).
	Investigation, waste.....	X					X		Opposes Representative Kilday's suggestion that act be amended to require congressional approval for projects over a certain amount. Objects to telling stock-pile size (Phoenix Republic, June 28).
	do.....	X						X	Agrees with Senator Hickenlooper on costs of running towns (Chicago Tribune, July 1).
	Investigation, general.....		X					X	Senator McMahon states he wants to look into relations between AEC and the military; will call William Webster, chairman of MLC; AEC will not present Mr. Webster's testimony as defense against Senator Hickenlooper's charges (Washington News, July 1).
July 7.....	do.....		X					X	Reports that Mr. Lillenthal is now replying to Senator Hickenlooper's charges in open hearings. Scientists are to be called to testify (New York Herald Tribune; Washington Times-Herald; Washington Post; New York Sun, July 6; New York Times; Philadelphia Inquirer; Baltimore Sun; Washington Star, July 7; Washington News, July 6; New York Journal-American, July 6).
	Fellowships, security.....					X			In reporting that Henry J. Taylor has been denied a visa to Czechoslovakia suggests that Czech reporters probably could get a free tour of A plants and maybe even a follow-up (Fulton Lewis, MBS, July 6).
	Investigation, general.....	X					X		Agrees with Mr. Lillenthal that results of atomic production are relevant to charges made against him, and that from his testimony results are impressive (Washington Post).
	Investigation, waste.....		X					X	Reports story of Senator McMahon's introduction of bill to curb spending of AEC and factors involved in that procedure (Hartford Courant, July 3; R. D. Byrnes).
	Investigation, general.....		X					X	Senator Hickenlooper has been stymied in his attempt for sensational disclosures by the skillful questioning of Senator McMahon as to how much can be disclosed (Des Moines Register, July 4).
	Investigation, waste.....		X					X	Senator Hickenlooper reads letter from Louis H. Goetz, former employee of Argonne Laboratory, in which he charges waste in construction of the laboratory (Spokane Spokesman-Review, June 30).
July 8.....	Investigation, general.....		X					X	General McCormack tells JCAE that bomb production is now on a stable basis; there's a complete model change since MED days and bottlenecks have been broken since AEC took over (Washington Star, July 7; Baltimore Sun; Washington News, July 7; Philadelphia Bulletin, July 7; New York Journal-American, July 7; Wall Street Journal; Washington Post; New York Times; Washington Times-Herald; New York Herald-Tribune; Philadelphia Inquirer; New York News).

<sup>1</sup> Date item received at the Joint Committee on Atomic Energy.

<sup>2</sup> Date item appeared in the source quoted.

*Analysis of public opinion regarding the issues involved in the investigation into the policies and administration of the Atomic Energy Commission—*  
Continued

Date	Issues	News items	Editorial	Columns	Radio	Pro	Con	News only	Sources quoted
July 8	Investigation, general				X	X			Contents that Mr. Lillenthal has not answered specific charges. Continuation of previous broadcast. (Fulton Lewis, MBS, July 7.)
	do	X						X	Partial reprint of Fulton Lewis broadcast criticizing Mr. Lillenthal for not answering specific charges (New York Journal-American, July 7).
	do			X				X	Notes General Groves defense of Senator Hickenlooper's charges; says Groves was brought to Des Moines to bolster Senator Hickenlooper's position politically (New York Post, July 6; R. S. Allen).
	do		X				X		Thinks that AEC in telling JOAE that atomic bomb production has increased, was using it as a defense of its efficiency; writer feels that such judgment is correct; also scores secrecy regarding size of stock pile (Wall Street Journal).
	do						X		Thinks the perfecting to be done is needed in JOAE not AEC (Christian Science Monitor, July 2), letter to editor.
	do				X		X		Jack Beall, ABC, July 6 interviewed Dr. Bachar. Dr. Bachar again expresses belief that AEC program is going along very well.
	do				X	X			Continuation of his criticism of Mr. Lillenthal (Fulton Lewis, MBS, July 7).
	Investigation, waste				X			X	Feels it would be a pity if legislation introduced to curb expenditures would make AEC timid; Dr. Bachar's statement re reactor tests stations will only serve to "whet" the appetites of the anti-Lillenthal crowd (Elmer Davis, ABC, July 7).
	Investigation, general				X		X		Thinks Hickenlooper has "stymied out pretty badly" in trying to prove his charges (Geo. Hicks, NBC, July 6).
	do				X		X		Thinks AEC's received two-way boost by Senator McMahon's statement that the arsenal was empty when AEC took over and by Dr. Bachar's defense of AEO procedures, etc. (Morgan Beatty, NBC, July 7).
	do			X				X	Can't foresee end of hearings; some observers feel Senator Hickenlooper won the first bout on "points." (Washington News, July 8, Peter Edson).
July 9-10	do	X						X	Dr. Enrico Fermi testifies that results in the AEO project during the past 2½ years are far better than was expected. Members of GAC and LAC testify at the hearings. (Washington Star, July 8; Washington Post, July 9; New York Times, July 9; New York Herald-Tribune, July 9; New York Sun, July 7; July 8; New York Journal,

**American, July 8; Washington Times-Herald, July 9; Philadelphia Bulletin, July 8; and July 9; Philadelphia Inquirer, July 9.**

Inquirer, July 9:  
says certain observers think Senator Hickenlooper has won the battle; AEO presenting testimony of scientists to prove AEO program is successful. (New York Times, July 10, J. D. Morris).

times, July 10; *D. McArthur*, senator McCauley makes public letter from Secretary Johnson re the publication of pictures by A.E.C. New York Herald Tribune, July 10; Washington Post, July 10; Washington Star, July 10; New York News, July 10; Baltimore Sun, July 10; New York Times, July 10; Washington Times-Herald, July 10; Philadelphia Inquirer, July 10).

quirer, July 10).  
discusses the fallacy that secrecy means security etc.  
(Feature article New York Times, July 11, Hanson  
Baldwin).

**Dr. Hugh C. Wolfe defends Mr. Lillienthal on all counts; considers him as high type of public servant. Report of an interview with Dr. Wolfe. (Feature article New York Daily Mirror).**

Post magazine section, Wamby Bald.) Reports on despite strong defense of AEC legislation has been introduced to curb spending; reviews testimony (New York Herald-Tribune, July 10).

(New York Herald-Tribune, July 10).  
be sought curbing on spending wise; but warns that secrets must be safeguarded (Philadelphia Inquirer July 10).  
contrasts the coverage given Senator Hickenlooper's charges as compared to that given to present defense by AEO (New York Post July 8)

(New York Post, July 8).  
r. Thiele submits his report on loss of uranium—unlikely  
that theft was involved (Baltimore Sun; Washington  
Times-Herald; Philadelphia Inquirer; Washington Post;  
New York News, July 11; New York Times; New York  
Herald-Tribune).

**Herald-Tribune.)**  
 All that Senator Hickenlooper has accomplished is to tar  
 AEC by innuendo and constitute a risk to research  
 (St. Louis Star Times—reprinted in Raleigh News and  
 Observer of July 6).

Observer of July 6).  
Senator McMahon hopes to complete open hearings today and get under way with secret part of investigation (Washington News)

Washington News).  
EC testifies that it was decided and upheld by Attorney General Clark that the law permitted emergency clearances (Baltimore Sun; Philadelphia Inquirer; Washington Post; New York Herald-Tribune; New York World Telegram, July 11; New York Post, July 11; Washington Star, July 11; Philadelphia Bulletin, July 11).

Star, July 11, Finaquelina Bureau, July 11).  
announces the "whispering and hinting" that is going on  
about AEO even though the charges have not been  
proven (Washington Post, Marquis Childs).

do.....	X						X
Investigation, security.	X						X
Investigation, general.	X						X
do.....	X						X
Investigation, waste.		X					
do.....		X			X		
Investigation, general.		X					
Investigation, lost uranium.	X						
Investigation, general.		X				X	
do.....	X						X
Investigation, security.	X						X
Investigation, general.			X				

<sup>1</sup> Date item received at the Joint Committee on Atomic Energy.

**Date item received at the Joint Committee**

*Analysis of public opinion regarding the issues involved in the investigation into the policies and administration of the Atomic Energy Commission—*  
*Continued*

Date	Issues	News Items	Editorial	Columns	Radio	Pro	Con	News only	Sources quoted
July 12	Investigation, lost uranium.		X				X		Says in view of Dr. Thiele's report this issue can now be "laid to rest" (New York Times).
July 13	Investigation, general						X		AEC will profit by hearings, Senator Hickenlooper and Bureau of July techniques have been hurt (Philadelphia Bulletin).
	do			X				X	Claims that one anti-illithal Member of Congress may ask to have writers for pulp science magazines investigated to see where they get the information (New York News, D. Walker).
	Investigation, lost uranium.		X				X		Comments on Senator Hickenlooper's unwillingness to accept Dr. Thiele's report on this issue; AEC will profit by hearings (Washington Post).
	Investigation, general		X				X		Thinks Senator Hickenlooper's charges stemmed from bitterness over loss of chairmanship; he has done AEC and Nation a service since hearings have proven a remarkably good administration at AEC (Raleigh News and Observer, July 8).
	Investigation, waste					X			Claims there were millions of feet of surplus lumber after completion of school at Hanford (Spokane Spokesman Review, July 5, letter to editor).
July 14	Investigation, general	X						X	Discusses plan of JCAE for handling personnel security cases (New York Herald Tribune; New York Times).
	Investigation, lost uranium		X				X		Terms the issue the New York News' "Great Atomic Scare" (New York Post, July 13).
	Investigation, general military control		X					X	Believes AEC investigation should be called off since Mr. Lilienthal's comparison of his administration with MED may revive the issue of civilian versus military control (Providence Journal, July 10).
July 15	Investigation, rules for general	X						X	Senator Lucas testifies on resolution he is sponsoring for changing the rules of investigations; Senator McMahon approves of same; says such procedures were observed in the current AEC hearings in order to prevent a Roman holiday (Washington Post; New York Times).
	Investigation, general		X				X		Lauds Mr. Lilienthal for stressing continued development and accumulation of atomic weapons as a peace and security measure. Such statements made at AEO hearings (Milwaukee Journal, July 9).
	do						X		Accuses the Des Moines Register of aiding and abetting Senator Hickenlooper's "smearing campaign against Mr. Lilienthal" (Des Moines Register, July 12, letter to editor).

July 16-18.....	Fellowships.....	X							X	Washington Association of Scientists assails Senator O'Mahoney's rider to the appropriation bill requiring FBI investigation of all fellowship students (Washington Star, July 17).
	Investigation, waste.....	X							X	Senator McMahon states that as a result of discussions between JCAE and AEC, he does not expect to take immediate action on his bill to require committee approval of authorization for AEC budget but that he does expect to get it to the floor before the Independent Offices Appropriation bill (Hartford Courant, July 14).
	Investigation, general.....			X					X	Observes that 23 days of public hearings on charges of "incredible mismanagement" has produced little to support Senator Hickenlooper's charges; hearings closed and other matters to be discussed in secret sessions (Chicago Sun-Times, July 14, Carleton Kent).
	Investigation, security.....				X				X	Belittles the idea of giving FBI the job of passing on the loyalty of AEC employees; sees it as an effort to smear AEC (Dayton News, July 12).
July 19.....	Investigation, general.....	X							X	Representative Jackson says there is no basis for Hickenlooper's charges of "incredible mismanagement," and that United States is extremely fortunate that the atomic energy business is in such capable hands (Spokane Spokesman-Review, July 12).
	.....do.....	X							X	Terms AEC investigation a "tiresome one-man show" by Senator Hickenlooper, and asserts that he is only seeking to build a case for his reelection in 1980 (Cleveland Plain Dealer, July 17, Campbell Rogers).
	Fellowships.....	X							X	Discusses the attitude of educational and scientific organizations regarding the adopting of requirement of full FBI investigations of fellowship students (Minneapolis Tribune, July 15, Nat Finney).
	Investigation, general.....				X				X	Thinks AEC's "housekeeping arrangements" and expenses should be subject to congressional scrutiny, but contends that secret projects, etc., should not be a matter of discussions since nothing is a secret long after the close of a meeting (Providence Journal, July 16).
July 20.....	Investigation, waste.....	X							X	East Tennessee Natural Gas Co. says that its pipe line at Oak Ridge will give double assurance of unbroken production in case of war (New York Herald Tribune).
	Fellowships.....	X							X	Federation of American Scientists announces that 15 national organizations oppose the rider requiring a full FBI investigation on all fellowship students.
July 21.....	.....do.....								X	FBI investigation of full FBI investigation of all fellowships students (Washington Post).
	Investigation, general.....	X							X	States that although the hearings have cleared the air on some things and brought a lot of information into the open, it has done much to lower the morale of the whole project, especially in the installations outside of Washington, and has made AEC problems more difficult (Minneapolis Tribune, July 18, Nat Finney).

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*Analysis of public opinion regarding the issues involved in the investigation into the policies and administration of the Atomic Energy Commission—*  
Continued

Date	Issues	News items	Editorial	Columns	Radio	Pro	Con	News only	Sources quoted
July 22	Investigation, general		X				X		Denounces Senator Hickenlooper and contends that United States is fortunate that the Commission has done a great task well. Joins Washington Post in hope that AEC will now be relieved of constant, aimless harassment (Dayton News, July 18).
	do			X				X	Investigation changed the plans of Mr. Lillenthal to resign in May; feels he has successfully warded off the unsustained charges made by Senator Hickenlooper. Mr. Lillenthal will probably resign later and it will be difficult to find an able man willing to take over. Report of the JCAE is in doubt since Republican members will sign only a report carrying criticism of Mr. Lillenthal's administration (Washington Post, Marquis Childs).
July 23, 24, 25	do	X						X	Commissioner Pike, in an address at Bowdoin College, Brunswick, Maine, says that relations between AEC and JCAE are nearing "something like a crisis." Discusses the issues (Washington Star, July 22; Washington News, July 22; New York Times, July 23; New York Herald Tribune, July 24).
July 26	Investigation, general				X			X	Mr. Lillenthal will resign this year but not until after AEC has been given a clean bill of health (Danton Walker, MBS, July 24).
	do				X		X		Comments on Pike's speech: feels that "crisis" is more or less past since the investigation has petered out and is now at the point where it is more past than present (Richard E. Wolk, July 22).
	Fellowships				X			X	Discusses the whole issue of FBI investigations of all fellows under the AEC fellowship training program (Albert Warner, MBS, July 22).
	Investigation, general		X			X			Comments on Pike's speech, seeing in it his belief that AEC should be given a black check with no questions asked. Feels it is a continuation of the administrative philosophy that started about 1933 and has grown stronger through the years (Knoxville News-Sentinel, July 23).
	do			X				X	Mr. Lillenthal not yet "out of the woods." There is a growing tension within the JCAE (Washington Star, Dorothy Flesoon).
July 27	Investigation, waste and town management.	X				X			Discusses the town management situation at Richland; maintains that all businessmen pay a stiff percentage of gross sales to GE and AEC (Chicago Tribune, July 24, Seymour Korman).

July 29.....	Investigation waste....	X	.....	.....	.....	.....	.....	.....	.....	X	Reprint of article in the Times-Independent of Moab, Utah, which charges that AEC is indulging in lavish and wasteful spending at the Monticello mill. Cites charge that telephone calls between the mill and the AEC office in Grand Junction sometimes last all afternoon and cost as much as \$50 each (Grand Junction Sentinel, July 24).
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\* Date item received at the Joint Committee on Atomic Energy.

\* Date item appeared in the source quoted.

*Analysis of correspondence received by the Joint Committee on Atomic Energy regarding the investigation into the policies and administration of the Atomic Energy Commission (for the period May 12-July 31, 1949)*

Pro Mr. Lilienthal and his administration.....	174
Con Mr. Lilienthal and his administration.....	192
Pro full FBI investigation of all fellowship students.....	78
Pro full FBI investigation of fellowship students doing secret research, with loyalty oaths for others.....	140
Pro Mr. Lilienthal's administration—con FBI investigation except for workers on secret projects.....	129
Pro Mr. Lilienthal's administration—pro FBI investigation of all fellowship students.....	72
Con Mr. Lilienthal's administration—pro FBI investigation of all fellowship students.....	56
Loss of some uranium not so serious an offense.....	17
Pro civilian control of atomic energy.....	53
Pro military control of atomic energy.....	7
Requests that the investigation be a fair one.....	41
Requests that a full report be given to the public with no secrets.....	12
In favor of not even a loyalty oath much less FBI investigation of fellowship students on nonsecret work.....	3
In favor of more public education on atomic energy.....	7
Con telling the size of the United States atomic bomb stock pile.....	4
Pro of telling the size of United States atomic bomb stock pile.....	2
Pro foreign distribution of radioactive isotopes.....	9
Charging that the investigation is not being properly conducted.....	8
Total.....	1,004
Total number of letters defending Mr. Lilienthal's administration.....	375
Total number of letters criticizing Mr. Lilienthal's administration.....	248
Total number of letters favoring full FBI investigation of all fellowship students.....	206
Total number of letters favoring FBI investigation of students doing secret work with loyalty oaths for others.....	269

Letters were received from 34 States and the District of Columbia. Distribution of letters by percentages is as follows:

	Percent		Percent
New York.....	25	Maryland.....	3
Connecticut.....	13	Washington State.....	2
Massachusetts.....	10	Wisconsin.....	2
District of Columbia.....	5	Rhode Island.....	2
Pennsylvania.....	5	Minnesota.....	2
Florida.....	5	North Carolina.....	2
New Jersey.....	4	Tennessee.....	1
Texas.....	3	Oregon.....	1
Ohio.....	3	Kansas.....	1

Less than 1 percent: <sup>1</sup> Georgia, Michigan, Maine, New Mexico, Missouri, South Dakota, South Carolina, Iowa, Louisiana, Arkansas, Virginia, New Hampshire, Indiana, Idaho, Oklahoma, Wyoming, Arizona.

APPENDIX 5

REPORT AND APPRAISAL OF THE CARMICHAEL SCHOOL, RICHLAND, WASHINGTON, TO THE JOINT COMMITTEE ON ATOMIC ENERGY, SENATOR BRIEN MCMAHON, CHAIRMAN

(Prepared by Ernest J. Kump & Mark Falk, Consulting Architect and Engineer, San Francisco, California, August 6, 1949)

I. PURPOSE

This report and appraisal was initiated by telephone instructions from Mr. William L. Borden, Executive Director of the Joint Committee on Atomic Energy to Mr. Ernest J. Kump on July 14, 1949.

<sup>1</sup> Listed by order in which the greater number of letters received.

It is the objective of this report to evaluate in general whether the cost to the government of the Carmichael School, Richland, Washington, was justified with respect to quality and scope of the facilities that were finally realized; and to determine as far as possible the methods and conditions under which the work was executed.

## II. DESCRIPTION OF THE PROJECT

The project in general consisted of the planning and construction of a junior high school facility for approximately 650 students. The project is located in the Richland School District in the town of Richland, State of Washington. Its purpose is to serve the educational housing needs of the students of junior high school level in Grades 7, 8, and 9 in the southern half of the village.

The school is a one- and partial two-story building of steel and reinforced concrete construction located on a sloping site of approximately 25 acres bounded by Thayer Avenue and Lee Boulevard in the town of Richland.

The project contains approximately 14 classrooms, 9 special or vocational rooms, cafeteria, gymnasium, auditorium, study hall, offices, toilets, and apartment facilities.

## III. SOURCE OF DATA AND MATERIALS

The materials, information and data upon which this report is based were obtained during a visit of a representative of this office to Richland, Washington, from July 20, to July 25, 1949, and from the office of Mr. Elmer Breckner, Assistant Superintendent of Public Instruction of the state of Washington at Olympia on July 26, 1949.

It is entirely possible that, as a result of this preliminary study, additional information and data may be produced or developed which may modify or effect the conclusions reached on the basis of presently available information.

A preliminary examination of the building was made on Thursday, July 21, 1949, by the writer, accompanied by J. E. Travis, W. P. Cornelius, N. G. Fuller of the Atomic Energy Commission and Superintendent of Schools, P. A. Wright of Richland. The superintendent of schools furnished the writer with a master key to the building and a careful examination of all spaces in the building was made on Sunday, July 23, 1949.

Additional information of a general character pertaining to the project and not a matter of record was obtained in conferences and conversations with the officials named below.

The principal officials contacted and through whom the bulk of the material was obtained were:

J. E. Travis, Assistant Manager, Atomic Energy Commission, Richland.

W. P. Cornelius, Chief, Construction and Maintenance, Atomic Energy Commission.

N. G. Fuller, Chief, Community Management Division, Atomic Energy Commission.

J. R. Rue, Assistant to the general manager, General Electric Company, Budget and Expense Control.

C. F. Barnes, Supervisor of Community Activities, General Electric Company.

Clinton Henning, Division Engineer, General Electric Company.

David Checkley, Project Manager, J. Gordon Turnbull, Inc., and Graham, Anderson, Probst & White, Inc., Architects.

F. E. Baker, Comptroller, General Electric Company.

Mallis, DeHart & Hopkins, Architects, Seattle, Washington.

P. A. Wright, Superintendent of Schools, Richland, Washington.

Dr. A. R. Sandin, Assistant Superintendent of Schools, Richland, Washington.

Thor Hauff, President, Richland Board of Education.

Elmer Breckner, Assistant Superintendent of Public Instruction, State of Washington, Olympia, Washington.

Dr. Cleve O. Westby, Building Specialist, State Department of Education, Olympia, Washington.

Mr. Sincock, Building Specialist, State Department of Education, Olympia, Washington.

Source materials provided for study by the foregoing officials included:

1. Plates of the Master Plan for the Village as completed by the Turnbull organization.

2. Enrollment data, tables and graphs from the School Department.

3. Statement of project costs from General Electric Company accounting department.

4. A copy of the General Electric Company Realty Board's report.

5. Data on school costs from the State Department of Education.

6. Detailed analysis of square footages and costs from Mallis, DeHart & Hopkins, School Architects, Seattle.

7. Photostatic and typewritten copies of programs, letters memoranda pertaining to planning and construction of the project from various General Electric departments and offices.

8. Rules and Regulations of the State Board of Health relating to school sanitation.

9. Extracts from the Project Proposal pertaining to Robert Gray Junior High School (Renamed the Carmichael School).

10. Construction History from the project manager of the Turnbull organization.

11. Wage escalation data from General Electric accounting department.

12. Photostatic copies of communications from the Richland School Board and the State Department of Education relative to the project.

13. The Architectural Planning Program for the new North Junior High School, Richland (Chief Joseph Junior High).

14. Complete set of progress photographs taken during the construction of the building at about monthly intervals.

15. Set of "as built" plans for the building.

16. A copy of Vol. I, "Report of Cooperative Educational Planning Project, Richland Public Schools" made by the School of Education of the State College of Washington.

Data furnished was assumed to be valid, reliable, and accurate. No investigation or audit was made at this time to determine the accuracy or completeness of data furnished and the conclusions of this report are based on the assumption that all information furnished was complete, valid, and reliable.

#### IV. CHRONOLOGY OF PRINCIPAL EVENTS AND DECISIONS

September 26, 1946: Communication from R. H. Fergin, then Superintendent of Richland Schools, to C. F. Barnes, Superintendent of Community Activities for General Electric Company entitled "Building Needs for September 1947."

This communication suggests that "It may be found advisable to build two junior high schools" and makes an enrollment estimate of 786 for September 1947 in a 3-year junior high school.

November 29, 1947: Communication from C. F. Barnes to F. W. Wilson, Superintendent of Design and Construction Department. Subject: "Schools—Revised building requirements for 1947 junior high school. \* \* \* Description of facilities requested."

Briefly this communication sets up the requirements for a single large junior high school for 1,000 students, proposed to be located just north of the high school.

January 1947: G. A. Pehrson & Associates, Architects, of Spokane, Washington, retained to prepare designs, drawings and specifications for large central junior high school to house 1,000 students. General Electric Company was to do mechanical and electrical, but this was later turned over to Pehrson and an adjustment in fixed fee made.

March 24, 1947: Contract by and between the Richland School Board and the School of Education of the State College of Washington entered into for a survey of the Richland public schools. Made by a staff of 34 persons, the survey report consists of two volumes covering the organization, administration, instructional personnel and buildings. Emphasis was placed on recommendations for a long-term plan of improvement.

May 2, 1947: Letter from Dr. Zeno B. Katterle, Director of the Survey, indicating that the recommendations of the survey would be to provide two junior high schools housing a maximum of 800 pupils each. It was then apparent from their careful enrollment estimates that a single junior high school could not be expected properly to house all pupils in grades 7, 8, and 9 who would present themselves for admission.

Summer 1947: The prospect of a village population of 25,000 established with reasonable certainty. The necessity for two junior high schools was thus established.

Completion of the first group of 500 new housing units followed by early 1948 completion of Hudson houses (450 units) and completion of the A. & J. group of 900 units in the spring of 1948 fixes the scope and pattern of community growth.

September 1947: J. Gordon Turnbull, Inc., and Graham, Anderson, Probst & White, Inc., retained on a joint venture basis to prepare a Master Plan for Richland (including schools) at an estimated fee of \$50,000.

November 20, 1947: Because of its apparent urgency the Turnbull organization submitted a rough draft preliminary analysis of the school section of the Master Plan, independently arriving at the same conclusions as the Washington State College survey group relative to the untenability of the assumption that a single junior high school would be adequate. Recommended two junior high schools as shown on the plate "Junior and Senior High Schools" of the Master Plan.

December 7, 1947: Stop work order on the Central Junior High School was issued to G. A. Pehrson and Associates, of Spokane, abandoning further work on the single large centrally located junior high school. Negotiations to determine the amount due ensued and a final settlement reached June 7, 1948, for \$45,000. Design work was estimated to be 79 percent complete at that time.

December 1947: J. Gordon Turnbull, Inc., and Graham, Anderson, Probst and White, Inc., retained at a fixed fee of \$758,133 for 59 items of design and engineering work, including the new South Junior High School at a fixed fee of \$68,204.

December 10, 1947: C. F. Barnes, General Electric Company Superintendent of Community Activities, transmitted to the Turnbull group an amended copy to the original November 1946 list of requirements for the 1947 junior high school. The amendment consisted of marginal notes and deletions of facilities on the original list. This list, together with the portions of the Washington State College survey relating to buildings, were the material upon which the Turnbull group based preliminary sketches for the school.

December 31, 1947: First preliminary site use plan and preliminary floor plans submitted by the Turnbull group.

January 13, 1948: Preliminary plans consisting of minor revisions of December 31 sketches approved by W. P. Cornelius, Chief of Construction and Maintenance, Atomic Energy Commission.

January 10-15, 1948: Contact made with the State Department of Education as represented by Elmer L. Breckner, Assistant Superintendent in Charge of Administration and Finance; Dr. Cleve O. Westby and Mr. Sincok, school building specialists in that department. Under dates of January 12, 13, 14, 15 and 16th detailed suggestions for modifications in the plans were submitted by the State Department of Education. Under date of February 3, 1948, the Richland School District, through its Superintendent R. H. Fergin in a communication to Mr. C. F. Barnes of General Electric Company stated, "The school board is desirous that these recommendations be followed insofar as they can be incorporated within the existing over-all plan." The extent to which this was done is discussed elsewhere in this project.

March 9, 1948: The Architect-Engineer was directed to follow as a general guide the specifications for the Shoreline Junior High School, Seattle, Washington, and was furnished a copy by C. F. Barnes.

March 26, 1948: Submission of the official "Project Proposal" containing a description of existing facilities and an explanation of their inadequacies, a description of the proposed work, advantages to be gained, time required to complete the work after authorization and an estimated cost. The time required was estimated at 10 months and the cost \$1,786,000.

April 3, 1948: Modified preliminary working drawings and complete outline specifications approved by the General Electric Company Design Section.

April 5, 1948: Atomic Energy Commission authorization of \$1,786,000 for the project, as requested in the Project Proposal. (NOTE.—Ten months after this authorization would be February 5, 1949.)

April 15, 1948: Preliminary working drawings estimated to be less than 40 percent complete, approved by the Atomic Energy Commission local office.

April 23, 1948: Cost-plus-fixed-fee contract awarded to the McNeill Construction Company of Los Angeles. Fixed fee of \$80,000 includes an item of \$60,485 for the Carmichael School.

May 13, 1948: Construction work actually started, with a directive completion to have the plant ready for use September 1, 1948, and physically complete February 1, 1949. Approximate time from May 13 to September 1 is 3½ months.

May 13, 1948: Structural steel order placed with Judson-Pacific.

June 19, 1948: Steel sash ordered from Truscon, Los Angeles. Final deliveries of steel sash were not made until January 26, 1949.

July 1, 1948: New superintendent of schools, P. A. Wright, took office.

September 1948: Accounting procedures relative to allocation of General Electric overhead and distributives changed to require allocation to current projects instead of accumulation until the end of the whole construction programs. This added \$738,611.00 to the charges against the Carmichael School.

October 1, 1948: Project Memorandum No. 877 signed by F. R. Creedon establishing January 24, 1949, as the completion date for the Carmichael School (also called the Robert Gray Junior High School).

February 28, 1949: School district occupied portions of the north, south, east and west wings, excepting the auditorium, music rooms, cafeteria, home economics rooms and the shops.

April 8, 1949: Gymnasium turned over to the school.

April 21, 1949: Kitchen and cafeteria put into operation. Home Economics and shops not used by the school during the spring term.

June 3, 1949: School closed for summer vacation.

June 8, 1949: General Electric Company Realty Board report on the Carmichael School transmitted to Mr. G. R. Prout, Vice President, Nucleonics Department, Richland.

July 20-27, 1949: Field work of this report.

August 1949: J. A. Terteling & Sons have a contract to surface drives, walks, parking areas, outdoor basketball and tennis courts and to install irrigation piping to permit grounds development scheduled for execution this month. Grounds virtually unusable until this work is done.

#### V. COST OF THE WORK

1. *Costs.*—Latest information on the costs of the project is dated June 30, 1949, and was furnished by F. E. Baker, Comptroller, General Electric Company Nucleonics Department, Richland. Data is summarized as follows:

	Expended	Commitments	Total
<b>A. Engineering and design:</b>			
General Electric.....	\$3, 900		\$3, 900
Turnbull & Associates.....	63, 770	\$4, 434	68, 204
Design overhead.....	292		292
Total design cost.....	67, 962	4, 434	72, 396
<b>B. Direct construction costs:</b>			
Grading and roads.....			149, 508
Permanent junior high buildings.....	2, 332, 756	102, 041	2, 434, 797
Permanent utilities.....	54, 939		54, 939
Temporary construction.....	31, 453		31, 453
Other direct costs.....	66, 842	510	67, 352
Total direct construction costs.....	2, 635, 498	102, 551	2, 738, 049
<b>C. Overhead:</b>			
Overhead and distributives.....	738, 611		738, 611
Equipment usage.....	174, 175		174, 175
	912, 786		<sup>1</sup> 912, 786
Total construction cost.....	3, 548, 284	102, 551	3, 650, 835
Total project cost.....	3, 616, 246	106, 985	3, 723, 231

<sup>1</sup> The overhead charged to the project by General Electric Company reflects a reduction of \$187,010 entered as an adjustment as directed by Atomic Energy Commission and accounts for previous figures approximating \$3,900,000 as the total project cost.

There seems to be considerable difference in the computation of square footage of the Carmichael School as made by different authorities. Many of the differences are explainable by what is or is not included as usable square footage. The 101,000-square-foot figure used by General Electric includes pipe tunnels, pump rooms, transformer vaults, exterior porches, furred spaces, mezzanine mechanical rooms, and even an allowance for the conduit under the building. If such non-

habitable spaces are excluded from the computation as is the usual practice in this area a more realistic figure for the square footage as customarily calculated is in the neighborhood of 90,000 square feet.

A detailed take-off of areas by Mallis, DeHart and Hopkins, Architects of Seattle, Washington, made at the request of the Richland School District gives the usable square footage as a basis for estimating purposes as 89,610 square feet.

*Cost per pupil and per square foot, Carmichael School, Richland, Washington*

	Cost	Number of square feet	Cost per square foot	Design, number of pupils	Cost per pupil
Based on total construction cost.....	\$3,650,835	101,000	\$36.24	650	\$5,615.00
Based on direct construction cost.....	2,738,049	101,000	27.11	650	4,212.00

As will be noted in the above schedule of costs the square footage of 101,000 as used by the General Electric Company is the basis for determination of square-foot costs. If this were reduced to 90,000 square feet, which would probably be more accurate, the square-foot costs shown above would be increased by approximately 10%.

The per pupil housed figure of approximately \$5,615 is more than double the State average for junior-high-school construction during this same period, as noted elsewhere in this report, as is the approximate cost per square foot. Even if one uses the direct construction cost only as shown in the table above, the figure of \$4,212 per pupil housed which is \$27.11 per square foot average cost still approaches double the current costs in the same State.

No detailed analysis or audit was attempted as to whether the cost data furnished was accurate and whether the money was actually expended for work on this particular project. This was not possible within the limit of time afforded for this preliminary report, nor do we believe the cost would justify it.

However, it is our opinion there is little question that the moneys allocated to the project were actually expended for materials, labor, and overhead in this work.

The high cost can be fully accounted for. It is unquestionably the result of conditions created by the manner in which the project was planned, managed, and constructed. The relation of conditions, premises, and policies to the cost is fundamental. It is difficult to determine accurately expenditures inherent in the processes and policies followed, or to assign them to a specific policy decision. However, their effect in the aggregate can be determined fairly well. Such a determination is made later in this report.

#### VI. COMPARATIVE ESTIMATES OF COST

In attempting to determine a reasonable estimate of the fair value of the project it is possible to take many approaches. For the purposes of this report two methods were used. The first is based on the over-all cost per pupil housed from information furnished by the State Department of Education of the State of Washington. The second method used is based upon the cost per square foot determined by investigation of costs of buildings constructed or planned for construction in the State of Washington together with the experience of this firm for schools of a similar nature constructed in the State of California.

*Cost data from Washington State Department of Education.*—Dr. Cleve O. Westby of the Washington State Department of Education under date of July 8, 1949, transmitted the following information by memorandum:

"Cost per pupil for junior high school construction: Only five junior high school buildings were undertaken during the period (1947 to 1949). The average cost per pupil to be housed, including the cost to date and the estimated cost to complete, is \$2,077.35, which does not include the cost of site, site development, or equipment. These are estimated to average \$155 per pupil, making a total per pupil cost for junior high schools of \$2,232.35."

The above average does not include the costs of the Carmichael School, as it was not constructed with State aid or supervision.

*Average cost per pupil, five junior high schools, State of Washington*

	Cost	Number of square feet	Cost per square foot	Design, number of pupils	Cost per pupil
Evergreen Junior High School near Vancouver.....	\$671,308	44,750	\$13.00	405	\$1,657.55
East Wenatchee High School, Wenatchee.....	494,374	38,650	13.50	351	1,408.47
Highline Junior High School, Puget Sound.....	1,385,068	116,520	11.90	675	2,051.95
Jane Addams Junior High School, Seattle.....	2,606,853	156,740	16.60	1,200	2,320.00
Central Valley Junior High School, Spokane.....	731,692	63,975	11.50	432	1,693.73

NOTE.—This does not include the cost of site, site development, or equipment usually furnished by the school district. These are estimated to average \$155 per pupil housed.

The following is a tabulation of three large junior high schools in the State of Washington of a comparable scope and quality. The architects for these projects are Mallis, DeHart, and Hopkins, of Spokane, who furnished us with the following information:

*Cost data from Mallis, DeHart & Hopkins, architects, Seattle*

Name of school	Cost	Number of square feet	Cost per square foot
Northeast Junior High School, Seattle, Washington.....	\$1,983,194	159,219	\$14.20
Chief Joseph Junior High School, Richland School District.....	1,648,000	114,534	14.39
Woodrow Wilson Junior High School, Shoreline School District, Seattle, Washington.....	2,250,000	160,719	14.00
Average cost per square foot.....			14.30

<sup>1</sup> This is based on the architect's estimates for this project which has not been constructed as yet.

In our judgment the average cost per square foot for schools of comparable quality constructed in the State of California would be approximately \$18.00.

An average of the square foot costs for California and the State of Washington gives an amount of \$16.15. For purposes of estimation of a fair value of the direct construction cost of the Carmichael School, this figure was arbitrarily increased in the amount of 20% to take care of the unusual construction conditions in Richland, giving a final figure for evaluation purposes of \$19.40 per square foot.

For comparative costs on a per pupil basis, we have also increased the Washington State average figure 20% for reasons stated above, giving a final figure for evaluation on this basis of \$2,492.82 not including site development and equipment.

To obtain a total construction cost figure it is necessary to add to the above unit costs an item for site development. Accounting procedures for allocation of costs as between site and building vary greatly. It is our experience, however, that site development work on a site of average difficulty rarely exceeds 10¢ per square foot of site area. The allowance for site development costs furnished by the Washington State Department of Education is given at \$155.00 per pupil housed, which if increased by the 20% differential for Richland, would amount to approximately \$186.00 per student.

By the use of the square foot unit costs above and allowing \$19.40 per foot for building and 12¢ per square foot for 25 acres of site work, the appraised fair value of the construction cost would be \$1,959,400 for buildings and \$130,780 for site for a total construction cost of \$2,090,180.

The use of per pupil housed unit costs as applied to the design capacity of 650 produces an appraised fair value of \$1,620,303 for the building and \$124,900 for site development, for a total construction cost of \$1,745,203.

As is to be expected the estimate based on square footage is higher than that based on a per pupil housed basis. This is explainable in part on account of the method of computation of square footage which was used by General Electric and which is probably of the order of 10% high.

Averaging the costs arrived at in the two different methods above gives a fair value estimated construction cost of the Carmichael School of \$1,917,692. The previously quoted Statement of Costs for this school as furnished by the General Electric Company on June 30, 1949, gives as the total construction cost, including

site work and overhead, but excluding design costs as \$3,650,835. The excess cost to the Government is therefore computed at \$1,733,143.

The excess cost to the Government of \$1,733,143 is in the main ascribable to the conditions under which the building was built and to the policies followed in planning and executing the construction. It would be difficult, if not impossible, to apportion this overage among the various factors that caused it. The list below of the principal factors is arranged approximately in the order of the extent to which, in our opinion, they caused the excess costs.

1. Management of the project through General Electric Company rather than the School Board.
2. Inadequate allowance of time for planning and programming.
3. Inadequate allowance of time for construction.
4. Inordinately high overhead costs.
5. False start on the large Central Junior High School.
6. Adoption of the Cost-plus-fixed-fee method of contracting.
7. Proceeding without completely developed plans.
8. Ineffective participation of the State authorities.
9. Difficulties inherent in the site selected.
10. High costs for use of government-owned equipment.
11. Community use features peculiar to the project.
12. Authorized wage increases during construction.
13. Labor conditions peculiar to the area.
14. Excessive number of change orders.
15. Difficulties in securing materials and equipment when needed.
16. Climatic conditions during construction.
17. Complexity of the site use plan and building design.
18. Establishment of overtime work week.
19. Approval of special expediting costs.
20. Costly development of utilities, sewers, irrigation conduit.

#### VII. DETERMINATION OF NECESSITY FOR THE PROJECT

The necessity for the school project evidently was first brought to the attention of the government by a memorandum entitled "Building Needs for September 1947" dated September 26, 1946, signed by R. H. Fergin, Superintendent of Schools, Richland School District. This requested among other things the construction of one or two junior high schools based on an enrollment estimate for September 1947 of 786 in the three year junior high school grades. In addition a schedule of necessary rooms and facilities was included. The question as to the necessity for one or two junior high schools was left open.

We found no evidence of a basis or method that was used for determining that one junior high school was to be built rather than two as suggested by the Superintendent. Apparently this decision was made without proper study and documentation of the problems and needs of the district. Due to this action considerable time, approximately eight months, was lost for planning and construction of the type of project which was ultimately decided upon. Also, additional loss was entailed in costs incurred for architect-engineering services abandoned as a result thereof.

In January 1947 General Electric Company retained G. A. Pehrson & Associates, Architects of Spokane, Washington, to prepare designs, drawings, and specifications for a large central junior high school to house 1,000 students. Under this arrangement General Electric Company was to do the design of the mechanical and electrical work, which was later turned over to the Pehrson firm and an adjustment in the fixed fee made.

The School Board, evidently not satisfied and also concerned with the obscurity of general policies to be followed for housing, teaching, and administration of the Richland School District, entered into a contract on March 24, 1947, with the School of Education of the State College of Washington for a survey of the Richland public schools covering organization, administration, instructional personnel and buildings. Emphasis was placed on recommendations for long-term planning of building improvements. This report was exceptionally well done and very thorough in its scope.

On May 2, 1947, a preliminary report from the Washington State College survey staff indicated definitely that a single junior high school would have to be of excessive size if it were to house adequately the then apparent enrollment.

Realizing the urgency of the matter, since steps had been taken for the design of a large central school, Dr. Zeno B. Katterle, Director of the Survey, forwarded a letter to the District on May 2, 1947, apprising it of the fact that a single junior

high school could not be expected to properly house all pupils in grades 7, 8, and 9 who would present themselves for admission.

In substantiation of the above information, early in the summer of 1947 it was apparent that the prospect of a village population of 25,000 was established with reasonable certainty and by inference the necessity for two junior high schools was indicated.

In the summer of 1947 also occurred the completion of the first group of 500 new housing units, followed by early 1948 completion of the Hudson houses, 450 units. The completion of the A. & J. group of 900 units occurred in the spring of 1948. This definitely fixed the scope and pattern of community growth.

Apparently without taking this information into regard the General Electric Company continued to proceed with the plans and design for a single centrally located junior high school, which policy was eventually discarded in favor of two junior high schools in December 1947.

In September 1947 J. Gordon Turnbull, Inc., and Graham, Anderson, Probst & White, Inc., were retained on a joint venture basis by General Electric to prepare a complete master plan for the town of Richland including schools at an estimated fee of \$50,000. This study, as can be seen, was started subsequent to the award to the Pehrson firm for plans for a large central junior high school.

Because of its apparent urgency, due to outside information being brought to bear on the problem, the Turnbull organization was asked to submit a rough draft and preliminary analysis of the school portion of their study. And it appears that in said draft which was submitted on November 20, 1947, this organization arrived at the same conclusion as the Washington State College group, that is, that a single junior high school would be inadequate and that their recommendation would be two junior high schools for the district.

Apparently sensing an error in the policy of one central junior high school, from information furnished by the school district and others, the General Electric Company issued a stop work order to G. A. Pehrson & Associates of Spokane abandoning further work on the single large junior high school. It is rather obvious from the vacillation manifested in the determination of the correct policy that a total of approximately eight months were lost for the proper planning and construction of the project, which also influenced seriously other policies concerning the work.

At the present time the enrollment in the first three grades of the Richland School totals 1,790 children. Two years from now the present fifth, sixth, and seventh grades will constitute the junior high school enrollment. At the present time there are 1,356 children in those three grades. Enrollment figures of this character have been continuously available to management.

As of May 1949 there were 432 seventh graders, 361 eighth graders and 333 ninth graders enrolled in the Richland schools for a total of 1,126 in the three junior high school grades. It is obviously impossible to house 1,126 junior high school children in a building designed for 650. The school authorities are planning to attempt to house on an emergency basis some 850 to 900 of these junior high school age children in Carmichael Junior High School building. As early as September of 1946 the enrollment per grade in all grades below the fourth exceeded 350 children.

If the children now enrolled in grades five, six, and seven stay in Richland for the next two years the capacity of both the Carmichael School and the new North Junior High School will have been reached.

If the schools of Richland are not to find themselves continually in difficulties requiring urgency measures for correction, a great degree of foresight in meeting school needs should be incorporated into planning and management.

Some basic policy assumptions relative to the stability, permanence and growth of the Village must be adopted as the basis for adequate advance planning. That these assumptions may prove later to have been incorrect is not of great importance. They can be changed. In the making of planning premises which vitally affect the schools the Board of Education and its administrative officers should be permitted to participate fully and effectively.

The situation calls for long-range planning and for foresight in meeting school needs, so that situations of urgency which are apparently being used to justify the cost plus fixed fee contract for the Carmichael School do not recur time after time.

#### VIII. GENERAL ADMINISTRATION OF THE WORK

As far as we are able to ascertain, the general policy for all activities concerned with the Hanford Project on which the Carmichael School is located is the following:

The Atomic Energy Commission acts in the capacity of a general policy making and supervisory group over the activities of the General Electric Company, who in turn are prime contractors responsible for the construction, operation, and management of all facilities and work within the project.

The government through the Commission is vested with the authority for constructing and providing school facilities in such an area if justified. These facilities are turned over to the school district for operation.

In order to construct a school project of the type built in Richland two practical courses to be followed for execution of the work were open to consideration by the Atomic Energy Commission. In the one case it was possible to elect the General Electric Company to be prime contractor and responsible for construction of the project, or in the other case it was possible for the Commission to allocate the funds to the local school district and authorize it to take the necessary steps to construct the school.

It appears that the dominant reason for assigning the work to General Electric was that in the opinion of the Atomic Energy Commission by adopting this method the project could be completed at a much earlier date.

The Commission was aware of the fact that under the first policy for constructing the school, using the General Electric Company as prime contractor, was involved additional overhead and distributive costs to General Electric Company over and above that which would be required under the second method mentioned—or through the school district as contracting agency. In the case of the Carmichael School this added an amount of approximately \$738,611.00 of overhead to the total cost of the project which otherwise would not have been incurred. This is one of the major items contributing to the excessive cost of the project.

The General Electric Company for all practical purposes, it appears, was given the authority to act as prime contractor, administrator, contracting agency and manager on behalf of the Atomic Energy Commission for the execution of the Carmichael School Project.

In this instance it is interesting to note that in contrast to the policy followed in the general administration and construction of the Carmichael School that the second junior high school which is now in the process of planning has been entirely changed. The Atomic Energy Commission has placed the responsibility for administration and construction of the new North Junior High School squarely in the hands of the local school board. The Commission in this case is apportioning to the school district a sum of money equal to the average cost per pupil for housing junior high school students in Washington State. This sum of money, which is approximately  $1\frac{1}{4}$  million dollars, is to be administered and handled by the Richland School Board and the administrative officers selected and paid by the school district. The General Electric Company will for all practical purposes have nothing to do with this new project. It is our opinion that had this process been followed in connection with the Carmichael School the results would probably have been far different both as to the planning of the school itself and as to the costs of the project.

The Atomic Energy Commission has budgeted directly to the local Board of Education a sum of approximately \$1,750,000 based upon the average cost in the State of Washington to house junior high school pupils in new plants.

The School Board is administering the program through its regular staff, and has selected an experienced specialist in school architecture to work with them in programming, planning, designing and supervising the erection of the needed educational facilities. Close cooperation with the State Department of Education will be maintained. The work will be put out to open competitive bidding in the usual manner. It is planned that the buildings will be substantially complete and ready for occupancy by September 1950—approximately 20 months after beginning the planning. About half of this time will be spent in planning and about half in actual construction. When this new project has been completed the effectiveness of the policies followed can then be adequately judged in relationship to those followed in the case of the Carmichael School.

#### IX. PREPARATION OF PLANS AND ESTIMATES

The original site of approximately 15 acres for the Central Junior High School between Long Avenue and Stevens Drive was determined by joint action of the Atomic Energy Commission and the General Electric Company. Although this project was not constructed, the area of this site was not adequate for a school of the size proposed relative to what is considered good planning standards.

The first contract for engineering services for plans for a junior high school for the Richland School District was entered into in January 1947 with G. A. Pehrson & Associates, Architects, of Spokane, Washington. Under the original proposal with Pehrson, General Electric was to do the design of the mechanical and electrical work. However, this was later turned over to Pehrson and an adjustment made in his fixed fee.

The communication which follows hereafter, dated November 29, 1946, from C. F. Barnes, Director of Community Activities for General Electric, to F. W. Wilson, Superintendent, Design and Construction Department, outlines the program of requirements given G. A. Pehrson & Associates, architects, as a basis for designing an abandoned Central Junior High School.

NOVEMBER 29, 1946.

To: F. W. Wilson, Superintendent Design and Construction Dept.

Subject: Schools—Revised building requirements for 1947—Junior High School—Description of facilities requested.

The following information is to be considered as a supplement to the Inter-Office Memo to you on this subject under date November 14, 1946. This information is not to be considered as the total requirements or recommendations. It is assumed that the responsibility rests with architect to provide for such installations as are required by State and Project fire, safety and public health regulations and that the building will be in keeping with accepted educational standards.

**Location.**—It is recommended that the Junior High School be constructed on the west plot of ground between Swift Blvd. and Knight Street at Stevens Drive.

**Size.**—Provide sufficient facilities to permit the administration of an approved Junior High School educational program for 1,000 pupils including such facilities which can be used jointly for Junior High and Senior High classes and community functions. Within this building provide for the administrative offices of the School District.

**Building requirements.**—The following items should be given consideration in the execution of plans and specifications for the new Junior High School. The approximate size of rooms and the estimated number of pupils to be assigned to each room is given below. In considering the purpose for which the room is intended in relation to its location the architect can determine the exact dimensions of the various rooms.

1. Adequate fire breaks in attic properly sealed with protected doorway.
2. Adequate safety protection (switches at equipment) for ventilation and exhaust equipment in attic.
3. Proper construction details at joint of roof rafters with fire wall. So that break wall will not be toppled in event of failure of wooden members.
4. Proper blocking off between first and second floors at fire walls to agree with fire regulations.
5. Panic hardware, fire alarm and detector system, usable scuttle doors to half basement or to attics.
6. Provide approved type fire walls, fire doors, and fire hose and extinguisher recesses and outlets.
7. Provision of three compartment sinks in kitchens—also approved type of standpipe overflow drain in sinks.
8. Use of sanitary floor covering and work counter tops in food preparation areas.
9. Grease filters in hoods over stoves and forced ventilation on same with steam douse in event of fire.
10. Install suction type exhaust system through ducts located in attics for all rooms including lavatories.
11. If heating circulation system is to attic, proper fireproofing of ducts and airways in attic.
12. Check of heavy equipment footings to provide adequate support. (Experience has recently revealed a very inadequate condition in the commercial laundry water softener room. Two units each weighing 11,000 pounds when operating full, were supported on a 4" concrete slab without reinforcing.)
13. Elimination or reduction of noise factor.
  - a. Acoustic cellotex ceilings.
  - b. Heavy, close fitting classroom doors.
  - c. Linoleum, cork, or other material on floors.
  - d. Proper location of shops, cafeteria, music rooms, and gymnasiums apart from recitation classrooms.

14. Provide adequate classroom and office lighting. (Indirect or fluorescent type lighting recommended.)
15. Utilize available steam from central heating plant. (Radiant type floor heating recommended.)
16. Install recessed metal student book and clothing lockers in halls (1,000).
17. Provide adequate hot water; kitchen (170 degrees), showers (140 degrees) and wash rooms (140 degrees).
18. Install central control loud-speaker system similar to that installed at high school. (Used in place of room telephones intercommunication system) and for recorded programs, radio programs, and announcements to one or several rooms and for events in one or both gymnasiums.
19. Install adequate master keyed "pick-proof" lock system on all doors and panic hardware where required.
20. Install venetian blinds on all windows. Also install adequate locking devices on all windows. (Slide windows with glass deflectors preferred.)
21. Be careful to provide adequate surface drainage away from building. (We are still putting in drainage structures and grading programs to eliminate pockets around school building, which could be eliminated in this new building by getting the building floor level up sufficiently.)
22. Pop valves to outside properly guarded.

### *Building requirements*

- Classrooms (approximately 24' x 32') : 28 to 35 pupils. These rooms may vary in size from 22' to 24' wide and 32' to 36' long with the provision that sufficient window space be installed with resulting adequate light for corridor side seats. Install closets with book shelving in rear of each room, approximate size 4' x 12'. Equip 3 of these rooms to close off all light in order that motion pictures may be shown.----- 20
- Home Economic rooms (approximately 24' x 50') : 24 to 28 pupils. These 2 rooms may vary in size but space must be provided for 7 model kitchens per room and for adequate space for demonstration and instruction. The rooms are to be used for cooking instruction, meal planning and home care instruction. The 2 rooms are to be connected with a model kitchen including standard cabinets and equipment which can be used by both rooms.----- 2
- Clothing rooms (approximately 24' x 40') : 24 to 28 pupils. These 2 rooms are to be used for sewing and textile instruction. A home type laundry should be installed between the 2 clothing rooms including facilities for laundry, pressing, and dressing. (Provide storage space for each room) ----- 2
- Commercial rooms (approximately 24' x 36') : 28 to 32 pupils. These rooms are to be the standard classroom type and will be used for typing, bookkeeping and stenography instruction. (Provide closets with book shelving in rear of each room) ----- 3
- General Science rooms (approximately 24' x 40') : 28 to 35 pupils. These rooms are to be used for general science and biology instruction. Provision should be made for the installation of a demonstration table with sufficient plumbing and outlets in each room. Equip these 2 rooms to close off all light. (Provide storage space for each room) ----- 2
- Art room (approximately 28' x 40') : 28 to 32 pupils. This room will be used for instruction in painting, drawing, ceramics, and other art work. Provision should be made for the installation of sinks for cleaning materials and hands. Adequate storage space should be provided for projects including cabinets for drawing boards and cupboards for models and other art projects. Provision should also be made for the installation of a 220 volt ceramics kiln.----- 1
- Dramatics room (approximately 24' x 50') : 35 to 50 pupils. This room will be used for debate, public speaking and play rehearsals. A platform 10' deep should be installed at the far end of the room with a small dressing room with hall entrance to platform. Equip this room to close off all light.----- 1
- Music rooms (approximately 24' x 50') : 35 to 50 pupils. These rooms will be used for choral, orchestra and band instruction. 2 practice rooms (approximately 10' x 18') and 1 instrument storage room 18' x 18' should be located between these 2 music rooms, off a hallway connecting the 2 music rooms and with direct exit to the main corridor. These rooms should be sound proofed.----- 2

Wood-working shop (sufficient size for 24 pupils) : This room will be used for the instruction in the use of wood-working tools and the production of wood projects. Provision should be made for storage space for tools, lumber, and unfinished projects. A separate safety type paint room is also required.

Metal shop (sufficient size for 24 pupils) : This shop will be used for instructing in the use of metal working tools and in the construction of metal projects. Provide the necessary power installations to operate equipment satisfactorily and the necessary sinks and safety showers as required resulting from the use of acids. Provide for storage space for raw materials and unfinished projects.

Auto Mechanic shop (sufficient size for 24 pupils) : The auto mechanic shop will be used to instruct pupils in the theory of operation and maintenance of auto and airplane motors. Provide the necessary utility installations and safeguards that are required for such a shop. Provide for storage space for raw materials and unfinished projects.

Radio and Electric shop (sufficient size for 24 pupils) : The radio and electric shop will be used to instruct pupils in the theory of operation and maintenance of radios and electric appliances. Provide the necessary utility installations and safeguards that are required for such a shop.

Mechanical Drawing and Graphical Art shop (approximately 24' x 32'), 24 pupils: Provide required electrical outlets for drafting tables. Adequate storage space should also be provided for 150 student drawing boards.

Shop Library and Demonstration room (approximately 24' x 32'), 24 pupils: This room will be used for demonstration. Equip same to close off all light in order that motion pictures may be shown. Provide shelving for shop library.

NOTE.—The above rooms are to be equipped with adequate blackboard, eraser troughs, bulletin boards, and electric outlets.

Library (approximately 24' x 60'), 150 pupils: Provide stock room (approximately 12' x 26') adjoining work room 12' x 13' and librarian's office and conference room approximately 12' x 13'. Install necessary shelving in stock room including standard checkout desk and return slot. (Provide glass windows between office and library).

Cafeteria (350 minimum seating) : Provide for cafeteria-type distribution of service for food and self-service dish-return servidore. Provide adequate space for utilities for kitchen including large storeroom located on service drive and provided with a loading platform for receiving foods and supplies.

Physical Education room (approximately 36' x 60'), 20 to 24 pupils: This room is to be used for corrective exercises, boxing, wrestling and tumbling. Provide an adjoining trainers room and storage space for athletic equipment and first-aid supplies including rubbing table, single shower, toilets and wash basin. Provide blackboards and bulletin boards in this room.

Girls' Gymnasium<sup>1</sup> (standard high school basketball court size without bleachers, and girls' shower room).

Boys' Gymnasium<sup>1</sup> (standard high school basketball court size with bleachers for 1,500, and boys' shower room).

Swimming pool (regulation size high school pool) : This pool should be located in such a way that the regular shower rooms can be utilized for dressing purposes.

<sup>1</sup> It is recommended that the boys' gymnasium be constructed with bleachers on three sides seating 1,500 (650 on each side and 200 on far end) and that the girls' gymnasium be raised approximately 4 feet above the boys' gymnasium floor on one end of the boys' gymnasium in order that this may be used as a stage for assemblies and large school and community functions. Provision should be made for storage of chairs under girls' gymnasium floor in order that the seating capacity can be increased to 2,500 for stage performances. A boys' gymnasium canvas floor covering would have to be provided. Provide track on girls' gymnasium ceiling for the installation of stage cyclorama and divider for the 2 gymnasiums (either folding doors or reinforced anchored curtains). Each gymnasium and shower room should be equipped with full-length lockers for 100 pupils and basket or box-type lockers for 300 additional pupils. Toilet facilities should be provided in each locker room.

Junior High School Administrative and other rooms:

Principal's office (10' x 12')-----	1
Counselors' offices (boys' and girls' guidance) (10' x 12')-----	2
Administrative office (24' x 24') including storage room and vault (12' x 12')-----	1
Public Address and Broadcasting room (including visual education storage space) (10' x 12')-----	1
Duplicating and Mimeographing room (10' x 12') (with shelving)-----	1
Text Book Storage room (with adequate shelving) (12' x 12')-----	1
Building Supply room (janitor's) (10' x 12')-----	1
Conference rooms (for student, faculty and parent use) (12' x 12')---	2
Teachers' rest room (female) (12' x 12')-----	1
Teachers' rest room (male) (12' x 12')-----	1
Girls' lavatories (similar to high school)-----	4
Boys' lavatories (similar to high school). One large lavatory should be located near the shops-----	4
Girls' first aid room (similar to high school)-----	1
Boys' first aid room (similar to high school)-----	1
School District Administrative Offices:	
Superintendent's office (12' x 12') (with exits to waiting room and corridor)-----	1
Conference room (next to Superintendent's office) (12' x 12')-----	1
Administrative Assistant's office (12' x 12')-----	1
Curriculum Directors' offices (10' x 12')-----	2
Visual Aid Directors' offices (with storeroom, 10' x 12')-----	1
Business office (24' x 24') (including large vault room for permanent schools records, (12' x 12')-----	1
Visiting Teachers' offices (10' x 12')-----	2
Receiving room (large storeroom for equipment and supply control)—approximately 24' x 50'—located next to service drive with loading platform-----	1

C. F. BARNES.

CFB : hsf.

NOTE.—These suggestions are offered to you so that you may pass them on to the architect as you see fit with the understanding that the architect still has the responsibility of providing your office with a complete set of plans and specifications. It is felt that rather than wait and review the preliminary plans and specifications and then make suggestions, we might better list what we can pull out of past experience at this time so as to contribute to a complete job.

It has been our experience that, with preliminary suggestions and with review of preliminary plans and specifications, there always remains in a new building certain minor things which are not covered. Would it be possible for you to set aside a small percentage for contingencies so that, upon completion of the contract, what small items necessary, can be completed without resorting to "field change requests" or equivalent provision of funds?

J. S. McMAHON.

After it was determined that a change of policy concerning the number of junior high schools for the Richland School District was necessary, a stop work order for architectural services on the Central Junior High School was issued to Pehrson on December 7, 1947.

It appears that the General Electric Company was not satisfied with the services of the Pehrson organization and therefore the firm of J. Gordon Turnbull, Inc., and Graham, Anderson, Probst, and White, Inc., was retained to prepare plans for the new project under a policy of two junior high schools. After a settlement of claims, Pehrson was paid a lump sum of \$45,000 for services rendered for plans for the abandoned Central Junior High School.

Site location for the new junior high school under the new policy was determined as a result of the studies of the Washington State College Survey Committee and the Turnbull group in cooperation with the Atomic Energy Commission and the General Electric Company. The site is located between Thayer Avenue and Lee Boulevard in the southern area of Richland, Washington. From information taken from the plot plan of the drawings, it consists of approximately 25 acres. This, by the way, seems to be at variance with statements in the reports of the General Electric Company which mentions this area as being approximately 30 acres. Verification of this discrepancy was not gone into by our firm.

It appears that the site was selected on the basis of criteria of walking distances and central location to the school population to be served. In these respects it was adequately considered and well located.

There seems to persist general misstatements of the basic nature of the site before its development in some of the literature that exists concerning the investigation of this project.

The following is offered to clarify the matter. Basically the site was in two general levels. The higher level was a strip approximately 300 or more feet wide and 1,000 feet long parallel to Thayer Drive. This higher bench was separated from the lower bench of the site by a relatively steep embankment. The lower portion of the site was formerly subject to occasional flooding and is the area upon which the playground is developed. The irrigation ditch that traverses the site ran along the slope connecting the two general levels of the site. The final site use plan determined upon required that the site be redeveloped into a sloping type of site in which the original two general levels were largely obliterated by extensive grading operations. A considerable loss of level area was involved in the grading plan as finally executed.

The actual start of architectural programming and planning for the Carmichael school as finally determined started with the retention of the firm of J. Gordon Turnbull, Inc., and Graham, Anderson, Probst, and White, Inc. They were retained for this work in December 1947, and it was included among 59 items of design and engineering work to be done by this firm. The fee for the 59 items of engineering work consisted of a lump sum of \$758,133 of which \$68,204 was for planning the Carmichael school.

The decision of the management to include the school work in the projects to be handled by the Turnbull organization undoubtedly influenced the results, the progress, and the costs of the school project. The school project was given to the Turnbull group along with 58 other projects for a total of approximately \$240,000,000 of construction cost.

Under this circumstance it is almost inevitable that the school project competed within the Turnbull organization for planning time and for the talent of the organization. Normally it is the policy of the school boards in school building projects to select architects whose specialty is school design and who are thoroughly familiar with the conditions and regulations of the State in which the work is to be done. Familiarity with the educational planning premises in general use in the State and the basic nature of the educational program is of material assistance to the Architect in expediting the work.

In a letter to F. W. Wilson, Design Superintendent, Mr. C. F. Barnes, Supervisor of the Community Activities Division of General Electric, has this to say, "It is assumed that the responsibility rests with the Architect to provide for such installations as are required by State and Project fire, safety, and public health regulations, and that the building will be in keeping with accepted educational standards."

For a program of requirements for the Carmichael school the Turnbull firm was given the original program outlined above for the abandoned Central Junior High School, which program was revised by marginal notation and contained among other things approximately the following facilities:

Classrooms .....	13	Art room .....	1
General science rooms .....	2	Physical Education directors' offices .....	2
Mechanical drawing room .....	1	Check room .....	1
Home economic room (clothing) ..	1	Boys' shower room .....	1
Home economic room (cooking) ..	1	Girls' shower room .....	1
Home economic room (lecture) ..	1	Memo room .....	1
Woodworking shop .....	1	Boys' toilets .....	3
General purpose shop .....	1	Girls' toilets .....	3
Cafeteria and kitchen .....	1	Men teachers' room .....	1
Corrective room (physical education) .....	1	Women teachers' room .....	1
Gymnasium .....	1	Library .....	1
Classroom — Audio-Visual and broadcasting room .....	1	Nurses room .....	1
General office with principal and vice-principal office .....	1	Boys' Counselor room .....	1
Study hall .....	1	Girls' Counselor room .....	1
Auditorium .....	1	Storage and equipment room .....	1
		Book store room .....	1

We were unable to determine to what extent the Superintendent of Schools, school board, and other local agencies were permitted to cooperate in the preparation of the program of building requirements for the school.

In our opinion, the program used as a basis for designing and planning the Carmichael school facilities was insufficient. The architect was asked to plan the Carmichael School on the basis of a program of room spaces which was compiled for use primarily for a large Central Junior High School. In addition we were unable to discover any material which indicated to the architect the nature of the curriculum which the proposed junior high school was to accommodate, nor the material relating to student load in specific spaces, nor a statement of desired relationships of the major elements and general teaching spaces.

The shortcomings of the building which will appear with use are in part ascribable to the lack of adequate documentation of the educational program which the proposed building was to house.

It appears that the plans were accepted by management with little suggestion for change and with little questioning as to whether or not the plans and designs were such as adequately to house the educational program to take place within the school. Contributing to this condition undoubtedly is the fact that most of the plans and designs and specifications were prepared in the Cleveland office of the architect and were not readily available to either the board or to management as they were being developed.

The first preliminary site use plan and floor plan were submitted by the Turnbull group on December 31, 1947, barely 30 days after the notice to proceed. On January 13, 1948, preliminary plans including minor revisions of the December 31 sketches were approved by W. P. Cornelius, Chief of Construction and Maintenance of the Atomic Energy Commission. On Page 136 of Volume I of the Washington State College Survey report there is a very pertinent statement concerning time for planning the Richland School. It states, "Under no conceivable circumstances should the studies for the junior high schools be rushed. Working drawings and construction may be rushed *at added cost* but rushing studies can only result in a low-grade product."

In spite of this caution the Turnbull organization submitted preliminary plans after less than 30 days of study. For all practical purposes the plans for the building as eventually developed were crystalized by the 15th of January 1948.

It is apparent through a survey of the correspondence and a study of the circumstances that the State Department of Education and the specialist advisors in school design of that department had little influence on the basic planning of the building. Preliminary plans were presented to that department on or about January 10, 1948, after all the major features of building including the site use plan has been fixed and determined. The only opportunity for the State authorities to influence design was in the shifting about of certain spaces within a predetermined framework of the building itself.

Mr. Elmer L. Brickner, in a letter dated January 12, 1948, suggested eight significant and important improvements in the design of the building which, in our opinion, would have markedly increased its educational effectiveness. Only one minor improvement among the eight suggested was actually incorporated into the building.

The State Department of Education letter of January 14, 1948, as followed by a letter of January 16 and supported by the School Board's letter of February 3, contains 27 significant and basic recommendations which were not incorporated into the plans.

It must be concluded then that basically the influence of the State Department of Education was insignificant. As a matter of policy, to limit the participation of the State Department of Education to relatively unimportant details is to neglect a source of extensive experience in school design and planning which could have improved markedly the effectiveness of the building and perhaps reduced its cost. Nothing beyond the preliminary plans was submitted to the State Department of Education.

After the approval of the preliminary plans the Turnbull group prepared an estimate of cost for the work. The estimated cost for construction of the buildings was \$1,488,000. In addition was included \$149,000 for contingencies, \$74,500 for field expense and supervision, and \$74,500 for engineering and design, making a total of \$1,786,000.

The architect was given specific instructions in writing from the General Electric Design Division that his estimates for the cost of the proposed school should be

based "on normal practice and on normal procedures." The estimates which the Turnbull organization submitted to the Design Division were so based and in comparison with average normal costs of comparable schools in the State of Washington were apparently soundly made.

On March 26, 1948, the "Project Proposal" was submitted to the Atomic Energy Commission outlining the needs for the project together with an estimated cost of \$1,786,000 and ten months for the time required to complete the work after authorization.

It is difficult to understand why the cost estimates so prepared by the architect under specific direction should not have been modified and supplemented by additional information when they were submitted as part of the official project proposal requesting funds for the project. Those responsible for the preparation of the project proposal can be assumed to have known that the conditions under which the building was to be constructed were not normal conditions and that in all likelihood a cost-plus-fixed-fee contract would be entered into. Also that the overhead of the General Electric Company would of necessity in some manner be accounted for. The figures given in the project proposal were in that respect unrealistic and have been responsible for creating an unfavorable impression concerning the cost of the facility.

On March 9, 1948, C. F. Barnes, Director of Community Activities for General Electric Company, furnished a copy of the specifications for the Shoreline Junior High School in Seattle, Washington, to the architect-engineer who was directed to follow these as a general guide in the preparation of the working drawings for the Carmichael School. On April 3, 1948, modified preliminary work drawings and complete outline specifications were approved by the Design Section of General Electric Company and on April 5, 1948, authorization was received from the Atomic Energy Commission of \$1,786,000 for the work as requested in the project proposal.

On April 15, 1948, preliminary working drawings estimated to be less than forty percent complete were approved by the local office of the Atomic Energy Commission and a cost-plus-fixed-fee contract was awarded on April 23, 1948, on the basis of these plans to the McNeill Construction Company, of Los Angeles. The fixed fee for the Carmichael School was approximately \$60,485.

The Design Department of General Electric estimates that the plans for the Carmichael School were 38% complete when construction began. This office is unable to determine the quality and thoroughness of the preparation of the working drawings for the project when the work was awarded and they were 40% complete; however, examination for the final drawings for the work provided us indicates that they were well executed.

It must be said that proceeding without completely developed working drawings and specifications was a very vital factor in creation of excessive costs for the work. It is difficult to determine to how great an extent this affected the final cost encountered; however, in our opinion, it must have been considerable. The necessity for taking this action in view of the facts is also questionable. In addition, proceeding with uncompleted working drawings unquestionably created most of the additive change orders required for construction of the project. As well as additional costs involved, this procedure undoubtedly imposed serious restrictions on the detailed planning of the building itself and tended to crystallize the arrangement of spaces and the internal planning of the building before such factors were ready to be definitely established. This undoubtedly would tend to give the school district a school plant that is less desirable than it might have been.

#### X. QUALITY OF DESIGN AND MATERIALS

The choice of structural materials for the building, consisting of reinforced concrete and structural steel, Robertson steel panels for roof and wall systems, and tile interior partitions does not appear to be inordinate for the design of a building of this character. Possibly some savings could have been effected in the use of less expensive nonfireproof materials but it is questionable whether this would have been justifiable.

In a cursory examination of the basic design for the building itself it appears that in general the concept is somewhat complex. There are many floor and roof levels, projections and complicated details. However, most of these can be attributed to the insufficient study at the preliminary stages resulting in the final concept of the plan of the buildings in its relation to the site.

The site and its physical problems, consisting of extreme changes of slope and an irrigation ditch crossing it, provided difficult structural problems and added materially to the cost of the building.

In general it appears that the solution of the structural details, in view of the problems presented by the basic plan adopted as a scheme for the project, were solved reasonably well.

There is little question that a change in the fundamental arrangement of the plan of the building could have realized a substantial saving in structural costs over the design as finally determined. This, of course, could not have been done by the architect without more time having been allotted for the study of the preliminary plans with this objective in mind.

In retrospect it appears that the buildings could have been planned to have been accommodated on the upper level of the site without the necessity of constructing the east wing of the building over the irrigation ditch and creating so many different levels in this portion of the building. This, however, again, as indicated before, goes back to preliminary planning.

The buildings themselves could possibly have been designed considerably simpler with fewer breaks, differences in roof levels, floor levels, etc., however, considering the short time in which the architect-engineer was allowed to study the design of the buildings it was reasonable to consider that the working drawing design could be justified. In general the details of the building considering the problem appear reasonable.

It is difficult to say that the structural design of the Carmichael School as conceived could not be justified in relation to the value inherent in a more or less fireproof type of structure for a public building, and also from the point of view of maintenance, depreciation, and public safety.

The mechanical and electrical work does not appear to be particularly well conceived and unquestionably could have been simplified with some saving in cost.

The excellent class of structural materials used in the building notwithstanding, it is safe to say that the basic concept of the design, and the plan of the structure with relation to the site, were the largest factors contributing to the excessive cost of the building.

A general examination of the materials and finishes used in the building was made on the site and a study of the plans undertaken to determine the quality levels of finish materials employed. These were found to be as follows:

Exterior finishes employed most generally were unplastered architectural concrete and exposed steel panel siding, painted. Interior finishes of several types were used.

In the gymnasium unfinished concrete, concrete block painted, concrete block plastered and glazed tile were used in the spaces where the various finishes were suitable and in accordance with accepted practice.

The classrooms generally had plastered walls and acoustic plastered ceilings. Corridors generally had glazed tile wainscoting with plaster above on the walls. The foyer and the auditorium wainscot were in panels of scored fir plywood.

Classroom and corridor floors of concrete are covered with asphalt tile flooring of standard grade. Quarry tile floors are used in the foyer and in the entries and in the cafeteria kitchens. The stage floor and the gymnasium floor is standard maple flooring as customarily used for this purpose. The floor of the auditorium where seating is installed is bare concrete. Ceramic tile floors were used in toilets and similar rooms.

Extensive use of solid birch doors and door trim was made, as well as for the chalkboard and tackboard trim and the window sills. Cabinet work generally was of fir, painted, and some of it of rather low quality. The hardware generally was of good quality, with the exception of hardware used on some of the fir cabinet work, which was of inferior quality.

Standard quality plumbing fixtures were used, floor mounted toilets rather than the more expensive wall hung type being used throughout. Standard flush valves were employed, not the more expensive marine type sometimes specified where exceptionally rugged valves are desired.

The materials and equipment used on the stage were of standard average quality. The lighting equipment was rather meager and only four spare battens were provided.

As far as completeness is concerned the materials and equipment furnished by the contractor were those usually included in a general contract. Moveable equipment such as desks, seating, furniture, chairs, work benches, art tables, and so on were furnished by the school district. It is inaccurate to say that

the building was turned over to the school district completely equipped and ready to operate.

All rooms are provided with cabinet work under the sill of the window side of the wall, partly consisting of open shelving and partly consisting of plywood radiator enclosures. This cabinet work is of fir, painted, with linoleum tops and aluminum edging strip and could be considered to be of average quality.

Chalkboards provided were of the manufactured type known by the trade name of Sterling Lite-Site board, of good quality. Tackboards and pinning strips and map rails were the standard materials usually used in schools. If anything, the total amount of chalkboard and tackboard provided is on the low average side as compared to that provided in a good quality modern school.

In general it does not appear that there is anything unusual in the quality level of the finish materials of this school. There is no justification for alleging that it is a "luxury" school or that it is "gold plated." The balance between high-cost items, average-cost items, and low-cost items is not at all out of the ordinary, and certainly not such as would justify assigning higher unit costs on that basis alone.

Details for the design of the site work were not particularly expensive considering all the factors involved. However, the necessity for grading the site in the manner required by the basic plan made this work considerably more expensive than would be normally expected for a school project of this type.

The site is also very highly developed from the point of view of the numerous walks and curbs provided, paving areas, and other items installed in this portion of the work relative to what is ordinarily furnished for the average school. It could not be said that this is wasteful or unjustifiable, whereas it would tend to give the impression of a larger unit cost for the project when considered as part of the whole.

The necessity for putting the irrigation ditch in a conduit, while an extremely expensive item of cost, could not have been solved in any other manner without impairing seriously the safety and use of the site for school purposes. This item of cost, in fairness to the project, could not properly be considered a part of the usual cost connected with school building projects of this nature and should be considered separately as such.

#### XI. EDUCATIONAL EVALUATION OF THE SCHOOL PLANT

*Implications of the general scheme.*—In general it is considered best practice so to plan the use of a site as to group the standard classrooms and heaviest concentrations of student load more or less centrally. About this central core of load the facilities carrying lighter pupil loads and subject to intermittent use are placed peripherally. With this concept in mind it does not appear reasonable to place the auditorium and the cafeteria, relatively lightly loaded activities subject to intermittent use, in the heart of the plant and to group classroom wings radially around them.

The lobby or foyer of the auditorium is the main traffic crossroads of the school. To attempt to shut the auditorium off for community use during the time school was in session would be impossible. The study hall, library, and seven of the classrooms are west and south of the foyer and the remainder of the classrooms east and north of it.

The traffic-flow pattern of the school is further complicated by the differing levels of the plant, which require extensive vertical circulations. Practically speaking, the plant is on three levels, the gym floor the lowest, the ground floor of the east wing second, the upper floor of the east wing and the remainder of the facilities on the third level. It is not apparent that minimizing travel distances or vertical circulation was given great weight in fixing the plan, perhaps because of lack of time to study the problem. Educationally this makes for a plant which is difficult to supervise, in which long passing times will be required between classes, and one which contains many stair wells and corners in which students can get "lost."

It is difficult to understand the necessity for the variety of basic planning concepts of the various parts of the plant. The north wing is of the single, loaded corridor type with bilateral lighting, principal window orientation east. The south wing is of the double, loaded corridor type with unilateral lighting, principal window orientations east and west, single story, with corridor monitor. The east wing is two-story, double-loaded corridor, principal window orientations north and south, with no outside lighting for the lower-floor corridor.

Undoubtedly the schools in Richland, as elsewhere, supply the major part of community-use facilities for the village. The policy to allow such community use to dictate certain features of the design may account in part for certain of the principles followed in site utilization as well as for some of the features of the building itself. This is particularly true of the parking area on the upper level of the site. This parking area accommodates some 275 cars, and a parking area is undoubtedly necessary when one considers the community uses of the plant as well as the lack of suitable street-parking areas in the residential areas just west of the school plant.

In all probability the stage of the auditorium and perhaps the lobby and the cafeteria are somewhat more elaborate than would have been required for purely school use.

Apparently a great deal of weight was given in the plan for use of the site to getting the gymnasium on a lower level and close to the playground area, and with this as an objective the solution is satisfactory. It should be considered, however, that no particular disadvantage is attached to placing the gymnasium at a different point in the total travel from classroom to field via the gymnasium locker rooms.

The whole plan is generous in the amount of available site area devoted neither to buildings nor to facilities which can be used for educational purposes. Following is a table of some of such spaces:

Space	Approximate size	Area in acres
Northwest corner lawn area.....	220 x 210	1.06
Area southwest of library.....	180 x 220	.91
Area between north wing and gymnasium.....	190 x 210	.92
Slope southeast of buildings between parking lot and field, including service drive.....	200 x 700	3.21
Area devoted to the parking lot.....	370 x 460	3.90
Total.....		10.00

While it is inevitable that adequate areas must be allowed for set-backs, landscaping, service roads, and slopes for the achievement of differences in level, if adequate time had been available to the Architect for site planning in relation to plant location and spaces, it might have been possible to reduce the total of such areas without interfering with the educational usefulness of the facility. One way in which this might have been accomplished, for example, is to have placed facilities requiring service drives on the periphery of the plant, near the street. Another would be to have made the slope between changes in level much steeper, or to have used terraced parking spaces to achieve changes in level.

One important aspect of the determination of the value of a school is the extent to which it will adequately accommodate the educational processes which it is proposed will take place within it. Of necessity this evaluation is based upon some concept of the Junior High School curriculum, and while no two Junior High Schools have identical courses of study, there is a commonly accepted basis of standard practice. A portion of the educational process takes place in regular "academic" classrooms and the remainder in specially designed and equipped rooms such as shops, homemaking rooms, libraries, music rooms, laboratories, gymnasias, outdoor physical education facilities, auditoriums, and the like.

The Carmichael building contains 13 "academic" or regular standard classrooms of which 7 are in the south wing and 6 in the east wing. With minor unimportant variations these classrooms are practically identical in lay-out, equipment, and size. All are approximately 24 x 40 feet in size and equipped with the necessary shelving, storage closet, sink and drainboard, chalkboards, tackboards, map rail, and bookcases. Fluorescent lighting of a high level, germicidal lamps, special chalkboard lighting, venetian blinds, drapes for darkening, and unilateral daylighting from continuous windows characterizes all rooms. These classrooms are consistent with good practice in school design and should provide all that is necessary in the environment to permit high quality teaching.

*West wing.*—The west wing contains the following principal spaces: The auditorium and its auxiliaries, including a stage approximately 25 x 64 feet; a music department under the stage with main rehearsal room 30 x 36 feet, and four smaller practice rooms; a library 24 x 42 with small workroom; a study hall 24 x 82, and a small student store.

The main floor of the auditorium is adequate to seat the student body of the school under normal conditions; however, it will not seat all that it is planned to accommodate at the school this fall, upwards of 850 students. There is sufficient space at the front of the auditorium to accommodate an average school band or orchestra.

The stage is adequate for most school needs. For purely school purposes, however, the value of the very high loft is questionable. The use of this sort of equipment by inexperienced school children involves a certain amount of accident hazard, which must be guarded against. The stage lighting equipment is quite limited in scope, but reasonably adequate for school use. It is not apparent what useful purpose the two toilets immediately adjacent to the proscenium opening will serve. Certainly they could not be used during any performance because of the noise of the flush valves and it is our opinion that they might well have been omitted at a saving of money and permit better utilization of the stage floor area.

At the rear of the auditorium there is a large projection room mezzanine, which could just as well have been omitted as far as school purposes are concerned. It has no equipment at present and would have to be equipped with large and heavy commercial types of projection equipment to be of any value because of the length of throw to the stage. The storage space north of the projection room on the mezzanine is so hard to get to as to be of little value except as a vault for dead records. There is no communication between the stage and the projection room.

The music room under the stage is of relatively low ceiling height and of slightly over 1,000 square feet in area. The music department would be subject to serious limitations as to the kind and scope of the program to be offered because of the physical facilities. There are only practice rooms, all without outside light and a relatively small instrument storage room. The entrance from the corridor to the music room is complex, down a flight of steps and between the boys' and girls' dressing room area. Taking instruments from the music room to the stage or to the space in front of the stage would be cumbersome and time consuming. Recommendations of the State school planning office which would have materially improved this department were not incorporated.

The library, while perhaps impressive looking because of the large west window, the high ceiling and the dark stained hardwood cabinet work is not well planned with educational needs in mind. In the first place it is too small, seating comfortably only about one class at a time. Recognized standards call for a seating capacity of 10% of the student body, requiring about twice the provided floor area. In addition there should be a small conference room and a librarian's work room with sink and running water for book repairs. It is also considered good practice to relate the Audio-visual department directly to the library so that the use and distribution of all forms of instructional aids can be coordinated by the librarian. This was also suggested by the State authorities but not included in the planning. The student store in this wing is a poorly lighted inside room with no windows, a single doorway and inadequate ventilation, considering the purpose for which it is used. It has a bare concrete floor, and is in all a very unattractive room.

The two boys' and girls' toilet rooms on the north side of the corridor leading to the library were perhaps intended for public use when the remainder of the building would be closed off by the gates provided. They would be inadequate for this purpose since they are associated with an auditorium seating more than 700 persons. They have an additional disadvantage of being inside rooms with no natural light or natural ventilation. There are mechanical provisions to take care of the special problem of ventilation, but even with the small use that they have been given to date these toilets are smelly and humid.

The shutter mechanism for automatic venting of the stage loft apparently needs attention as it was banging loudly in the wind when the building was under survey, so much as to interfere with hearing in the auditorium.

The study hall itself is a room of generally unworkable shape, being 24 feet wide and 82 feet long, too long and too narrow for easy supervision and for most effective use. The State recommended a wider span and shorter room for the study hall and library wing.

*North wing.*—The north wing contains five principal spaces, a so-called Audio-visual room 24 x 32, a girls' toilet, a Home economics room for teaching sewing 24 x 44 feet, a Home economics class room 24 x 34, and a Home economics room for the teaching of cooking approximately 24 x 58 feet.

The Audio-visual room was probably so designated because it is below the size of a standard class room and also because it is so located with respect to one of the principal north entrances to the school that it was necessary to omit about one-third of the fenestration on the east wall, which should have been continuous. This room is equipped with chalkboard on the south wall only, the other walls being plaster. Under crowded conditions it will probably be necessary to use this room as a standard academic classroom, a purpose for which it is not well suited, both because of natural lighting deficiencies and lack of tackboard space. Neither does it have the standard storage facilities or classroom sink of the standard classroom. It is not apparent why a special room was designated as an Audio-visual room because all classrooms in the building are darkenable and suitable for the use of Audio-visual equipment. Normally the Audio-visual department has the responsibility of storing and caring for all forms of Audio-visual instructional aids and as such is differently designed and equipped than this room and is often located in close relationship to the library or to the administrative offices.

The girls' toilet room in this wing is similar to others in the building. The entry from the corridor is a dark room with a low furred ceiling in which it will be necessary to burn lights while the school is in operation. There are no screens on the windows, and as estimated from the size of the ceiling grills the ventilation is probably very meager. It appears that there is some possibility that the recirculation system which uses the halls as a return plenum will draw air from the toilet rooms into the corridors, in event that the exhaust system fails or is not properly operated.

The clothing laboratory, while it does not have some of the features considered desirable such as a properly equipped fitting room affording some measure of privacy, is spacious and well lighted and will lend itself to the teaching of Junior High sewing quite satisfactorily.

The cooking laboratory is another example of a room of which the shape is not advantageous for the use, being relatively long and narrow, 24 x 58. This shape requires that all of the unit kitchens be placed along one side of the room away from the windows and thus are difficult to supervise and not too well lighted. Suggestions of the State home economics department which would have broadened the scope of the work in home economics into general home-making education rather than just cooking and sewing were not incorporated into the design.

The Home economics lecture room located between the cooking and sewing rooms is little more than another classroom and will probably be so used under the crowded conditions which will obtain when school opens. It is not apparent from the equipment of the room just what educational purpose it was intended to serve. The west wall is without chalkboard or tackboard. In all, the whole home-making suite could well have been planned with a broader educational concept in line with the recommendations of the State and the space thus be put to more effective use.

It is not apparent why this one wing was designed with a single loaded corridor and with a small west-facing clerestory, giving bi-lateral lighting for classrooms of 24-foot width. In the original plan this wing contained the science rooms, which were interchanged with the home economics department, first located on the ground floor of the east wing. This exchange of location was partly brought about through the recommendations of the State authorities against placing the homemaking rooms near the shops. The State's recommendation was to place the homemaking rooms directly over the shops but this was overruled because the plumbing would show in the shop ceiling below. Largely at the suggestion of the Richland school board the homemaking rooms were shifted to their present location, and the science rooms to the ground floor.

*South wing.*—The south wing contains seven of the standard classrooms referred to above. In addition it contains a boys' toilet room, a girls' toilet room, the cafeteria with its kitchen and auxiliary spaces, a women teachers' rest room and a fan room for the heating and ventilating system for this wing.

As previously indicated the seven classrooms in this wing are well equipped, of adequate design, nicely finished and generally acceptable as an educational environment.

Both the boys' and girls' toilet rooms of this wing have the same conditions relative to entrances, lack of screens on the windows and characteristics of the ventilation system that were discussed above. According to national standards and to the requirements of the State sanitary regulations, the ratio of urinals to toilets in boys' toilet rooms is 3 to 1. It is difficult to understand why the

boys' toilet room in this wing was equipped with 7 toilets and only 4 urinals and 4 basins. The neighboring girls' toilet room has only 6 toilets and 4 basins.

The women teachers' room in this wing has the only toilet for the private use of the staff in the whole classroom group of buildings. It is not evident why provisions were not made for a men teachers' toilet or for toilets and washrooms for the clerical and administrative staff. One of the first plans showed a men teachers' room where the kitchen storage rooms for the cafeteria are now located.

The main dining room of the cafeteria is large and spacious with a high ceiling and large windows in the east wall. The usefulness of the room is somewhat reduced by the presence of columns in the room, though this is not serious. The serving line could well have been isolated from the dining area by a regular partition with doors rather than with modernfold partitions, which are expensive and do not permit passage when closed. Entry to the serving line from the corridor is not convenient and the system for collecting receipts at the end of the line is not well organized. When the serving line is isolated by the closing of the Modernfold partitions there is no way to enter the kitchen area from the corridor, the only entry being from outside. There is no provision for canteen or snack bar service to students who do not wish to go through the serving line but prefer to eat outside. The space provided for a cafeteria office is much larger than required for that purpose and probably entered considerably into the cost of the building because of the manner in which it was appended to the building as an added structure.

The foyer connecting the auditorium, the cafeteria and the classroom wings has an extremely high ceiling not required by the function it is to perform. Public toilets are not accessible from this foyer, but are down the west corridor. The four columns in the foyer are an obstruction to the use of the space.

*East wing.*—The east wing is a two story structure. On the upper floor are located the administrative offices, the nurses room, four standard classrooms, two rooms designated as typing and bookkeeping on the plans but no different than a standard classroom, an art room with adjacent storeroom and a boys' toilet room.

The standard classrooms, including in that category the two rooms designated as typing and bookkeeping, are 24 x 40 feet in size and of the same character and similarly equipped with the exception of omission of the drapes for darkening in the typing and bookkeeping rooms. These six rooms are good standard rooms identical to the others in the building.

The administrative suite consists of a general public office with an adjoining vault and small storage room, and four small offices for the principal, vice principal and two counsellors. Only one of these offices can be entered directly from the public and clerk's space, that being the office of the vice principal. In order to enter any of the other three offices from the reception space one must pass out into the general corridor and down the hall to small auxiliary corridors which serve as waiting space outside each private office. Thus the clerical staff is not able to exercise any control or supervision of the passage of students or public to and from three of the four administrative offices. Similarly, the access of administrative personnel to clerical service and office records is only through the main corridor or by telephone.

The nurses suite is across the hall from the main office, where it is not super-visible by the clerical staff. The inside cot rooms of this suite are dark and small with no outside windows. In general, the facilities provided in the health suite are below the standards suggested by the State Department of Education. The arrangement of the rooms is such as to make it very difficult to conduct a program of examinations or immunization in an orderly and systematic way. All traffic to and from the room must flow through a single door to the corridor and through a small inside waiting room. Provisions for storage of sterile materials and instruments are lacking, as are provisions for sterilizing equipment or instruments used by the nurse. Only one toilet is provided, which presumably must be used by both boys and girls.

The art room proper is the same size as a standard classroom but is not so equipped. Supplementing the main space is a spacious storeroom equipped with cabinet work, stainless steel sink and large storage drawers for customarily used art supplies. The only place where water can be obtained is in the storeroom and this will undoubtedly prove to be awkward. Under usual conditions at least two additional sinks are required in that art room, located in such a position as to be readily available to students. The windows of this room face the north, which is highly desirable for an art room.

The boys' toilet room on this floor, equipped with 4 toilets and 4 urinals, also was planned without regard to the standard 3 to 1 ratio between urinals and toilets provided in the State code.

On the ground floor of the east wing are located the two shops, janitorial store rooms, two general science rooms, a mechanical drawing room, a storeroom designated as "Memo Room" and probably intended as a mimeograph room, a girls' and a boys' toilet room and a fan room for the wing.

It is not apparent why the janitorial storage space was divided in such a way as to create an inside room opening only off the corridor. If partitioning was required for some reason this might better have been accomplished by screening from the main room which is accessible for deliveries from the driveway outside. An incinerator was provided for in the plans but was deleted during construction. Waste will therefore have to be carried downstairs by the janitors for disposal outside the building.

Definite recommendation of Mr. Barnes concurred in by Mr. Henning were made in the statement that "The standard Junior High School exploratory type manual training instruction will be given in the above two shops. Hand-type operated tools and equipment will be used in the majority of cases. Power tools will be limited to minimum requirements for the exploratory type program." In spite of this clear statement both shops are equipped with heavy and expensive power tools of the type usually provided in technical and vocational schools. In fact the two shops are so planned and equipped that it will be difficult to avoid a rather narrow specification in each, to the detriment of broad exploratory type courses. The total space allocated to the wood shop is 24 x 100 feet including a paint room and lumber storage room at the east end. Here again is a relatively long and narrow space which is difficult to organize and supervise properly. There is a possibility that recirculated air from the room could pass into the lower floor corridor through louvers in the doors, tending to distribute dust and paint odors throughout the wing.

In both shops the provisions for obtaining water for shop purposes are inadequate as are the provisions for hand washing and clean-up at the end of the instructional period. Each shop contains only one hand basin on the wall. The boys' toilet on this floor is at the extreme western end of the corridor and is entered through a narrow and dark passage behind the fan room. This toilet room also shows the same unbalance in fixtures and contains only two hand basins, which could hardly be considered as a satisfactory supplement to the two basins in the shops. The same conditions with respect to ventilation and screens exists here as elsewhere.

If the room marked "Memo room" was intended as a mimeograph room its location on the floor below the offices would not be satisfactory.

It is not evident just what considerations were behind the great disparity in size and equipment in the two rooms marked "General Science." The total space allocated to the larger of these two rooms, including the office and alcove at the east end is 24 x 63 feet, while the neighboring room 24 x 32 is sub-standard in area even for a regular classroom. It would have seemed to be more in line with educational needs if the total allocation of space for the two general science rooms could have been more evenly divided, perhaps locating an office and storeroom between the two where it could serve both rooms. It is not clear just what need exists for an office here except for storage purposes.

The mechanical drawing room is the same size as the standard classroom and is similarly equipped as far as chalkboard and tackboards are concerned. The sink arrangement at the rear is different and the room lacks the closet found in the standard classroom. The room is crowded but if class enrollments are kept relatively low should meet the purposes quite satisfactorily.

*Gymnasium building.*—Aside from its community use aspects the gymnasium building should be designed as the place in and from which the physical and health education program which is required by law and which is dictated by good educational practice is directed, organized and conducted.

The facilities provided for this Junior High School have fundamental deficiencies most of which were clearly pointed out in the recommendations of the State Department of Education. The objective pointed out by the State is to meet the needs for a daily program of physical education for every boy and girl enrolled. In a school of 750 enrollment this would mean a daily load of approximately 375 girls and 375 boys which would probably entail some peak loads of 80 per period each of boys and girls. The facilities provided are positively not adequate for these daily loads. Only 40 lockers are provided for street clothes,

only 6 shower heads in the boys' shower room, no towel storage or issue room, no equipment issue window or storage room, no first-aid room, no facilities for drying out wet athletic clothing, entirely inadequate space allowances for the whole locker room facility, insufficient floor drains in some of the spaces, almost no ventilation, small windows for light and air, these items are typical of the inadequacies of the facilities as an instructional environment.

The girls' locker and shower rooms have the same inadequacies of space and facilities as the boys'. In addition they cannot be entered directly from the corridor but must be entered either by going outside the building, across one end of the gym floor past the door to the boys' locker room, or through the upper floor corridor and down the exit stairs. There is no floor drain in the drying room next to the showers. The semi-private showers are placed in an inside room without sunlight and where ventilation will be difficult even though exhaust ventilation is provided. There are 5 doors to pass through in going from the outside entrance to the girls' locker room to the gym floor.

The placement of the physical directors' offices on the mezzanine floor entirely separated from the locker rooms is unrealistic to say the least. It is difficult to see what use these rooms will be during the school day. They have no closets and cannot be used by the instructors for changing clothes. A private toilet without shower is provided off the mezzanine corridor, presumably for the director of girls' physical education. A similar private toilet enterable only through the entrance to the boys' toilet room could perhaps be used by the boys' director. Because of the nature of their work, showers for the physical directors are considered standard equipment in a properly planned school.

A recommendation by the State to divide the main gym floor into two areas, one for boys and the other for girls, by means of a dividing curtain, was ignored. The replacement of the permanent concrete bleachers on the west side by folding bleachers would have provided much more usable floor area for day to day use within the same structure. The storage space under the permanent bleachers is too long and narrow and too poorly ventilated to be of great value. At the present time some lumber has been stored in this space, which is intended for gymnasium equipment.

Apparently the problem of glare control in the gymnasium was not considered. Morning sun will come through the east windows and afternoon sun through the west side. In order to make the cross courts usable some solution for glare control will be required.

In general the recommendations of the State Department of Education were conservative and outlined the minimum changes that should have been made. Failure to give serious consideration to these recommendations must eventually result in extensive remodeling, reconstruction, and additional construction if the gymnasium is to be brought up to these standards as an educational facility.

At the risk of being repetitive, it should be emphasized again at this point that the respects in which the educational evaluation of the site use plan and the facilities of the building itself may seem critical can be charged to the policies used in the promotion of the work. The Architect was not given the time required for a proper study of the problem and for the development of studies and plans in cooperation with those concerned. In the interests of conservation of time the basic plans were considered not modifiable at the time they were submitted to the State Department of Education for suggestions. Considering the policies used in the promotion of the work, the results are all that can be expected.

## XII. TIME SCHEDULING FOR THE WORK

The time scheduling for the work, while an intangible item relative to material costs, was a very vital factor in contributing to the final high cost of the work.

It appears that there was ample time to prepare plans and secure competitive bids in a normal manner for the construction of a Junior High School for Richland from the time of authorization of plans in January 1947 for completion on September 1, 1948. This would have allowed 20 months for preparation of plans and construction of the work.

Because of the adoption of an inadequate policy concerning the needs for junior high school facilities for the Richland District it was necessary to stop work on the original plans for the project on December 7, 1947. This created a loss of eleven months in the time available for completion of new school facilities.

Authorization of architect-engineering services for the Carmichael School proposed under the new policy for two junior high schools was made in December

1947. On March 26, 1948, the official "Project Proposal" was submitted to the Atomic Energy Commission with an estimated time requirement for the project of ten months.

It is obvious that the time allotted in the application was extremely unrealistic since plans at this date had not been completed and a building of this size and complexity could not reasonably have been expected to be completed in less than ten to twelve months for construction time alone. As it was, the actual construction time for the project consisted of eleven months in spite of the extraordinary means employed for expediting the work.

It is true that the school district occupied portions of the north, south, east and west wings on February 28, 1949, consisting primarily of ordinary classrooms. However, the lack of the use of the auditorium, music room, cafeteria, home economics room and shop facilities gave very little actual use of the facility to the school district for the spring term. These delayed facilities were not turned over to the school until approximately April 21, 1948, and the playground surfacing, driveways and landscaping are not completed to our knowledge as of the date of the writing of this report. For all intents and purposes therefore the school benefited very little from the use of this facility in the spring term of 1949.

While the school district made as effective use as possible of the spaces available to it for approximately 3 months of the spring term, such use could well have been delayed until the opening of school in September 1949 in the interests of lower costs and better planning. This would have given an additional six months for construction of the project.

From the experience to date there is question that very much was gained by trying to meet a time schedule for September 1, 1948, which obviously was impossible to fulfill. A realistic time schedule for the project should have been to plan for completion for September 1949.

On May 13, 1948, construction work actually started with a directive for completion to have the plant ready for use on September 1, 1948, and physically complete February 1, 1949. This schedule was obviously impossible to fulfill since the approximate time from May 13, 1948, to September 1948, gave a construction time of only 3½ months for substantial completion for occupancy.

Because of the fact that so early an objective for completion was established, insufficient time was allowed for the proper and intelligent planning and design of the school, creating haste in the preparation of the plans and some justification for awarding the contract for construction of the project with the working drawings only approximately 40% complete.

If a realistic policy had been adopted concerning the time scheduling of the work, i. e., completion for September 1949, there would have been allowed 20 months for the design and construction of the project. Assuming 12 months for construction, this would have allowed eight months for preparation of the plans and specifications which in the opinion of this office would have been ample.

This timing would then have allowed the project to have been built on the basis of completed working drawings, competitive bidding and under normal procedures. This undoubtedly would have eliminated special job costs, a great deal of overtime, special expediting costs, and would have resulted in lower costs of materials and subcontracts. This would also have eliminated the numerous change orders and unquestionably would have resulted in a more economical and efficiently designed plant.

It is our firm opinion that notwithstanding the above, three additional months to complete the working drawings would have saved considerably more than that in time for completion of the project together with a considerable saving of money.

There also appears to have been a characteristic of inflexibility in changing the policies to meet changing conditions as the work progressed. In this respect it seems that the management failed to consider changes in fundamental policies with respect to the construction procedures as circumstances changed. For example, when it appeared in December of 1948 that the building could not possibly be completed in time to be of any real value to the school district for the spring term the policies with respect to overtime, with respect to special job costs, with respect to the special expediting of materials could well have been changed and a more normal procedure have been adopted for the remaining construction time.

## XIII. CONSTRUCTION POLICIES AND PROCEDURES

Policies used determining the methods and procedures followed in the construction of the Carmichael School were certainly of major importance in creating the high cost of the work.

These policies include among others:

1. The use of the General Electric Company as the contracting and administrative agency for the work.
2. The awarding of contracts on the basis of uncompleted plans.
3. The awarding of the work on a cost-plus-fixed-fee basis.
4. The attempt to construct the work under an unrealistic time schedule.
5. The use of a 6-day, 48-hour week, incurring overtime pay for labor on the project.
6. The use of special expeditors and specialists in an attempt to speed up the work.

7. The policy to continue work on an overtime basis and with the use of expeditors even after it was established that the building would not be completed in time to be of any real value to the school district for the spring term of 1949.

In the first instance, the policy decision to vest the authority for administration and management of the work with the General Electric Company as prime contractor, as far as can be determined, added a burden of \$738,611 of overhead allocated to the work which would otherwise have been avoided had the Atomic Energy Commission used other means open and available to it for this responsibility, i. e., the local school board.

It is difficult to justify this added cost allocation, especially in view of the fact that the responsibility for construction of the proposed North Junior High School is being given to the Richland School Board instead of the General Electric Company. This change of policy involves a tacit admission of the advantage of this method over the former used for construction of the Carmichael School. Under the changed policy the Richland School District is being allocated a lump sum based upon the State average cost of \$2,232.00, per pupil housed for purposes of construction of the project, and it is reasonable to expect that the work should be accomplished within the budget.

The Design Department of General Electric estimates that the plans for the Carmichael School were 38% complete when construction began. Project memoranda and change orders applying to the school building program under the McNeill Construction Company run over a thousand. It is reliably estimated that the change orders and project memoranda applying to the Carmichael School alone run into a figure approximating 800. In Exhibit B of the General Electric Company's Realty Board reports concerning the Carmichael Junior High School the total amount of additive change orders issued to the principal subcontractors employed on the Carmichael School was in excess of 40% of the original sub-contract price.

Proceeding without completely developed plans not only tends to create excessive additive change orders but it also imposes restrictions on planning of the building itself. It tends to crystallize the arrangement of spaces and the internal planning of the building before such factors are ready to be crystallized and therefore to give the owner a school plant that is less desirable than it might have been.

When it was decided by management as a matter of policy that the construction of the Carmichael School should be on a cost-plus-fixed-fee basis, it is the opinion of this office that many of the excessive costs of the project were thereby determined. Under the normal competitive bidding process none of the General Electric Company overhead would have been charged to the project. It is also well recognized that the general over-all efficiency of promotion of the work and the efficiency of the labor itself is lower under cost-plus-fixed-fee contracts than it is under the normal competitive lump-sum bid system.

The attempt to construct the project on an unrealistic time schedule was basic to increases in cost of the project in other ways than through the dominance of the time element in other major policy decisions. Because of the fast construction schedule the work was not carried out in the normal sequence usually employed. Asphalt tile was installed before plastering was completed, plastering was partially completed in a room and then finished after steel sash arrived, painting was performed in stages, trades worked as far as possible and then stopped work to await work by other trades or the receipt of materials or equipment. If actual construction in the field had been held up until all plans were

complete and materials on order, a more orderly and efficient construction schedule could have been planned.

Before the project was initiated it was decided as a matter of policy that a six-day, 48-hour week would be employed on the project because of its urgency. This policy in itself dictated the fact that one out of every six working days was at overtime rates and materially added to the cost of the project.

The amount so added is estimated at \$115,786 in the General Electric Realty Board's report on the project. The total direct labor for which McNeill was reimbursed by General Electric was \$1,070,275 as of March 31. This does not include all of the direct labor on the project, as a relatively small amount was also involved in the lump-sum bids of subcontractors. It does indicate, however, that overtime premiums of about 10% were paid because of the policy with respect to overtime. This just about equals the ratio of isolation pay to direct labor included in the General Electric Company overhead, which is 11% according to F. E. Baker, Comptroller.

Subcontractors in submitting lump-sum bids to McNeill were allowed as part of the contract wage escalation fees to compensate for any increases in basic wage rates during the progress of the work. It is estimated that wage escalation during the progress of the work added approximately \$100,000 to the cost, both in payments to McNeill and to his subcontractors. This would account in part for the estimates being low.

It was the policy of management, because of the urgency assigned to the project, to allow premiums and special expediting costs, as for example the sending of expeditors to the places at which materials were contracted for, such as the steel mills supplying the steel. Some \$33,000 was spent in this manner.

Even though it was apparent in December of 1948 that the school would not be completely ready in time to be of much use to the school district for the spring term, special job costs were continued. One of these special costs was incurred in providing for temporary enclosures for all the windows so that the building could be heated to allow erection of interior partitions and plastering and similar work to go on during a protracted period of cold weather. Overtime work was also continued when it became apparent that the building would be delayed beyond the point at which it would be of much value to the school district during the current school term.

Specialists were employed to supervise the installation of public address equipment, the clock and bell system, stage equipment, auditorium seats, kitchen equipment, Modern Fold doors, rolling fire doors, and folding bleachers.

#### XIV. CONCLUSIONS

1. The determination to construct a single large central junior high school was inadequately made. This project was ultimately abandoned with considerable loss of time and money. This was a major factor that contributed to the formulation of an unrealistic time schedule for construction of the Carmichael School. This resulted in the adoption of inefficient and costly construction policies.

2. The policy adopted for the general administration of the work resulted in inordinate allocation of costs for management and overhead for a project of this type.

3. The planning and programing as a basis for the design of the project was inadequate, and manifested a lack of cooperation with state and local agencies.

4. The original estimate of direct construction cost for the project, \$1,488,000, was reasonable and apparently soundly made relative to the cost of other schools in the area.

5. The school as built is not unreasonable in quality of materials, equipment, or facilities relative to projects of a similar nature in the area or the Pacific Coast region generally.

6. The school project as finally constructed could be considered of average quality in plan and design although it fails to meet in numerous instances generally accepted minimum educational standards for a building of this type, as well as those recommended by the State of Washington.

7. The time schedule for the design and construction of the project was unrealistic. This contributed in a large degree to the adoption of inefficient policies concerning the methods to be employed in the construction of the project.

8. In the opinion of this firm, a reasonable estimate of cost for the work, considering all factors and following usual and normal procedures for construction of the work, would be \$1,917,692.

9. The reported cost of the work to date is approximately \$3,650,835 or \$1,733,143 in excess of the cost of other school projects similar in nature, scope and quality constructed in the State of Washington and other states of the Pacific Coast region.

10. In general the excessive cost of the work was primarily the result of the policies and conditions under which the project was planned and constructed. The complexities in the building design are unquestionably a result of these policies and not the basic cause of the high cost of the work. The fixed conditions and quality of materials were relatively minor factors.

11. It is entirely possible that as a result of this preliminary study additional information and data may be produced or developed which may modify or affect the conclusions reached on the basis of presently available information.

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CONGRESS OF THE UNITED STATES,  
JOINT COMMITTEE ON ATOMIC ENERGY,  
August 19, 1949.

Mr. CARROLL L. WILSON,  
General Manager, United States Atomic Energy Commission,  
Washington, D. C.

DEAR MR. WILSON: Attached herewith is a copy of a self-explanatory report prepared by the firm of Mr. E. J. Kump on the Carmichael Junior High School at Richland, Wash. This report is to be printed in full as part of the appendix to the hearings of the joint committee investigation of the Atomic Energy Commission. In keeping with the practice of inserting in the record whatever material the interested parties deem to be useful and relevant (within practical limits), any statement which you may wish to submit commenting on the report will also be made part of the appendix. If you desire to have such a statement printed I would much appreciate receiving it within the next 2 weeks.

Sincerely,

WILLIAM L. BORDEN, *Executive Director.*

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UNITED STATES ATOMIC ENERGY COMMISSION,  
Washington, September 13, 1949.

Mr. WILLIAM L. BORDEN,  
Executive Director, Joint Committee on Atomic Energy.

DEAR MR. BORDEN: We submit herewith our comments with respect to the preliminary report upon the Carmichael Junior High School at Richland, Washington, prepared for the Joint Committee on Atomic Energy by Ernest J. Kump & Mark Falk, consulting architect and engineer, San Francisco, California.

In retrospect, it is possible to say that some actions were inadvisably taken, that mistakes were made, and that the costs of the school have proven too high. However, the extent to which these things are true should be judged, in our opinion, on the basis of the conditions which existed at Hanford at the time the school was planned and constructed rather than on the basis of application of criteria which are customarily used in appraising a school project in a normal community. We also think that the judgment which is made should take into consideration the nature of the over-all construction program at Hanford and the character of performance with respect to such over-all program. Certain of these considerations may be outside the purview of the report. However, since these matters are believed to be necessary for a complete appraisal, they will be dealt with in our comments.

The report states that "excess cost" of the school to the Government is computed at \$1,733,143. While there is some ambiguity in the report concerning what is meant by the term "excess cost," the sense in which that term is used is indicated by the statement in conclusion of the report (at page 1202) that the reported cost of the work to date is "\$1,733,143 in excess of the cost of other school projects similar in nature, scope, and quality constructed in the State of Washington and other states of the Pacific Coast region." It is important that this use of the term be noted inasmuch as the situation faced with respect to the construction of the Carmichael School differed in many respects from that normally encountered in contemporary West Coast construction.

It should also be noted that the cost figures include a sum of approximately \$738,611.00 for overhead which the report states could have been avoided if the Commission had allocated the funds to the local school district and authorized

it to take the necessary steps to construct the school. At the hearing, detailed testimony was given concerning the matter of overhead. It was pointed out at that time that the overhead figure represents the portion of the indirect costs incurred in connection with the total construction program at Hanford which was allocated for accounting purposes to the school project. It was also pointed out that the method adopted for allocation of these costs to the individual projects, while it involved a saving in clerical work and expense and simplified the over-all accounting, had the effect, in various instances, of charging against the school project costs which should appropriately have been charged against other projects. Furthermore, if a local school agency had acted as the contracting agency, many of the costs would have been incurred and these costs would have had to be absorbed by some one. The report refers in its conclusions (at page 1201) to the "inordinate allocation" of costs for overhead for a project of this type. We think this approach to the question from the standpoint of allocation of the overhead costs is more accurate than the approach adopted in the other parts of the report that all the overhead costs could have been avoided.

The report attributes the excess cost of the school primarily to the policies and conditions under which the project was planned and constructed. However, the report fails in our judgment adequately to take into account the basic conditions existing at Hanford which distinguished it from a normal community and which resulted in the adoption of certain of the policies and practices which contributed to the cost. The difficulties inherent in any attempt now to reconstruct the nature of the conditions at Hanford as of several years ago are fully appreciated. However, this failure of the report is believed to be responsible, in part, for the report's characterization of the time schedule for design and construction as unrealistic. It also appears to be partially responsible for the criticisms contained in the report of the policies adopted to expedite the construction work and obtain early completion, including the policy of proceeding with construction before plans had been completely developed and on the basis of a cost-plus-a-fixed-fee contract. There was an urgent need to take steps to alleviate at the earliest possible date the lack of adequate school facilities and thereby avoid the anticipated adverse effect, including the possible loss of personnel, of this factor upon the production program at Hanford. While the time schedule was stringent, the meeting of the schedule appeared at the time possible on the basis of the procedures adopted.

The report also fails in our judgment sufficiently to take into account the fact that the construction of the Carmichael School while an integral part was nevertheless only one, and a comparatively small, part of a vast construction program undertaken in an isolated locality under conditions of great urgency. At that time, construction of major production facilities was being expedited to such an extent that the effect was necessarily felt on projects such as the Carmichael School. This factor should be given consideration if the policies and practices followed in the planning and construction of the School are to be fairly appraised.

As the report points out, the data contained therein upon which the conclusions of the report are based was obtained from various sources and has not been investigated to determine its accuracy or completeness. We note below a number of statements contained in the report which we believe to be inaccurate or incomplete.

The report states (at page 1181) that no evidence was found of a basis or method that was used for determining that one junior high school was to be built rather than two schools and the report declares (at page 1199) that the adoption of the inadequate policy concerning the needs for junior high school facilities created a loss of eleven months in the time available for completion of new school facilities. At the time a single school was planned, which was before the Commission assumed control of Hanford Operations, the program at Hanford was so nebulous that an accurate judgment was not possible concerning what the future school population would be. The estimate of future construction at that time was \$85,000,000. It was not until many months later that an expansion program was decided upon, that an estimate of \$85,000,000 for future construction at Hanford was made and that a reasonably dependable judgment could be reached with respect to the school population.

The report states (at page 1188) that the school project was given to the Turnbull organization "along with 58 other projects for a total of approximately \$240,000,000 of construction cost" and that it was, therefore, almost inevitable that the school project competed with the Turnbull organization for planning time and the talent of the organization. The fact is that of the 59 projects given to

the Turnbull organization, only 26 projects involved construction and the construction costs amounted to \$17,000,000 rather than \$240,000,000. The remaining 33 projects were planning studies only.

The statements in the report (at page 1201) concerning the increased costs resulting from employment of a 6-day 48-hour work week on the school project omit references to the fact that the competition offered by the production projects at Hanford, on which projects use of a 6-day 48-hour week was necessary because of the urgency of construction of the production facilities, prevented the school contractor from operating except on the basis of such a work week.

The report criticizes (at pages 1183 and 1200) the failure to vest in the School Board, rather than the General Electric Company, authority for the administration and management of the school project. However, in fact, the School Board at that time was not organized or equipped to handle such work.

As we have stated previously, we are of the opinion that the costs of the school have proven too high. However, we think that fair appraisal of the policies followed and the costs involved requires that full consideration be given to the various matters discussed above and to the testimony given at the hearing.

We believe the Joint Committee is aware that the Commission has taken steps to guard against the incurring of excessive costs, and to disclose promptly situations in which costs may exceed estimates.

Sincerely yours,

CARROLL L. WILSON, *General Manager.*

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UNITED STATES ATOMIC ENERGY COMMISSION,  
Washington 25, D. C., September 13, 1949.

MR. WILLIAM L. BORDEN,

*Executive Director, Joint Committee on Atomic Energy.*

DEAR MR. BORDEN: At the request of the General Electric Company, we transmit herewith two photostatic copies of a letter dated August 29, 1949, to the Hanford Operations Office, Atomic Energy Commission, from F. K. McCune, Assistant General Manager, General Electric Nucleonics Project, General Electric Company, together with photostatic copies of documents attached to that letter. The letter, with the attachments, embodies the comments of the General Electric Company with respect to the preliminary report on the Carmichael School at Richland, Washington, prepared by Ernest J. Kump & Mark Falk, consulting engineer and architect.

The General Electric Company has also requested that we transmit the enclosed photostatic copies of a letter dated August 30, 1949, to Mr. G. R. Prout, General Electric Company, from Mr. D. M. Checkley, Project Manager, J. Gordon Turnbull, Inc.

Sincerely yours,

CARROLL L. WILSON, *General Manager.*

Encl.

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J. GORDON TURNBULL, INC.,  
GRAHAM, ANDERSON, PROBST & WHITE,  
Richland, Washington, August 30, 1949.

Subject: School Design Experience.

G. R. PROUT,

*General Manager, General Electric Company,  
Richland, Washington.*

DEAR MR. PROUT: In reply to your recent inquiry pertaining to our qualification for the design of school buildings, we wish to state that the joint-venture Architect-Engineer firms and their predecessors have designed more than thirty schools buildings in various parts of the country. Among these buildings are the following: Reeves School, St. Louis County; Four Grade Schools; Centralia, Illinois; Centralia High School, Centralia, Illinois; Centralia Junior High School, Centralia, Illinois; Trout Memorial Gymnasium and School Building, Centralia, Illinois; Brighton High School, Brighton, Illinois; Grade School, Nashville, Illinois; Grade School, Central City, Illinois; Junior High School, Harrisburg, Illinois; High School Gymnasium, Harrisburg, Illinois; Community Center and Industrial Arts School, Centralia, Illinois; School and Gymnasium, Jerseyville, Illinois.

Additionally, the three individuals on our staff, who were responsible for the design of school buildings in Richland each have considerable school planning experience. The principal Architect has twenty-two schools to his credit, the second has designed nine schools, and the third has worked on six buildings of this type. These include grade schools, junior high schools, high schools, and special purpose educational buildings located in various parts of the East.

We also call your attention to the fact that we maintain a planning and statistical organization experienced in determining school requirements as they relate to over-all community needs. This section of our staff is also expert in the design of school-site improvements. The value of close coordination between the planning group and the Architects has been well demonstrated by recent experience on this project.

Although we have not restricted our practice to school work alone, we consider this condition to be a distinct advantage. It is often considered that diversified experience, as opposed to restrictive specialization, usually enables the Architect to produce a more practical and functional solution to any given design program.

Very truly yours,

DMC:jkp.

D. M. CHECKLEY,  
*Project Manager, J. Gordon Turnbull, Inc., Graham,  
Anderson, Probst and White, Inc.*

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GENERAL ELECTRIC COMPANY,  
HANFORD ENGINEER WORKS,  
*Richland, Washington, August 29, 1949.*

ATOMIC ENERGY COMMISSION,  
*Hanford Operations Office, Richland, Washington.*  
(Attention: F. C. Schlemmer, Manager.)

REPORT AND APPRAISAL ON THE CARMICHAEL SCHOOL

GENTLEMEN: At your request we are commenting on the preliminary report and appraisal on the Carmichael School prepared by Ernest J. Kump and Mark Falk, Consulting Architect and Engineer. It must be borne in mind that we have had insufficient time to adequately prepare detailed comments and to check all statements, since this report was delivered to us late Thursday afternoon. However, our cursory reading of the document makes us feel that it is either a result of woefully inadequate study, or deliberate intent not to inquire into or report many pertinent facts.

Our comments therefore may be summarized as follows:

1. Many facts are misrepresented. Examples of some of these are listed in an attached memorandum.

2. Much background data is not mentioned. For example, the report purports to be quite critical of the time between the first request for a school and the decision to build two schools. Attached is a curve of population covering this period.<sup>1</sup> This tremendous growth was a direct reflection of the changing emphasis on production caused by the completely unpredictable international situation. While obviously many facts could not be discussed with an investigator not cleared for classified data, the population data could have been easily obtained. We believe this alone is sufficient to demonstrate the impossibility of long-range planning in the period in question.

3. The investigator appears to have little understanding of accounting methods, and no understanding of the cost accounting methods used at Hanford. See memorandum attached prepared by our Comptroller.

This lack of understanding, we believe, accounts for many of the erroneous conclusions. A reader of the report would arrive at the totally absurd conclusion that an unwarranted expenditure of \$738,611 was caused by General Electric. Actually, and the investigator was so advised, this simply represents the amount of total indirect cost assessed to the project for accounting purposes.

4. The investigator told General Electric representatives he was primarily interested in the question, "Is the school worth what it cost?" Every effort was made to make available to him original data from our files on this point. In the short time he was here this was all that could be done. Much to our surprise, this point takes a very minor place in the report. It would seem that those who prepared the report were unable or unwilling to cover this fully.

<sup>1</sup> See chart facing p. 1206.

5. We dislike the volume of unsubstantiated opinion, particularly on architectural matters. See attached letter from Turnbull and Associates dated August 26, 1949.

6. In addition we wish to make a few specific comments:

(a) Much is made of the one school or two school discussion. It must be borne in mind, though not mentioned in the report, that one school is cheaper to operate; hence many, possibly the majority, of towns plan one school where possible, with full knowledge that two have been recommended as more convenient for the pupils.

(b) The school was continually under the supervision of the School Board and Superintendent of Schools. See Community Activities Division's letter attached. However, and this point is not noted in the report, the Superintendent of Schools was replaced July 1, 1948, and his organization strengthened. The result is that we now have much more confidence in this group, and have assigned further school planning to them.

(c) The statement is made, "It appears that the dominant reason for assigning the work to General Electric was that in the opinion of the Atomic Energy Commission by adopting this method the project could be completed at a much earlier date." While we cannot speak for the Atomic Energy Commission, you may wish to point out the complete lack of organization of the then existing school board and office of the superintendent of schools to handle such a project.

Summarizing, we believe that no good has been done by this report. The data presented as facts are inadequate and in certain cases incorrect. The conclusions are, in our opinion, almost wholly erroneous, possibly as a result of inadequate facts and knowledge. While the General Electric Company did not handle this school as well as it did the great majority of the \$200,000,000 construction program (which it now appears, including the school, will be completed well within 1% above the original estimate—see statement attached) and in essence so testified to the Joint Committee on Atomic Energy, the consulting Architect Engineers' report is not in our opinion a faithful, accurate, unbiased presentation of the story, and we take exception to it, therefore, practically in toto.

Very truly yours,

F. K. McCune,

F. K. McCune,

*Assistant General Manager.*

FKM: ef.

Attachments.

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COMMENTS ON "REPORT AND APPRAISAL OF THE CARMICHAEL SCHOOL, RICHLAND, WASH., TO THE JOINT COMMITTEE ON ATOMIC ENERGY PREPARED BY ERNEST J. KUMP AND MARK FALK, CONSULTING ARCHITECT AND ENGINEER"

Page 1176: The chronology of principal events and decisions is generally sketchy and does not present the full history.

Page 1177: Comment with respect to completion of housing units is incorrect. Actual completion dates and number of units were as follows: 397 AJ units, July 1948; 450 Hudson units, June 1948; 1,000 Ranch-type units, February 1949.

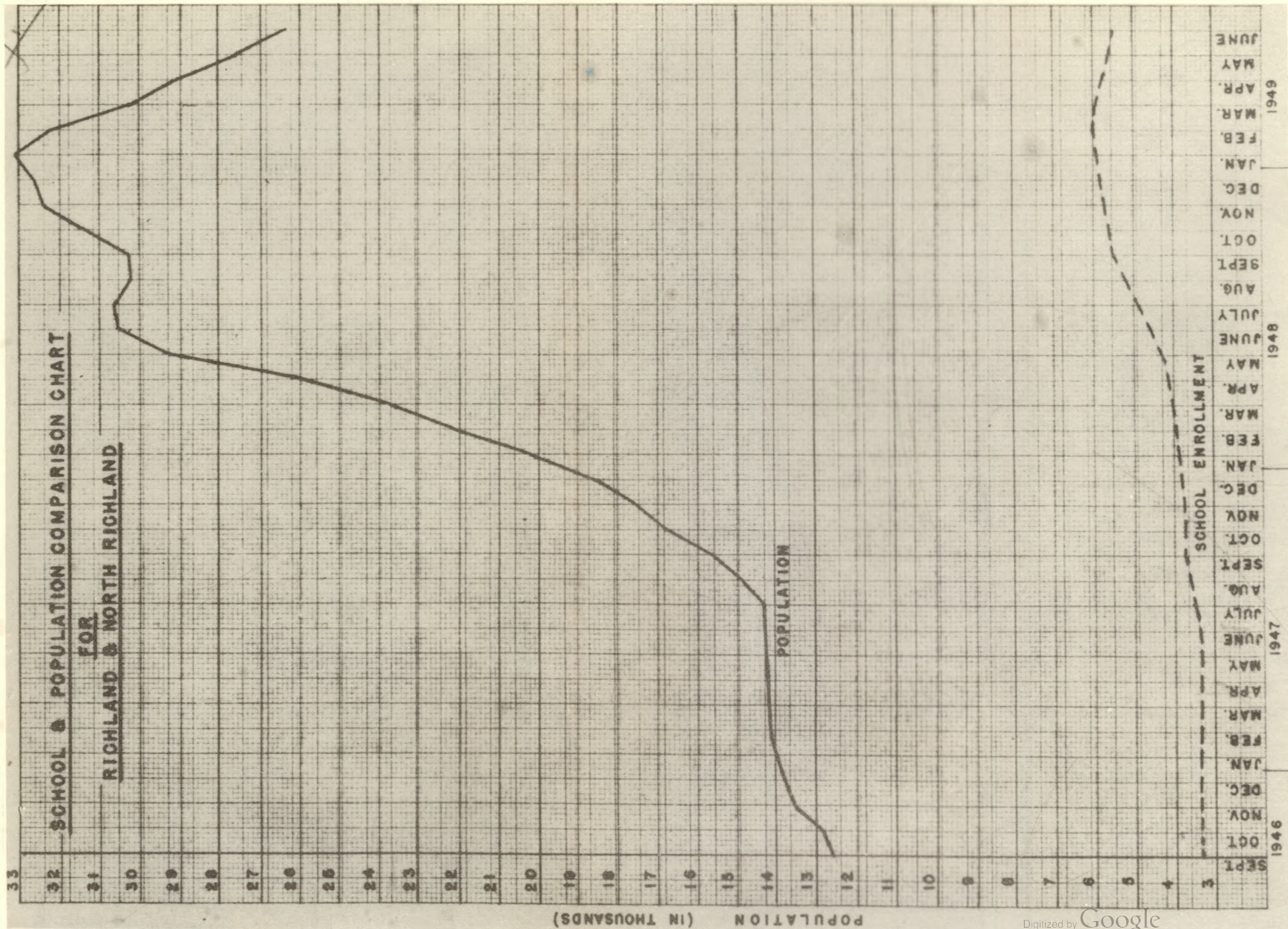
Page 1188: Very little level area was lost in the grading of the site. Steeper embankment would have been unsafe and it would have been impossible to plant or maintain grass on such an embankment.

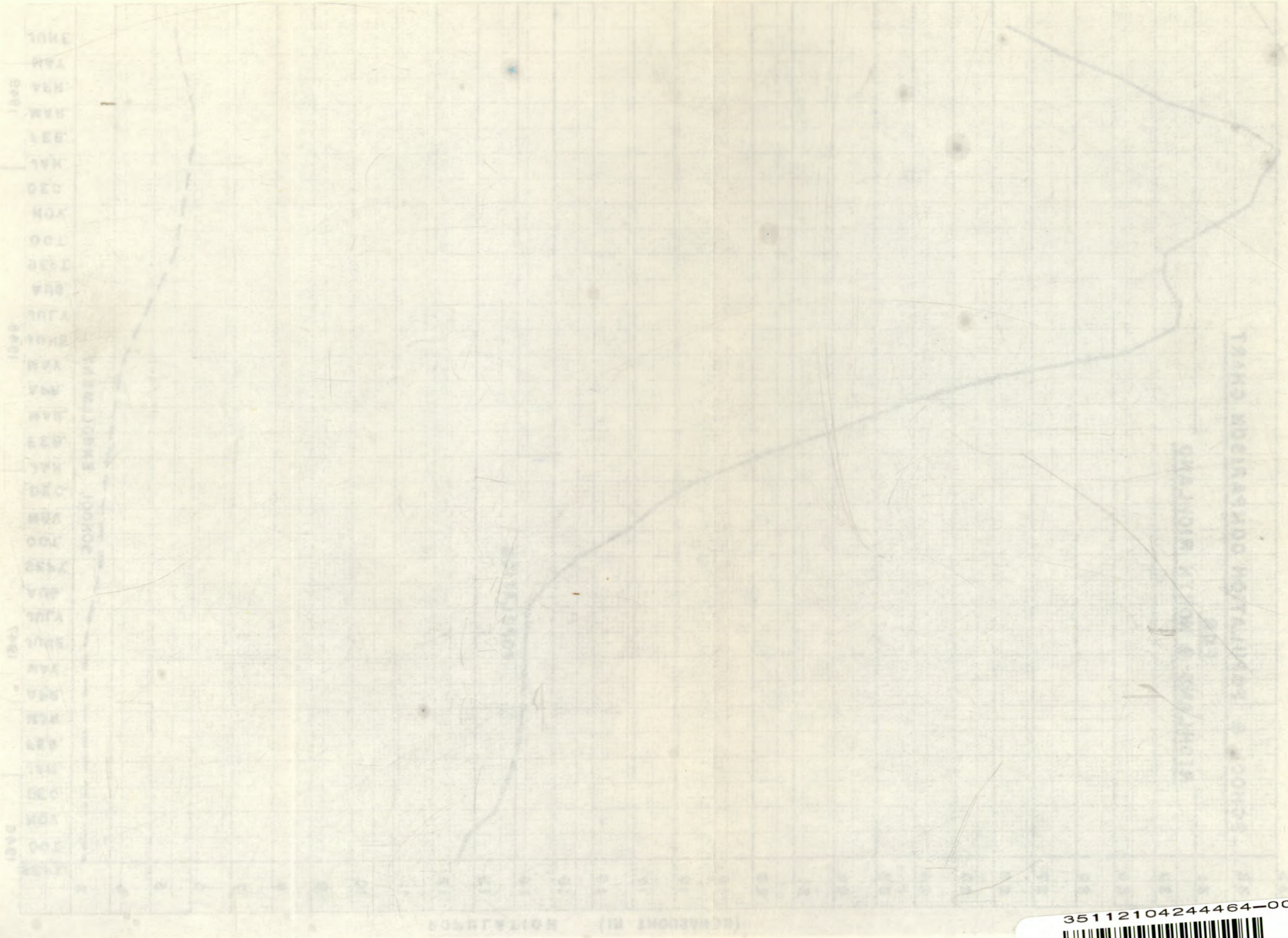
Page 1188: Fee for design of the school including supervision was computed at the rate of 4½ percent of the estimated normal construction cost.

Fifty-eight other projects are stated to involve construction costs approximating \$240,000,000. Actually 33 of these projects involved engineering, studies, etc. in connection with community planning. The remaining 25 projects involved construction in an aggregate amount of approximately \$13,000,000. While the engineering studies had an impact on other construction, the quoted figure of \$240,000,000 is incorrect by at least a factor of 10 to 1.

Page 1189: Design for school was not prepared in Cleveland, plans were available in Richland during all stages of the design.

Page 1190: Although incomplete drawings accounted for added change orders, a check of the amount of the subcontracts and the change orders for the various trades shows that the over-all cost was not substantially increased for this reason.





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Page 1191: The first sketches for the building located more of the structure on the upper level of the site. This was rejected in order to eliminate as much two-story construction as possible.

Page 1191: Criticism of mechanical and electrical work is unfounded and evidently is based on unqualified observation or misinformation.

Page 1191: We disagree with statement that cabinet work is "of rather low quality."

Page 1192: Criticism of planning is based on too much theory and too little practical consideration. Some conclusions are extremely farfetched such as the statement that students get "lost." In this connection attention is directed to letter dated August 26, 1949, from Mr. P. A. Wright, Superintendent of Schools. Statement regarding "variety of concepts" can be made of virtually every public building including most schools recently completed.

Page 1193: Placing service facilities on street would be most undesirable as the building faces residences. Actually service drive area is necessary for fire protection and would be required regardless of its use for service purposes.

Page 1193: Terraced parking areas would be very expensive and could not be justified.

Page 1194: The fly loft in stage was recommended by Washington State College report for junior high school use.

Page 1194: The music teacher feels that the music room is quite satisfactory.

Page 1194: Toilet rooms adjacent to auditorium are not "smelly and humid" and are equipped with very satisfactory mechanical exhaust ventilation.

Page 1195: Comments regarding low ceiling and necessity for burning lights in entrance to girls' toilet are farfetched.

Page 1195: Reference to toilet rooms implies inadequate fixtures where actually the number of fixtures is in excess of State requirements. The toilet room ventilation is entirely satisfactory.

Clear span rather than columns in the cafeteria could not be justified economically and the presence of the columns does not detract from cafeteria use.

Page 1196: The same comment applies with respect to columns in the entrance foyer.

Counselor's offices are not directly related to general office and arrangement was designed to fit a specific operating requirement. The nurse's suite is satisfactory to the Public Health authorities.

Page 1197: The woodworking equipment was specified and approved by the manual training instructor who also directed placement of the machinery. The equipment is also used by adult classes in the evenings. A dust collection system was planned but is not presently installed.

Page 1197: Location of the mimeograph room was selected to reduce noise level on upper floor, is close to receiving dock for incoming paper and to waste paper disposal point. Routine office duplicating by ditto machine is handled in general office.

The letter dated August 26, 1949 from the Superintendent of Schools comments upon the adequacy of the gymnasium facilities.

Page 1198: Actually there is a very direct route to the girls' locker room by means of corridor and stairway.

The following paragraph appears on page 1183 of the report:

"The Commission was aware of the fact that under the first policy for constructing the school, using the General Electric Co. as prime contractor, was involved additional overhead and distributive costs to General Electric Co. over and above that which would be required under the second method mentioned, or through the school district as contracting agency. In the case of the Carmichael School this added an amount of approximately \$738,611 of overhead to the total cost of the project which otherwise would not have been incurred. This is one of the major items contributing to the excessive cost of the project."

The following paragraph appears on page 1200 of the report:

"In the first instance, the policy decision to vest the authority for administration and management of the work with the General Electric Co. as prime contractor, as far as can be determined, added a burden of \$738,611 of overhead allocated to the work which would otherwise have been avoided had the Atomic Energy Commission used other means open and available to it for this responsibility, i. e., the local school board."

The ease with which \$738,611 of the alleged "excess" cost of \$1,733,143 is attributed by the investigator to using General Electric Co. as prime contractor would in itself warrant special comment were it not also true that such a conclusion cannot be substantiated by the facts. That the investigator arrived at

such an erroneous conclusion can only be attributable to one or both of the following:

1. Inability of the investigator to understand the accounting principles involved in determining job costs under the major construction program being carried on at Hanford Works, or

2. Lack of a desire on the part of the investigator to ascertain the facts.

Certainly the very brief discussion which I had with the investigator, at his request, could not logically lead to the statement that "this added an amount of approximately \$738,611 of overhead to the total cost of the project *which otherwise would not have been incurred.*" My testimony before the Joint Committee on Atomic Energy on June 20 and 21, 1949, contained a detailed description of how costs of the Hanford Construction program are allocated to individual jobs for accounting purposes. This testimony is a matter of public record and I assume was available to the investigator. I cautioned the investigator that the problem of allocating indirect costs to each project was extremely involved and that a clear understanding would be necessary if correct conclusions were to be reached. It is now apparent that the investigator did not take sufficient time to understand this matter.

At the expense of being repetitious, I would again like to point out the following:

1. The indirect costs allocated to this job included costs incurred by the construction contractor in amount of about \$165,000 for such things as administration, procurement of materials, supervision of field work, contract administration, accounting, time keeping and payrolls, personnel, safety and fire protection, traffic and transportation, expendable office and engineering supplies, office equipment maintenance, workmen's compensation and other insurance, social security taxes, Washington State business tax, maintenance of offices and shops, etc. To conclude that such costs would not have been incurred by the construction contractor had the school district acted as contracting agency is, to say the least, unrealistic.

2. The indirect costs allocated to this job included liquidation of similar and further costs incurred by General Electric Company and other construction contractors who contributed to this job, the allocation being made on a basis which is in accordance with generally accepted accounting principles. To say that such costs would not have been incurred had the school district acted as contracting agency would mean literally that no material would have been procured by others than the construction contractor, that no patrol, safety, fire prevention, or security measures would have been undertaken, that no supervision of the construction contractor would have been exercised, that no power, light, heat, water, or ice would have been provided to the work site, etc. Of course, it could mean that had the school district acted as contracting agency such costs would have been incurred but would have been absorbed by the school district against its educational costs rather than allocated to the cost of constructing the school.

3. The indirect costs allocated to this job included liquidation of the cost of operating the construction camp and hospital. To say that such costs would not have been incurred had the school district acted as contracting agency would mean literally that the construction workers would not have been housed and would not have received medical attention. Such a conclusion is, to say the least, unrealistic. We can assume, therefore, that the investigator really means that such costs might not have been allocated to the cost of the school but would have been absorbed by others.

4. Additional items of indirect costs are of the same nature and further comment appears unnecessary.

The investigator points out on page 1183 that the school board is administering the program of designing and constructing a new north junior high school through its regular staff and has selected an experienced specialist in school architecture to work with them in programing, planning, designing, and supervising the erection of the needed additional facilities. This clearly indicates that from an accounting standpoint certain indirect costs will be incurred but the investigator does not indicate whether or not such indirect costs are provided for in the per-pupil allowance of \$2,232. Neither does the investigator indicate that the allowance of \$2,232 provides for the cost of housing the construction workers, attending to their medical needs, etc.

It is important to bear in mind that the aggregate amount of indirect costs incurred in connection with the construction program can in no way be affected by the accounting method used in allocating it to each project. If the Carmichael

School job does not receive its share of total indirect cost then other jobs will automatically be charged with that share. This fact has apparently been ignored by the investigator.

Further indication of a lack of understanding on the part of the investigator of the accounting principles involved in the allocation of indirect costs is contained in the footnote to the tabulation on page 1178 as follows:

"The overhead charged to the project by General Electric Company reflects a reduction of \$187,010 entered as an adjustment as directed by Atomic Energy Commission and accounts for previous figures approximating \$3,900,000 as the total project cost."

As a matter of fact, the adjustment was not made at the direction of the Atomic Energy Commission but was determined by joint action of GE and AEC accountants to correct previous allocations and this was pointed out in my testimony before the Joint Committee on Atomic Energy on June 20 and 21, 1949, which testimony is a matter of public record.

FE BAKER: RA.

August 26, 1949.

*Hanford Works—Design and construction divisions, summary of major construction projects*

	Total	Complete or nearly complete	In Process
Number of projects.....	57	45	12
Original estimated cost.....	\$233,340,000	\$223,860,000	\$9,480,000
Actual costs and commitments to July 31, 1949.....	\$205,966,000	\$201,903,000	\$4,063,000
Presently indicated final cost.....	\$234,919,000	\$225,764,000	\$9,155,000
Percent variance from original estimate.....	+0.67	+0.85	-3.4

F. E. BAKER.

AUGUST 29, 1949.

AUGUST 26, 1949.

G. R. PROUT,  
General Manager, General Electric Company,  
Richland, Washington.

DEAR MR. PROUT: I am returning this morning the copy of the Preliminary Report and Appraisal of the Carmichael School, dated August 6, 1949, which was handed to me in your office at four-thirty yesterday afternoon. Although the time allowed for my inspection was very short, I have reviewed the report carefully and have prepared notes on those sections which are of interest to this organization.

The content of this report is substantially in accord with the impressions which I gained during my interview with Mr. Kump in San Francisco on August 5, 1949, and which were recounted to yourself and Mr. Rue on Tuesday, August 9. As I stated at that time, the report is highly critical in the sense that no detail was overlooked. The report is also highly controversial and, in my opinion, displays very poor judgment on the part of the critics in the selection of material for discussion. Evidently the appraisers felt that they were compelled to submit a voluminous report and for this reason an evident straining for points of criticism is demonstrated.

Many of the observations contained in this report could be applied to even the best of public buildings. In a few cases the wording of the criticism makes erroneous implications. For example, the criticism of the distribution of fixtures in the toilet rooms and of the ventilation of toilet rooms, on page 1195, would lead one to believe that an inadequate number of fixtures are provided throughout the entire building, and that the toilet rooms are improperly ventilated. As a matter of fact, the number of fixtures in each case exceeds the requirements established by the State, and each of the toilet rooms is mechanically ventilated in accordance with generally accepted engineering practice.

On page 1195 the report states that air from the toilet rooms may be drawn into the halls in the event of the exhaust system fails or is not properly operated. Any ventilation system can fail to produce satisfactory results if not operated

properly or in case of mechanical failure. Thus the ventilation of any building can be criticized on the same basis. This fact is obvious to any person with experience in ventilation; however, the remark might be misconstrued by a casual reader. For that reason such pointless discussion should not be included in a report of this kind.

The arbitrary nature of many of the criticisms is well demonstrated by the comment on page 1196 with regard to the columns in the cafeteria space, which states that "the usefulness of the room is somewhat reduced by the presence of columns." A similar comment is made with regard to the entrance foyer, on page 1196. The decision to use columns was dictated by economy, as the additional cost of clear span construction would not have been justified. Obviously, these statements are expressions of opinion and, in my judgment, have no place in the report as they tend to confuse the basic issues.

Some of the statements contained in this report indicate a lack of familiarity with building and site construction. The remarks regarding ventilation disqualify the observer, as do the criticisms of the site construction, on page 1193. On that page the report suggests that a steeper slope might have been used or that the parking spaces might have been terraced. Both of these suggestions border on the ridiculous and would not have been made by a person experienced in site planning.

I do not see the necessity for citing on pages 1177 and 1188 the total lump-sum amount contracted by this organization, nor the reason for estimating the fee for preparation of the Master Plan. These amounts have no place in this appraisal of the school and do not contribute in any way to the completeness of the report. The total of \$240,000,000 shown on page 1188 is obviously incorrect and would be misleading if published together with the lump-sum amount for the engineering subcontract. We suggest that this discrepancy be corrected.

As I pointed out in our discussion of August 9, the report is meant to be confined to the statement of the adequacies and inadequacies of the building as seen by the appraisers. They did not feel that it was their duty to set forth the reasons for such inadequacies as were apparent to them, stating that the burden of explanation should rest with General Electric Company and the Atomic Energy Commission. For example, the ventilating of the woodworking shop is criticized on page 1197. Actually, certain difficulties presently exist but will be corrected by the future installation of a dust collection system. This exhaust system was originally contemplated by the designers, but was deleted during construction in the interest of reducing the initial cost of the project.

After reviewing the complete report I do not feel that this organization is in any way compelled to justify its action with regard to the engineering of the school. The primary criticism directed at the Architect-Engineer is for rushing the design and attempting to maintain the schedule set by General Electric Company. Another section of the report suggests that better results might have been obtained if an architectural firm specializing in school design had been selected for this work. It is further suggested that the large volume of work being handled by this organization during the period of design may have caused this building to receive less attention than it deserved. These implications are easily refuted by examination of the facts and do not warrant unbecoming action on our part.

From the standpoint of professional ethics we do not wish to implicate our organization or other reputable architectural firms in a controversy of this nature. Although we take exception to many of the opinions set forth in the report and with the manner of presentation in general, we do not wish to discredit the firm which compiled the report. Favorable testimonials of a general nature from other architects would only serve to accomplish this questionable purpose.

Recognizing the fact that the burden of answering this report falls upon your Company as our client, we offer our services in presenting facts to refute misstatements contained in the report, and expressions of our opinions on arbitrary points of design. Also, we will furnish General Electric Company with a statement of our qualification for the design of school buildings, citing our previous experience in that field.

Very truly yours,

(S) D. M. Checkley

D. M. CHECKLEY,

*Project Manager, J. Gordon Turnbull, Inc., Graham, Anderson, Probst  
and White, Inc.*

DMC: jkp

RICHLAND, WASHINGTON, August 26, 1949.

Mr. F. K. McCUNE,  
*Assistant General Manager, Hanford Works.*

**PUBLIC SCHOOL CONSTRUCTION**

As arranged by Mr. E. L. Richmond, attached is a "Chronological History of the Recommendations Received from the State Department of Education Regarding the Construction of the Robert Gray Junior High School." This is the information which Mr. J. R. Rue requested.

In addition, we have attached a copy of a letter from Mr. P. A. Wright, Superintendent of School District #400, in which he comments on the acceptability and serviceability of the Carmichael Junior High School.

*Superintendent, Community-Activities Division.*

CF Barnes: hsf.  
cc: EL Richmond.  
Activities File.

AUGUST 15, 1949.

**CHRONOLOGICAL HISTORY OF THE RECOMMENDATIONS RECEIVED FROM THE STATE DEPARTMENT OF EDUCATION REGARDING THE CONSTRUCTION OF THE ROBERT GRAY JUNIOR HIGH SCHOOL**

December 31, 1947: Preliminary sketches for the Robert Gray Junior High School were submitted by J. Gordon Turnbull, Inc., to the General Electric Design Division and the Community-Activities Division for approval.

January 5, 1948: Preliminary sketches submitted to the General Electric Design Division by J. Gordon Turnbull, Inc., for approval. In the letter of transmittal it stated that the foundation plans and specifications would be completed thirty days from the date of approval of these sketches, complete architectural and structural plans eight weeks after date of approval and complete mechanical plans, two weeks later.

January 10, 1948: In a conference with Mr. C. F. Barnes, Community-Activities Division, Superintendent, School District #400 and J. Gordon Turnbull, Architect, the request received from School District #400 regarding the change in the location of the Home Economics Room from the lower floor to the upper floor were reviewed and approved. It was agreed that the rearranging would have no effect on the foundation plans, the size or shape of the building. Mr. Turnbull was instructed to advise the Cleveland Office of this change and that they were to proceed with the preparation of the foundation plans as originally scheduled. These changes were approved and included for construction.

January 12, 1948: Mr. T. W. Hauff, Chairman of the School Board, Mr. C. F. Barnes, Community-Activities Division, Mr. Clinton Henning, General Electric Design Engineer, and William Cornelius, Atomic Energy Commission, approved the floor plans of the Robert Gray Junior High School including all changes that had been received to date.

January 14, 1948: A letter from Elmer L. Breckner, Assistant Superintendent in charge of Administration and Finance of the State Department of Education stated that the proposed layouts for the special purpose facilities for the Junior High School were not complete. It was further stated that the study reveals many improvements would be desirable. Forwarded under separate cover as of this date The National Council Schoolhouse Construction booklet. This construction booklet was forwarded to J. Gordon Turnbull, Inc., as of this date. These recommendations requested that the main practice room be treated acoustically and that three (3) practice rooms be provided. These recommendations were approved and included with construction.

January 15, 1948: A letter received by School District #400 from the Superintendent of Public Instruction, State Department of Education, outlining plans and suggestions for the music room, auditorium, stage, library, and study hall. It was requested that these suggestions and plans be incorporated in the final plans for the Robert Gray Junior High School. These suggestions and recommendations were included insofar as it being possible without changing the foundation plans for the building.

January 21, 1948: Mr. T. W. Hauff, Chairman of the Board of Education for School District #400 received from the State Department of Education sugges-

tions relative to the programming and the development of a curriculum for the Robert Gray Junior High School.

January 23, 1948: Mr. R. H. Fergin, Superintendent, School District No. 400, Mr. T. W. Hauff, Chairman, Board of Education, School District No. 400, Mr. Elmer Breckner, Assistant State Superintendent of Public Instruction, Mr. Sincock, Dr. C. O. Westby, Building Specialist and Mr. Turnbull consulted for two days concerning revisions in the plans and specifications for the Robert Gray Junior High School. As a result of this meeting, the changes that didn't require a change in the building foundations were included for construction as far as could be conceivably done without delaying construction.

February 3, 1948: A letter was received from Mr. R. H. Fergin, Superintendent of schools, advising Mr. C. F. Barnes that Mr. Elmer Breckner, Assistant Superintendent of Public Schools, State Department of Education, Dr. C. O. Westby and Mr. Sincock had reviewed the plans and were submitting their recommendations which were to be included in the final plans. These recommendations requested that the shape of the shops be changed from a rectangular room to a room practically square, and that the Home Economics Rooms be relocated from the first floor to the second floor. The relocation of the Home Economics Rooms were the only changes approved due to the fact that the change in the size and shape of the shops would cause considerable delay in construction due to changes that would have to be made in the foundation plans.

March 2, 1948: A letter to Mr. C. O. Henning, General Electric Design Engineer from W. R. Atterbury, Community-Activities Division, transmitting specifications and equipment lists as approved by Dr. C. O. Westby of the State Department of Education and School District No. 400.

RICHLAND PUBLIC SCHOOLS,  
Richland, Wash., August 26, 1949.

Mr. C. F. BARNES,  
720 Building, Richland, Washington.

DEAR MR. BARNES: I thought you might be interested to receive my reactions to the Carmichael Junior High School. Reactions, as you know are caused by various influences. I have been in a position to be influenced by what I see and hear regarding this building.

Carmichael Junior High has now been in use by students for several months. I have been able to feel their reactions and I have been able to measure, in a way at least, the influences which it has had upon teachers and patrons.

We all realize that there has been some criticism of this building, both from school planning point of view and also from the direction of cost. I am unable to be much concerned with the first criticism. The building in most part is made up of classrooms. Probably 75 percent of the space is classroom space. It is my opinion that the classrooms are unusually well planned. They have proper floor space, and good lighting. They follow the Harmon technique in colors and are well supplied with cupboard space. Each room contains a sink or extra services. The gymnasium is comfortable but not extravagant. The dressing rooms are completely standard and usable. The auditorium is very satisfactory in every degree. The cafeteria is usable and helpful in a school of this sort.

The reactions which have come to me from teachers, pupils, visitors, and patrons have been most satisfying. They feel that the school has something which gives a lift to its young people. I have been especially interested in the reaction of students. Their general attitudes seem better than was the case under other conditions. I believe we will find a definite improvement in general school morale.

There are, no doubt, a few spots in the building which can be subjected to some criticism. This is nothing about which one should be alarmed. There never was a home, a school, or a church constructed but that one could enter and find some part which he would like to change. I am sure each person has observed this truth as they visit the neighbors' homes or investigate homes with the thought of purchase.

The money cost for the Carmichael Junior High was too much. However, one needs to keep in mind the conditions under which it was constructed. No contractor would bid on a firm bid basis. Time was the essence of the contract. This is always expensive. Boys and girls were attending school in every conceivable

type of space, including gymnasiums, libraries, music rooms, hutments, and one shower room. From all of these points of view it seems to me that we must draw the conclusion that while some errors may have been made, we have a building of which we can well be proud and which will be usable for many years.

We like Carmichael Junior High School and we want you to know that it is serving a cause of education in an excellent manner.

Yours very truly,

P. A. Wright,  
P. A. WRIGHT, *Superintendent.*

PAW : brw.

## APPENDIX 6

[From Moscow Daily News (weekly edition)]

### SOVIET SCIENTISTS PROBE THE ATOM

JULY 30, 1933.

For years scientists at their test tubes have sought to penetrate the secret of the atom. And for years the atom as inexonerably withheld its secrets, throwing off at lengthy intervals some faint clue to the more audacious and preserving. Have Soviet scientists W. A. Sobolov and M. G. Gurevich arrived within visible distance of the final solution?

The announcement of their new method of high precision gas analysis has created something of a sensation in Soviet scientific circles. Their method, which is likely to supersede those hitherto in use, allows not only a calculation of atomic nuclei moving at high velocity, as had hitherto been the case, but also a full analysis of the products of atomic disintegration, without reference to velocity.

In an interview with the Moscow Daily News, Sobolov described earlier methods as partial and inadequate. Furtherest advance had been made by the British chemist, Rutherford, whose scientific method enabled a detection of corpuscles moving at high velocities. But a satisfactory analysis of the structure and contents of the atom was precluded by the crudeness of the instruments employed. The new method is expected to yield invaluable data, and bring the scientist closer to the goal of his long efforts.

#### PROVIDES A BASE

"Our discovery is only a preliminary step," Sobolov modestly explained. "It will provide a basis for developing new theories and guiding future research. Science is still far from penetrating the secret of the atom. But once it is grasped, new and undreamed of sources of energy will be placed at the service of man.

"One gram of radium, for example, in its disintegration, emits 2,000,000,000 calories of energy. So far, however, we have made little progress toward harnessing this reservoir of power. The case with other elements is similar."

According to Sobolov the scintillation method of analysis is limited to the larger nuclei ejected by decomposing atoms. His new method of chemical analysis, in reality a combination of several methods formerly attempted, enables a fuller and more accurate determination of the atomic structure and its nuclear contents than has hitherto been possible.

"The new method enables us, for instance, to find that aluminum decomposes at a greater velocity and yields higher quantities of hydrogen cells than has hitherto been known. We have also noted variations in the velocity of the hydrogen bodies under the action of alpha rays, and have found that hydrogen is produced not only by rapidly moving particles but also at much lower velocities. These data must be interpreted according to the 'wave theory.'

"In fact," continued Sobolov, "our discovery is barely more than a first step. It is a method that we must learn to apply to various phenomena, and whose results we must investigate. It holds the clue to the whole problem which, paradoxically enough, once vexed the alchemists of old, that of the transmutation of elements—a problem based on the relationships of energy coefficients. And greatest of all, it brings us nearer to a definition of those great riddles of the universe—matter and electricity."

## NEW METHODS OF PROSPECTING

A concrete application of Sobolov's high precision method of gas analysis is his new method of prospecting oil and gas fields, based on an analysis of surface gases. Drilling and boring still remain the standard methods of determining the presence of oil and gas. Sobolov's method is based on simple analysis of gases pumped out of the soil at a meter depth. The presence of a certain amount of hydrocarbonic gas and methane indicates the presence of oil.

"We cannot determine the amount of oil present by this method but it is possible to define the extent of the oil area," Sobolov stated. "The first tests made at Grosny and Baku in 1930 gave brilliant results. The oil trusts immediately urged us to develop the method. It represents a great advance over boring methods. The most efficient California oil companies, according to their own estimates, average 1 oil pocket for every 10 borings. Such expenditure of effort and money can be averted by our system."

He is convinced that his idea represents nothing new to science. "I reported my findings at the Geological Conference in January. And in May I had the pleasure of reading in the German Petroleum Zeitschrift the report of a German scientist who had worked on the same problem. He had completed 30 analyses at the time of his report. At that time I had already made 850 analyses. It reminds me of how Newton and Leibnitz both arrived at their theories of differential calculus simultaneously and independently of each other," he said, smiling.

## AUTHOR AND INVENTOR TOO

W. A. Sobolov is but 32 years old. Stocky, serious, slow moving, he moves with professional ease and certainty among his laboratory apparatus at the House of Scientists on Ulitsa Kropotkina 8. He is the author of 40 scientific reports dealing with radioactivity and related subjects, and the inventor of 19 new laboratory apparatuses. In his work he has been assisted by M. G. Gurevich, 27 years old, and graduate of the Mining Institute, where he specialized in gas chemistry.

"I am happy to be associated with Sobolov," Gurevich stated. "Our work together has been pleasant and profitable. We hope to continue our close cooperation in developing our new discoveries." Much credit is given by both to the Committee for the Assistance of Scientists, chiefly to Fratkin, Present, and Voronov.

The committee became interested in their work at an early stage, and placed its laboratories at their disposal.

"While laboratory work began only 2 years ago, I had pondered the idea for 11 years," stated Sololov.

Both scientists have left for the Baku oil fields to continue investigations of their new methods of surface-gas analysis.

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**INVESTIGATION INTO THE UNITED STATES  
ATOMIC ENERGY PROJECT**

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**INDEX TO HEARING**

**BEFORE THE**

**JOINT COMMITTEE ON ATOMIC ENERGY**

**CONGRESS OF THE UNITED STATES**

**EIGHTY-FIRST CONGRESS**

**FIRST SESSION**

**ON**

**INVESTIGATION INTO THE UNITED STATES**

**ATOMIC ENERGY PROJECT**

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Printed for the use of the Joint Committee on Atomic Energy



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(Created pursuant to Public Law 585, 79th Cong.)

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# URANIUM INVENTORY AT OAK RIDGE

## HEARING

BEFORE THE

JOINT COMMITTEE ON ATOMIC ENERGY

CONGRESS OF THE UNITED STATES

IN EXECUTIVE SESSION

EIGHTY-FIRST CONGRESS

FIRST SESSION

ON

URANIUM INVENTORY AT OAK RIDGE

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JUNE 20, 1949

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## URANIUM INVENTORY AT OAK RIDGE

(The printed testimony contained herein relates to materials accountability at Oak Ridge, Tenn. It has been edited so as to eliminate all restricted data as defined in the Atomic Energy Act of 1946)

MONDAY, JUNE 20, 1949

CONGRESS OF THE UNITED STATES,  
JOINT COMMITTEE ON ATOMIC ENERGY,  
*Washington, D. C.*

The joint committee met in executive session, pursuant to notice, at 3 p. m., in room G-48, Capitol Building, Washington, D. C., Senator Brien McMahon (chairman) presiding.

Present: Senator McMahon (chairman), Representative Durham (vice chairman), Senators Hickenlooper, Vandenberg, and Knowland; Representatives Price, Jackson, Cole, Elston, and Hinshaw.

Also present: David E. Lilienthal, Chairman; Sumner T. Pike, Commissioner; Lewis L. Strauss, Commissioner; Gordon E. Dean, Commissioner; Henry D. Smyth, Commissioner; Carroll L. Wilson, General Manager; and Walter J. Williams, Director, Division of Production; Joseph Volpe, Jr., general counsel, all from the Atomic Energy Commission.

Clark Center, Manager, Carbide & Carbon Chemicals Corp.; Dr. Clarence Larson, Superintendent, Y-12 Electromagnetic Plant; Jesse Herndon, Superintendent of Production, Y-12 Plant; N. H. McKay, Assistant Superintendent of Production, Y-12 Plant; and Fred Uffelman, Director of SF Accountability, Y-12 Plant, all from the atomic energy installation at Oak Ridge, Tenn.

Senator McMAHON. Now, gentlemen, there have been some further developments in Oak Ridge in regard to the unaccounted-for uranium.

Mr. WILSON. Mr. Chairman, Dr. Larson of the Carbide & Carbon Chemicals Corp., who is in charge of that part of the operation at Oak Ridge, is here and is prepared to address the committee.

Senator McMAHON. All right, doctor, will you step up?

Dr. LARSON. It has been suggested that I go a little into my background as is customary. I took my undergraduate work at the University of Minnesota, receiving my bachelor's degree in 1932. I went to the University of California and received a Ph. D. in chemistry in 1937. Since that time, I was professor of chemistry at the College of the Pacific in Stockton, the last 3 years of which I was head of the chemistry department. In August 1942, I joined the Radiation Laboratory under Dr. E. O. Lawrence, who had the responsibility of developing the electromagnetic process for the separation of U-235. While at the Radiation Laboratory, I was head of the analytical research and services group. In July 1943, I joined the Tennessee East-

man Corp., which was to operate the electromagnetic plant at Oak Ridge, as director of the technical staff. Since then, I have held positions as research director of the chemical development; later on, Research Director, and now Plant Superintendent of the Y-12 Plant at Oak Ridge, operated for the Atomic Energy Commission by the Carbide & Carbon Chemicals Corp. I have with me today Mr. Herndon, who is the Superintendent in charge of production operations, and Mr. Uffelman, who is in charge of materials accountability, to furnish supplementary information on this problem.

I think considerable background is necessary concerning the unaccounted for material which arose as the result of an inventory taken over a month ago, at which time it was reported immediately for consideration by the proper authorities. The unaccounted for material, I think, should be considered in the light of the large amount of material processed in this operation. I think it is very important to bring out that it is extremely difficult to describe the circumstances of our accountability without bordering on top secret information because this material is all involved in weapons fabrication. Any hesitancy or groping for a way of expressing this without going into top secret information will be as a result of this. If, however, it is decided that you want top secret information, we are prepared to give it, although I understand that you have not desired to have some of this.

This operation concerns fissionable material and involves the processing through many complicated operations of an extremely large amount of material. We have been successful in the recovery of material through all of these very complicated operations. We have been successful beyond any previous experience of accountability and recoveries to date have been extremely high. It must be emphasized that when we are considering amounts of unaccounted for material, you must remember that we are talking about very small percentages. This is a slight discrepancy considering the process that this material goes through and the complexity and difficulty of the methods by which we account for this material. This material is received as uranium hexafluoride which, as you know, is a gaseous material. That material must be dissolved in water and put through a series of chemical reactions involving precipitation and filtering which converts and processes the material to a very high degree of purity. The purity requirements are beyond that which is normal in ordinary industry. Thus, these chemical processes must be rigidly controlled not only from the standpoint of recovery of uranium but also from the standpoint of purity of product. As a general principle, all chemical operations are characterized by some loss. While the losses in chemical processes referred to here have been reduced below any comparable operations in outside industry, there always will exist a small but finite loss.

Some of these operations, however, give rise to quite a large amount of slag which contains uranium. That slag is very carefully kept and processed later. After this metal is made, it is then put through several other processes. These processes are complicated in nature and as a result the uranium is converted to a form which makes recovery and salvage operations difficult. For example, the machining operation must be carried out using oil as a coolant. The small par-

ticles are inevitably mixed with large quantities of oil which complicates recovery operations to a considerable extent. After this operation takes place, it goes through a few more supplementary operations. As you can see, this series of operations has a potential loss and an actual loss at every step.

We were very pleased and somewhat astounded to find out we were able to carry out this very complicated series of operations with extremely high yield.

Through all of these operations, we maintain records when the material is transferred from one operation to another so that we have an accountability of material as it is transferred from one place to another. Later on, Mr. Herndon can give you some of the details.

Senator McMAHON. When did you install that?

Dr. LARSON. The accountability system? It was installed several years ago.

Mr. UFFELMAN. Since the plant began the operation; as soon as the operation began.

Dr. LARSON. We have had an accountability system from the start but the present refined accountability system is at least 2 years old. This accountability system has been carried to a very high degree of perfection, involving use of IBM equipment and very close record control. This is the manual of our accountability system. We have several copies here, if any of you wish to examine it. It is a very highly organized system. In order to get at the accountability for a complex operation like this, it is not simply a matter of weighing up your material and taking a few minutes to do that; but in these net figures of unaccounted for material, they are the result of more than 2,000 separate analytical operations and weighings. In addition to analytical operations, we must make certain that there are no substitutions of other material. We guard very rigidly against substitution of normal uranium by means of a mass spectrometric operation by which, for every key step taken, we determine the U-235 content of the material.

Mr. HINSHAW. Does the gentleman want to be interrupted at any time?

Dr. LARSON. Surely, if there are any questions.

Mr. HINSHAW. How would an opportunity arise for substitution of normal uranium?

Dr. LARSON. We feel that we have taken all possible precautions for seeing that this doesn't happen.

We might get right to the matter of the unaccounted for uranium. I have brought Mr. Herndon and Mr. Uffelman and I would like to have them describe some of the details as to how we get our inventory and how we determine this particular amount and why we feel confident at the present time that the situation is well under control and it is within the limit of reasonable error of our records and our analyses.

Senator KNOWLAND. Might I ask a question at this time? Have you had any similar losses during the period you have kept the inventory?

Dr. LARSON. Yes. That will be brought out. It is very important to bring out that each of these inventories are as a result of 2,000 analyses. Uranium, unfortunately, is particularly difficult to analyze for; it has many complications in its analysis. We have had experience in comparing analyses research work with various institutions and

whenever a new project is started with a new uranium source, there is always a certain period of time necessary to get the different institutions to give the same answer on analyses. It requires a good deal of research and very careful work to make sure that interfering substances are not present to ruin your results. There is an uncertainty attached to our analytical process and, as will be pointed out, certain materials are much more easily analyzed for than others. To analyze for pure uranium metal, we have a very fine accuracy. If we have certain low-grade ores the uncertainties are higher. Different types of material in this process give different degrees of difficulty in arriving at the proper answer. I might point out that our precaution to recover material in this operation led us directly into some of these difficulties. The uniforms that our people wear, the floor sweepings—there are no drains in this building—to eliminate the mistake of pouring something down the drain. But we have the possibility of losses through our ventilating systems. However, we cover them with electrical precipitators so that all the dust is collected and the material is reprocessed.

Now, all material, such as slags and floor sweepings, and dust, collections of silica, make recovery of uranium very difficult and it will be brought out by Mr. Herndon in this inventory that the difficulty of some of these very refractory types of materials gives rise to uncertainties which are very small.

Mr. HERNDON. I don't think we can overemphasize the fact that the amount of material that we are talking about is over and above the high recovery that we are speaking of, over the total amount of material processed. Senator Knowland asked about fluctuations of the inventory, month to month. I have figures for the preceding 6 months which will give you a specific idea.

(Discussion off the record.)

Senator HICKENLOOPER. What do you mean by gain?

Mr. HERNDON. The books showed—on the physical inventory it was indicated we had that much more material on hand than the books said we should have. By actual weighing.

Senator HICKENLOOPER. You mean the physical inventory showed more than the calculations showed you should have recovered?

Mr. HERNDON. The records from the previous inventory, plus the input, less removals.

Senator HICKENLOOPER. If you get some material in, you know how much the maximum should be?

Mr. HERNDON. That is right. The inventory of the previous month, and add to it the material received.

Senator HICKENLOOPER. I could understand a gain based on the fact that the calculations might indicate you recovered more than you should have, but I don't know how you can gain in actual uranium.

Mr. HERNDON. You don't actually gain uranium. It is unaccounted for material. It is fluctuations in the analysis, an error in ability to determine how much uranium is in there.

Senator HICKENLOOPER. But this gain is a gain as a result of mistakes or fluctuations in analytical results of the various processes as you go along?

Mr. HERNDON. That is right.

(Discussion off the record.)

Senator HICKENLOOPER. How do your gains run, month by month, over a history of 24 months? Was there a gain each month or not?

Mr. HERNDON. We have not had sufficient experience in this operation, in this magnitude, to know what we can expect.

Senator HICKENLOOPER. How long has your experience been?

Mr. HERNDON. Since November of 1948; 7 months ago.

Mr. COLE. Do you ever have a month when you come out even?

Mr. HERNDON. Not to the gram. You always have some fluctuations.

(Discussion off the record.)

Dr. LARSON. It may be of interest to give an illustration as to how our inventory figures are compiled. Over 2,000 separate chemical analyses and mass spectrometer determinations are made in order to arrive at an accurate determination of the uranium input, output, and inventory of uranium involved in these operations. In addition to the total accountability for the entire operation, each individual operation is accounted for so that any discrepancies can be checked to a specific point. Once a month an inventory is taken and these figures, together with receipts and shipments, form a basis for the calculation of gains or losses in the operation over a period of 1 month. It must be emphasized again that the gains or losses are calculated from several thousand separate figures and represent a very small fraction of the total processed.

Senator McMAHON. You mean by total, raw material or finished?

Dr. LARSON. Incoming receipts as against our outgoing—incoming plus beginning inventory compared with outgoing.

Senator McMAHON. When you say "incoming," do you mean calculated by judgment?

Dr. LARSON. Most of it comes to us in uranium hexafluoride.

(Discussion off the record.)

Dr. LARSON. I just wanted to make sure that we had a clear picture that this net loss or gain is a result of usually very large numbers.

Mr. DURHAM. How much laboratory time do you spend at the present time on the accountability system trying to keep up with how much you got?

Mr. HERNDON. From an analytical standpoint we have 80 people that do nothing but analyze this material to check on it.

Mr. DURHAM. Doing no research work whatever?

Mr. HERNDON. Absolutely not. We have a research department separate and apart from that organization.

Mr. DURHAM. How does that compare with other people in this laboratory? What is your total number doing some research work trying to get this job along?

Mr. HERNDON. Dr. Larson can answer that better than I.

Dr. LARSON. Your question is how many scientific people in research work?

Mr. DURHAM. In this operation; yes.

Dr. LARSON. In this operation, we have approximately 20 people.

Mr. DURHAM. 20 scientists—80 people checking on them?

Dr. LARSON. This particular operation, in the past, has been developed through research work, so that research for this operation is a very small effort; because we have perfected it to a high degree.

Mr. HINSHAW. This isn't a laboratory, it's a production plant.

Mr. HERNDON. I think it would be well to point out that 225 people are involved in this process. In addition to these operators, 80 people are involved in the analytical laboratory and 70 people are involved in the assay laboratory.

(Discussion off the record.)

Mr. HERNDON. I want to enlarge on a point made by Dr. Larson as to our use of the electrical precipitators. In addition to this, we require our personnel to wear AEC clothing which they change in and out of. This clothing is washed right in the building and the water from it is processed for recovery. When their shoes are worn out, they are burned and the ashes recovered. Nothing is thrown away from this operation in a solid state. We have one source of discard—solutions. They are pretty clean solutions and can be assayed accurately for their uranium content.

Senator McMAHON. Now, with all that background, where is the material indicated by the discrepancy in the inventory?

Mr. HERNDON. I think that can be very adequately explained. We have increased this operation manyfold the last 6 months. In March of this year, we began collecting large quantities of solid materials containing uranium.

These are very difficult to analyze. This has been the record for this and similar operations for the past 6 years; particularly wet solids, because in sampling this material—it is not homogeneous, in the first place. We have every reason to believe that this material is contained in this solid material. The reason we believe this is: We took two of these batches of material and gave them initial processings. We won't be through for 5 months because we have to build new equipment to take care of this added operation. We took some of the material and did some preliminary processing. I would like for Mr. McKay to give you an explanation as to what we found in those two batches.

It has been indicated that because of the large amount of insoluble material in these slurries adequate processing facilities are not available at the present time. However, it has been possible to take a small representative sample of this large batch and process it in small laboratory scale equipment in order to determine what recoveries can be expected when the large-scale equipment is available. Recoveries from this batch indicate that 200 to 300 percent more uranium can be recovered beyond that predicted by the inadequate sampling and analytical methods as explained above. Such recoveries would adequately explain the unaccounted for amount reported.

This, incidentally, I might add, is not unusual. This is a history of similar operations. Back in the old electromagnetic process we had volumes of material going through that process to recover uranium from salvage material and it was history to get more uranium out of solids from processing than you would expect them to yield on the basis of the chemical analyses because of the inadequacies of the analytical procedures. We would have to sample the material as best we could but no sample from such a mixture represents a true picture.

Senator McMAHON. How long would it take to process the rest?

Mr. HERNDON. The complete process will require approximately 5 months.

Senator McMAHON. What precautions have you got against somebody walking out with this material?

Mr. HERNDON. We feel we have a great many precautions. We would like to pass these around to the committee [passes charts to members]. These show the personnel security measures that are taken in hiring people or placing them on these jobs. I think it is self-explanatory but you may have some questions. Each step is outlined which is taken with each one individually who may be initially employed or may be transferred to these operations from other operations in the plant. I think it is also important that we point out to you the physical security measures that have been taken.

Senator McMAHON. You give them a lie detector test before they go to work, I see.

Mr. HERNDON. Yes sir.

Mr. JACKSON. I wonder if we can go through and explain it?

Mr. HERNDON. First is the initial application of the employee—his previous work record, experience, and ability to do the job for which he is being hired. The next thing he does is hear that we are interested in employing him. We request he fill out a personnel security questionnaire and then we have the Commission submit it to the FBI for investigation. They conclude their investigation and turn it over to the Commission, and if a "Q" clearance is granted, we can then place him on the pay roll. When he is on the pay roll, the first thing he does is to sign a security statement and at the same time a general security orientation is given the man by the personnel department head before he reaches the department where he intends to work. Next, there is a polygraph examination given to every person who enters the area in question.

Senator McMAHON. What percentage of success do you have?

Mr. HERNDON. So far, we have not had any failures.

Senator McMAHON. What I meant was, have you caught anybody on the lie detector test?

Mr. HERNDON. No. So far I have not been made aware of anyone caught fabricating employment records up to this time.

Mr. JACKSON. In the interrogation on the polygraph examination given prior to the assumption of responsibility of employment, the questions directed primarily are whether or not they have lied or fabricated information in their questionnaire?

Mr. HERNDON. Such questions as "Are you a member of any subversive organization promoting the overthrow of the Government?" "Do you intend to hurt the security of your Nation?" and that sort of thing. The next thing after the polygraph examination is a detailed security orientation. I might add, recently, in view of the interest and our own experiences that, in spite of our discussions with each individual that comes into this plant and telling them what we want and expect from that standpoint, we have found that from further questioning they seem to be vague about what we mean and want and hope to get, and so we have recently developed a four-page outline in regard to security. When the person comes into the plant, and this is done with every person working there, they are taken in groups of 8 or 10 and required to read the letter on security and required to sign it and indicate that they have not only read it but understand it.

Senator KNOWLAND. Now, right at that point, I don't recall, on the number of cases submitted earlier, whether any of them came down.

from your way or not, but have you had cases of people taking material home?

Mr. HERNDON. Yes, some of them are within this operation.

Senator KNOWLAND. They were fully informed not to take any material off the premises?

Mr. HERNDON. Yes, but until recently, we did not have this significant technique.

If something comes up now, this eliminates the possibility of ignorance.

Senator KNOWLAND. Take the ones that happened in 1948 and 1949—a fellow takes some material home. What did you do? What disciplinary action was taken?

Mr. HERNDON. A complete reprimand and reemphasis of the security rules. He used ignorance as the excuse; he didn't realize. Evidently, we failed in not giving him enough of an impression. This resulted in a development of this method to make sure that all phases of security were pointed out.

Senator KNOWLAND. Up until this time, this whole process went off his back like water. What about the others?

Mr. HERNDON. I think there were three cases. I think it is important here, Senator, that we bring out the point as to whether or not it was the intent to harm the national security program. We were of the opinion, after discussing it with them, that they did not have that in mind. It was simply a lack of cognizance.

Senator KNOWLAND. I don't see how a man would, under any circumstances, take the stuff out of the building. Don't you think the over-all effect is more drastic to keep them on rather than to halt employment?

Mr. HERNDON. No, sir; we feel the over-all effect is remarkably worse, because this man takes out in his mind figures, pictures, designs, with which he could do more harm by telling than he could by carrying out some material. I think the whole situation is this: Our security rests with the integrity of the man.

Senator HICKENLOOPER. Well, doesn't it pare down to this security risk? Here is a man who apparently has ability and yet after having been talked to about his responsibilities, he then is so irresponsible that he takes out stuff that certainly he should have known better than to walk out with, and he then excuses himself by saying he had no intention to hurt his country, that he had no intention to violate rules? He knew better and isn't the ultimate question in these cases not whether a man has a deliberate intent to hurt his country, but whether he has the ability to obey security rules? He is very, very lax, indeed. I think there are many people in this country that have no intention of hurting this country but they lack discretion and the ability to comply with rules to such an extent that they may injure their country.

Mr. HERNDON. Dr. Larson has some remarks on that score, if you wish to continue with this question about the precautions we take to see that they don't take it out of the building.

Dr. LARSON. I would like to make one comment. There is no question but that this is something wrong and ignorance is no excuse. We are faced with a practical situation. What would be the consequences of other than the disciplinary action we took in this case?

Now one of the alternate disciplinary actions could be, in this particular case, we could fire the man, or he could be prosecuted under the law. In this case he would be prosecuted with small chance of success. If he were put away in prison I think he is pretty safe. But the consequences of firing this man would be very grave because of the knowledge he carries in his mind.

He would feel that he was being unjustly persecuted, and I think that the man would be very much of a potential danger to this country. You couldn't possibly let him go without a 24-hour surveillance at all times.

Senator HICKENLOOPER. Then if the man has so much knowledge that if you fired him you would have to watch him 24 hours a day, isn't he basically dangerous if he stays on in that employment?

Senator KNOWLAND. And isn't that the same theory as paying blackmail, if that is what we are dealing with?

Dr. LARSON. I wouldn't class them in the same category.

Senator KNOWLAND. No; but if he is fundamentally dangerous, as the Senator points out, that is a double reason for not having him in the project.

Mr. PRICE. Doctor, do you feel there have been a lot of good men go wrong because they have been unjustly dealt with?

Dr. LARSON. Possibly.

Mr. PRICE. And might leave with the feeling that he had been persecuted?

Dr. LARSON. I think that would be definitely the case here.

Mr. PRICE. And you thing the best man in the world might snap under a situation like this?

Mr. ELSTON. Doctor, on the subject of ignorance, you have signs all over the place warning against taking anything out; don't you?

Dr. LARSON. Yes; this is certainly a violation we have to face.

Senator HICKENLOOPER. Well, Doctor, if I might call your attention, we have a couple of Army sergeants who took photographs—everybody is convinced that they didn't intend to sell them, but they are under pretty heavy sentence right now although it was pretty well established that those photographs were souvenirs.

Senator MCMAHON. Did they put them in jail?

Senator HICKENLOOPER. I think they got a \$10,000 fine, suspended, and a jail sentence suspended.

Dr. LARSON. I think I heard about those instances. I remember about the suspended sentence. As far as these men are concerned, I think a word here, under the circumstances under which this operation was initiated, would be in order and that is that this is a very vital operation and bears definitely on a stock pile of effective weapons.

Mr. JACKSON. Before you proceed, I wonder if, for the record, I can get it straight in my own mind whether the material involved in this previous discussion is normal uranium?

Dr. LARSON. Yes; it is normal uranium.

Mr. JACKSON. Would it have any particular value?

Dr. LARSON. It would have no value. Its greatest monetary value would be 3 cents.

Mr. JACKSON. Have you had any situations where the fissionable material has been removed?

Dr. LARSON. No situations in which the fissionable material has been removed deliberately because these individuals have been with that operation quite a bit longer and their security indoctrination was much more thorough.

Mr. JACKSON. You say "nothing deliberately." What do you refer to?

Dr. LARSON. I think you have the reports on these cases in which these men in going home neglected to change their socks, were apparently in a hurry, and during the operations two very small slivers of fissionable material got in their socks. They were conscientious about it and they wrapped them up, returned them, and reported it to their supervisors and were duly reprimanded for it.

Senator KNOWLAND. Let's see if that is correct [reading from an AEC report]:

During a polygraph test on March 21, 1949 \* \* \* admitted that he found approximately 1 gram of normal uranium chips in the cuffs of his trousers when he was changing clothes in the plant. He further admitted that he carried these chips home and, in the presence \* \* \* burned these chips.

Dr. LARSON. These are the normal uranium chips, not fissionable material.

Mr. HERNDON. This map we have here—there is a wide dividing line here. Those buildings on the one side are maintained physically separated, completely separate.

Mr. ELSTON. Don't you have some kind of instrument which the employees can pass between, and which would indicate hidden material on his person?

Dr. LARSON. We have investigated that and there are no practical machines for detecting that.

Mr. JACKSON. These people—let's clarify this point—these people work with normal uranium.

(Discussion off the record.)

Mr. JACKSON. I was confused, where this chap had carried some home in his trousers and burned it. That involved a chap working with normal uranium.

Mr. HERNDON. The two persons who inadvertently carried the stuff out on their socks were working in the specially restricted area.

Mr. JACKSON. Is there any evidence of people working in the specially restricted areas carrying any of this material out with them, besides the two cases you referred to here?

Dr. LARSON. No, sir.

Mr. HERNDON. Absolutely not.

Mr. JACKSON. Any indication on the polygraph?

Mr. HERNDON. No.

Mr. JACKSON. Have any employees indicated that other people had questioned them about what they do which would indicate that someone is trying to get information from them?

Mr. HERNDON. That is one of the questions asked in polygraphing. It would show up there. The question: "Have you ever discussed information with unauthorized people?", and we have not had violations.

Mr. HINSHAW. Do I understand that this specially restricted area is closed off from the unrestricted area?

Mr. HERNDON. Yes. On the chart which you have before you is shown diagrammatically the fencing and compartmentalization concerning this area. Extreme precautions are taken to prevent unauthorized persons entering the area.

Mr. HINSHAW. Mr. Chairman, do I understand that this machining operation is a completely self-containing operation? That is to say, the material is checked into the machine department and checked out of it as a separate operation, the same as with the chemical operation?

Mr. HERDON. It is segregated to the extent that some people who work in the chemical operation do not have access to this area. Accountabilitywise, it is handled together.

Mr. HINSHAW. You mean the salvage and machining is operated as a group?

Mr. HERDON. Right, sir.

Mr. HINSHAW. Would it be difficult to operate the machining alone?

Mr. HERDON. Yes, sir; it certainly would. In order to improve the accountability, it would mean after you have finished the machining of each piece, you would have to clean the machine and run a material balance around the particular piece originally. To do that, we would have to have approximately three times the lathes or mills to still meet the production schedule. Instead of this, we would have to build this wing [referring to chart] a couple of more lengths.

Mr. HINSHAW. If you check into that area a certain number of pounds or ounces, or whatever you want to call it, and put it through the machining process, you know what goes into it and you can see what comes out of it and the salvage is what remains.

Mr. HERNDON. I would like to call on Mr. Uffelman to answer that.

Mr. HINSHAW. In other words, there is no necessity for accountability for salvage if you weigh the scraps.

Mr. HERNDON. It is not that simple. I would like, if I might at this point, to have Mr. Uffelman explain accountability in detail.

Mr. HINSHAW. Just a moment. I understand that this loss took place in the machining process.

Mr. HERNDON. I have just pointed that out. We are of the opinion that it is in these salvage operations—tied up in these solid materials. May Mr. Uffelman proceed? I believe it will answer the Congressmen's questions as to how this work is coordinated.

Mr. UFFELMAN. We have within the area in question, the operating areas broken down into accounting sections. That is, we originally get a given material which we charge into a special account by weight and analysis. When converting this material, we transfer on a waybill form, which is duly signed by the shipper and receiver within the wing, the amount of the material which we are going to convert. As the material goes from one stage to the next—that is, from one account to the next—we credit the first account and debit the second account. Now, if, for example, given amounts of the material go through several different operations during the time it is in one section, it is impossible to run a material balance around each amount. That is, if you put some of the material on a machine which is clean and you used a clean coolant, and you did everything on the one amount on one machine, and then when it was done, cleaned everything—if you had that sort of thing, you could run a material balance around a machine or part. But it is not feasible to run a balance around a

machine nor is it feasible to run a balance around a part because of the number of machines required to keep going. I might comment that it takes 24 hours to tear down the machine, clean it, and get it running again. So, what we do is charge the entire machine account with the unaccounted balance over a month, with each amount of material that comes into it and account for pieces. We account for the number of grams of uranium going in and out. The difference between the two amounts is salvage which should be in chips, coolant, slags and other salvage accumulated in that particular account. We take the difference and charge it into the salvage. Each account produces its salvage. There is no other basis on which to do it since if we went to check out accurately, it would be necessary to completely dismantle the machine.

Mr. HINSHAW. Did I understand that the loss in question was found in the accounting for the machining section?

Mr. UFFELMAN. No, sir; that is not correct. We went through two stages of thinking with respect to this loss. It requires a fairly detailed explanation but I'll try to give it quickly: It appeared from first appearances that the unaccounted-for material could have arisen from the machine section and would have been a result of bad inventory—a certain bias which might have existed in the analysis. We had difficulty in determining the bias of analysis of solution from that section and we knew the measurement of bias has a tendency of raising or lowering the loss and having the corresponding rise or degree of salvaging loss to differ with this solution. So we thought from the analysis situation that we had failed to inventory a piece of uranium.

(Discussion off the record.)

Mr. UFFELMAN. So we thought failing to inventory a piece—incidentally, it wouldn't be a piece; it would be chips—plus the combination of unknown bias in analysis, could have meant that our inventory which unaccounted for the quantity in question was failing to inventory some chips. This was the theory we proposed on the 25th or 26th of May. We then took the second inventory on June 1 and the results of that inventory indicated that it was quite possible that we had failed to inventory some chips in the machine section. And that is not incongruous with the statement that this is where the discrepancy showed up. At the same time, we had another unaccounted-for material, a smaller amount, in the salvage processing section. That is where the tie-up of uranium would show up as a loss. The second month, we gained back in the machine section part of this loss. We did not account for some chips but, at the same time, we had further unaccounted-for material in the salvage section.

So we think the most accurate explanation which fits the situation is there was an inventory error on May 1; on June 1 we found that inventory error, but at the same time the rise in slurries tended to confuse the situation.

Senator McMAHON. What are slurries?

Mr. UFFELMAN. Slurries are a mixture of solids and solutions, sir. Sort of like mush—it is pretty stiff stuff.

By confirming the unaccounted-for material in the salvaging section makes it pretty sure that this is the best explanation.

Mr. ELSTON. Under that system, since there is a great shortage one month and an overage the next month, how are you ever going to know whether something is or is not missing?

Mr. UFFELMAN. From our experience, we found that the inventories for material from time to time oscillate from month to month. We also found that over a period of time, the problem of offsetting gains and losses tends to result in an over-all picture at the end of the year. A year is about the least period one can pick for an inventory the size we have and the way we must do it. Also, under conditions of having to operate 24 hours a day.

Senator KNOWLAND. What do the 12 months show?

(Discussion off the record.)

Mr. UFFELMAN. These things oscillate around but in a long period of time reflect the amount of material held up in solution, solids, etc., which you don't recover by dissolving.

Mr. JACKSON. Is there a definite correlation with losses on increases of production?

Mr. UFFELMAN. There is definite correlation of oscillation with increased production.

Mr. JACKSON. Does your increased production output increase oscillation? Is that the law that we are going to lay down?

Mr. UFFELMAN. I think that is definitely true. When you are producing more you get more variations.

Mr. JACKSON. And your history going back many months bears that out—your experience by trial and error—that you have to learn from experience?

Mr. UFFELMAN. That is right. And our experience in making the process work, unfortunately, gets more difficult.

(Discussion off the record.)

Mr. UFFELMAN. I would like to point out several statistics. They are pretty technical. They say, substantially, that we can place a value on the amount of oscillation you can expect by taking the number of analyses which we have to run. In those analyses the amount of error we can get into any time—we take the "X" grams. I could take it right now and get one figure and you could take it right behind me and we could expect a "Y" gram difference, plus or minus.

Mr. JACKSON. You expect to modify this law?

Mr. UFFELMAN. Yes, sir. The first thing to do is to get an analyst, machine tools, people to take samples and process stuff in places where you can. It is simply a matter of judgment. It is our judgment at this time. We have been doing everything consistently.

Mr. JACKSON. Do these losses increase in arithmetical progression or geometrical progression?

Mr. UFFELMAN. I wouldn't care to figure that this afternoon.

Mr. JACKSON. If you double production ought your oscillation be doubled?

Mr. UFFELMAN. No. If we had this whole inventory in metal, if our scales are good, maybe they would be off "X" grams between the two of us, but when we get to processing, that is when oscillation increases. You get uncertainties.

Mr. JACKSON. But this process is sound; isn't it? You don't vary processing?

Mr. UFFELMAN. You see when our production increased——

Mr. JACKSON. You use different technique when it increases?

Mr. HERNDON. Yes; this much is different.

Mr. UFFELMAN. That's exactly what is happening here so—

Mr. HERNDON. We have to adjust the process to the sudden difference.

Senator KNOWLAND. Mr. Chairman, I would like to oscillate back to these specific cases for a moment. On this case, SI-4 [reading from an AEC report]:

On May 27, 1949, the FBI was notified by the Oak Ridge security office of a rumor that a person working in the Y-12 Plant had some normal uranium metal in his plant locker. Narrowing down the suspects to 12, polygraph examinations were given and one of these, \* \* \* admitted that he had a bar of normal uranium in his locker, approximately  $\frac{1}{2}$  inch in diameter and  $1\frac{1}{2}$  inches long. Immediately after the examination, \* \* \* led the examiner to his locker and produced the above-mentioned bar. He stated that about 2 months ago, a fellow employee dropped it in his shirt pocket and when he changed his clothes, that evening, tossed the bar up on the locker shelf where it had remained. \* \* \* offered no explanation as to why he had not reported this material in violation of the shop rules.

What kind of disciplinary action was taken in this case?

Dr. LARSON. This man, at the present time, has been suspended from work pending investigation of this case.

Senator KNOWLAND. When the investigation is finished, does he get a promise that he'll be put back to work?

Dr. LARSON. No; but I fail to see that this man is in the same category. If the investigation indicates no violation—

Senator KNOWLAND. That is just the point, you start a precedent. All these fancy security plans on paper are not going to work out in practice. If these people don't heed these precautions, it seems to me that everybody else would do likewise.

Mr. HERNDON. I would like to point out, in each of these cases it is a first offense. We have an established disciplinary procedure. In almost no instance except in very serious cases do we have anything but a reprimand and progressive punitive measures. Senator Hickenlooper pointed out that if this man would go out and reveal this information—it is our opinion that you do not create this potential danger until after you fire the man. After you fire him, you do create this danger.

Dr. LARSON. I would say that any man with this particular background would certainly be given a chance to prove himself.

Senator McMAHON. Any other questions?

Mr. ELSTON. As I understand from the explanation—technical and otherwise—you don't know until about the end of a year or 14 months later how much of a variation there has been and even then, you may miss a large amount.

Dr. LARSON. That is correct.

Mr. ELSTON. So that during that period of time, there could be a theft and you would never discover it?

Dr. LARSON. The polygraph would catch a violation of that type.

Mr. ELSTON. Suppose a man quits his job?

Dr. LARSON. He receives a polygraph test before he leaves.

Mr. ELSTON. Yes, but it is not accepted in court because it is not considered accurate.

Dr. LARSON. We agree with you, but this is one additional step—we do everything we think of with regard to normal security methods, plus these extra precautions with the polygraph. In answer to your

question, it is very true that if a man definitely could get away with a limited amount, if we agree that the polygraph is not valid and the amount concerned is within our limit of error, we will have to admit that we would never catch it and we do know that there is no known way you can catch it.

Senator McMAHON. You could go out of business.

Dr. LARSON. Yes; lock it up in the safe and that way not lose it.

Mr. HERNDON. This brings us right back to the personal integrity of the individual involved. If you don't have that, you don't have security. There is no step we have been able to devise other than this. These are the best steps we believe it is practical to take. These gentlemen, Senator Knowland, are not people we have just known yesterday; most of them have been on the project from 3 to 6 years' time. We can't help but look to that phase of it.

Senator HICKENLOOPER. It isn't just a question of one-tenth of a gram; it is a question of taking home anything—these fellows who take this stuff home to show their children.

Mr. HERNDON. We grant you, sir, that a mistake has been made—but we don't agree on the penalty.

Senator HICKENLOOPER. I go on the basis that anyone who has worked there for a substantial length of time, if he is intelligent enough to work there, should be intelligent enough to know the trust he is supposed to keep.

Mr. HERNDON. I think another thing, sir—you will agree that familiarity breeds contempt and these men are working with large amounts of uranium each day and they find it difficult to place the same emphasis of importance that we do. We feel that we are partially to blame, but we have devised new measures which we believe will protect us.

Still and all, this gets back to the point of difference of opinion as to the disciplinary action that should be taken. We felt that we did what should have been done.

Senator McMAHON. I would like to call attention to the fact that, in an unclassified statement in the Top Secret Quarterly Report for October–December 1948, the Commission stated they were not satisfied with the accountability system and were making a further effort to strengthen it.

Senator HICKENLOOPER. I may say in conclusion that without doubt any operation involving human actions is subject to mitigation to various degrees but in these cases, with no disciplinary action whatsoever taken—in other words, it would seem to me at least the company, in good judgment, thought these men ought not to be fired but they could be suspended for a week as a disciplinary measure or some kind—something to impress upon them, some punishment for breaking down these rules. But there should be some degree—if the thing is mitigated in any way, there should be some degree of disciplinary action rather than to say, "No, no; you know better than that. You have known for 5 years. Go and sin no more."

Mr. ELSTON. Wouldn't it appear on this system that the worse a man is, the more reason you have for firing him? But you say there is a fear of firing a man. If he is pretty bad, it makes you all the more afraid to fire him.

Mr. HERNDON. This does not necessarily follow, sir.

Senator McMAHON. Now, I would like to have Mr. Wilson submit for us the number of scientists who are engaged in the whole Atomic Energy Commission operation in inventory and control, or what might be determined as such, and the lump sum of the salaries. They said they had 80 doing nothing but checking. We don't want to run into a situation where we have more men watching than working.

Mr. WILSON. In accountability work, sir?

Senator McMAHON. Those scientists, analytical men, chemists, who are doing nothing except spending all their time checking.

Mr. WILSON. I will be glad to.

Senator McMAHON. I was surprised there were 80.

Mr. WILSON. At this one place.

Senator McMAHON. I want to know how many there are in other places, too.

Mr. WILSON. Yes, sir.

(Whereupon, at 5:10 p. m., the committee adjourned, subject to the call of the Chair.)

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# **CIVIL DEFENSE AGAINST ATOMIC ATTACK**

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## **HEARING**

**BEFORE THE**

**JOINT COMMITTEE ON ATOMIC ENERGY**

**CONGRESS OF THE UNITED STATES**

**IN EXECUTIVE SESSION**

**EIGHTY-FIRST CONGRESS**

**SECOND SESSION**

**ON**

**CIVIL DEFENSE AGAINST ATOMIC ATTACK**

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### **PART 1**

**MARCH 23, 1950**

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II

# CIVIL DEFENSE AGAINST ATOMIC ATTACK

THURSDAY, MARCH 23, 1950

CONGRESS OF THE UNITED STATES,  
JOINT COMMITTEE ON ATOMIC ENERGY,  
*Washington, D. C.*

The joint committee met in executive session, pursuant to notice, at 10:30 a. m., in room G-48, Capitol Building, Washington, D. C., Senator Brien McMahon (chairman) presiding.

(The following statements were presented to the Joint Committee on Atomic Energy. They have been edited so as to exclude all classified information.)

## STATEMENT OF PAUL J. LARSEN, DIRECTOR, OFFICE OF CIVILIAN MOBILIZATION, NATIONAL SECURITY RESOURCES BOARD

Mr. LARSEN. With your permission, I should like to open this testimony with a discussion of the broad aspects of civil defense before having members of our staff describe the civil defense planning activities of the Federal Government and, in particular, of the National Security Resources Board.

### WHAT IS CIVIL DEFENSE?

Civil defense may be defined briefly as the defense of the home front by civilians and civil authority in time of war. It is largely, but not wholly, passive defense. It consists of measures (1) for assisting the military forces in averting an enemy attack, (2) for minimizing the effects of such enemy attacks as may be successful, and (3) for alleviating, controlling, and repairing the damages created by enemy attack. Thus, it seeks to preserve maximum civilian support of the war effort.

Brief definitions such as the foregoing are, however, subject to misinterpretation. For better understanding of the term "civil defense," it is essential to examine in more detail the measures to be employed by civilians and civil authority in their defense of the home front. By so doing, a better appreciation can be had of the importance of civil defense in the total mobilization picture.

For planning purposes, we have divided the necessary civil defense measures into four groups:

(1) Measures to avert an enemy attack such as camouflage, black-outs, aircraft observer systems, and similar quasi-military activities in which civilians may be called upon to assist.

(2) Advance measures for minimizing the effects of an enemy attack, including such measures as civil air raid warning, the dispersion or relocation of facilities, and the prior evacuation of children and personnel not essential to the war effort.

(3) Measures to alleviate, control, and repair the damages resulting from enemy attack, ranging from medical and health services, decontamination, and fire fighting to the removal of debris and salvage.

(4) And, in connection with the foregoing measures, a group of over-all measures which we term "general considerations," such research and development, legislation, organization, training, policy guidance, military support, and civil defense requirements. Members of our staff will describe in greater detail the many aspects of civil defense planning.

#### THE RELATIONSHIP OF CIVIL DEFENSE TO MOBILIZATION PLANNING

As you know, under the National Security Act of 1947, the National Security Resources Board is responsible for advising the President on the coordination of military, industrial, and civilian mobilization. Civil defense planning was expressly made a responsibility of the Board by Presidential directive on March 3, 1949.

There is a close relationship between planning for civil defense and planning for other forms of mobilization. The protection of our citizens, our homes, and our cities against enemy attack and against the effects of enemy attack is the very essence of national defense and, therefore, plans for the mobilization of our resources must include planning for civil defense as well as for more traditional military needs.

Let me give you one example of how civil defense fits into our other mobilization planning work. Before realistic mobilization planning can be accomplished it is necessary to make at least a rough inventory of the Nation's resources available in wartime and to compare this inventory against the anticipated needs. The responsibility for this type of operation is placed on the NSRB by section 103 (c) (4) of the National Security Act. The needs of any civil defense programs must, of course, be determined in any such balance-sheet operation. Members of my staff will describe in more detail how civil defense planning is geared to the Board's other mobilization planning work.

#### WHAT SHOULD BE THE MAGNITUDE OF OUR CIVIL DEFENSE EFFORT?

One hundred percent security obviously is not possible. Nor is an attempt to achieve absolute security desirable under present conditions, unless we are willing to become a garrison state. If too much of our national effort is expended for military and civil defense purposes, the very liberties we are trying to make secure will themselves be endangered. Take, for example, the question of the security of urban populations from the atomic bomb: From the security point of view alone, the solution would appear to be compulsory dispersion. But what would this mean to our economy and to our democracy?

The dollars and cents cost of decentralizing the some 200 cities in the United States having populations of more than 50,000 would probably be in the neighborhood of \$300,000,000,000. The social and political costs of such decentralization might put an end to democracy as we know it. To accomplish such a program of compulsory dispersion we would have to be willing to become a garrison state.

The determination of the civil defense measures which can and should be taken now necessarily involves reconciling the needs of

civil defense with other national objectives and programs which are also fundamental to our national security. It would be imprudent if the Federal Government were to fail to take those steps necessary to a sound civil defense program; but it would be just as imprudent if we were to allot too great a part of our security budget to civil defense measures at the expense of our first line of defense, the armed forces.

At the present time, the need is for intelligent basic planning upon which operating civil defense programs at the Federal, State, and local levels can be built. Premature action, based on ill-considered plans, could prejudice the effectiveness of our civil defense in time of enemy attack.

There is one question which I am sure must be in your minds: What would we do if bombs should fall tomorrow? Would we be ready?

To be frank, the answer is that we would not be ready tomorrow—not as ready as we will be a year from now, but more nearly ready than a year ago. Should one of our cities be attacked, it would have to rely primarily on existing services: in the first instance, on its own fire-fighting and police forces and on its own medical resources, then on available military forces. Existing Federal agencies would offer technical assistance: the Public Health Service, which has played an important part in developing plans for the health and medical aspects of civil defense, could assist local authorities in such matters as organizing first-aid stations and emergency hospitals, treating radiation burns and sickness, and administering blood collection and transfusion programs; the Bureau of Animal Industry could inspect the available meat supply and take action against animal disease; and the Children's Bureau could assist in handling the problems of homeless children. The American Red Cross would, of course, play an important role in emergency mass care.

Being ready is necessarily a relative matter. Frankly, I wonder whether we would want to be in a state of absolute readiness. Do we want our women and children evacuated from our cities. Can our cities stand the cost of moving their hospitals and fire stations to outlying areas? We believe that at the present time the soundest approach is to stimulate State and community planning of how they would handle such problems as evacuation and of how one community could call on another for aid. Resource studies should be made so that the needs for fire-fighting equipment, hospitals, and reserve supplies of water can be determined. These are among the steps we have already recommended to the States to increase their preparedness.

Wartime civil disasters would differ from peacetime disasters more in magnitude than in kind. Accordingly, we feel that the development of effective programs for Federal, State, and local cooperation in dealing with peacetime disasters is an important step toward achieving adequate civil defense. As you know—in fact I believe that Senator Johnson of this committee is one of its sponsors—a disaster relief bill, S. 2415, has been introduced in the Senate and is now pending in the Committee on Public Works. A similar bill, S. 2831, passed the Senate in 1948. This bill would encourage Federal, State, and local cooperation by authorizing the use of Federal services and supplies, as well as funds, in alleviating disasters. The

passage of this administration measure would be of considerable assistance to the civil defense program.

#### RESPONSIBILITY FOR CIVIL DEFENSE PLANNING

Civil defense is a national task which must be shared by all levels of government—Federal, State, and local. The Federal Government has the important obligation of developing and furnishing to the States and local governments the information, advice, and guidance which they need to develop sound plans for their own communities.

The detailed planning for specific communities must be done by local governments. Civil defense must be based on self-help. Effective community action in time of disaster requires the development, in peacetime, of a sense of community responsibility for self-preservation. When a disaster strikes, immediate action may prevent complete calamity.

The main effort, therefore, must come from the individual citizen and the community group, with needed help coming from county, State, and Federal agencies as time allows. For this reason, among others, the preparation of detailed disaster plans, geared to the State's plan, should be the primary responsibility of the community. The Federal Government, of course, has the important responsibility, not only for furnishing guidance to States and communities for the development of their plans but also for being ready to render aid to States and communities in time of actual or impending enemy attack.

Prior to the President's letter of March 3, 1949, the responsibility for civil defense planning had been lodged in the Department of Defense. The Secretary of Defense had established an Office of Civil Defense Planning which issued the Hopley report. The development, operation, and subsequent dissolution of that office in August 1949 will, it is assumed, be covered in the presentation of the Department of Defense.

On the question of civilian versus military control, let me say that civil defense is a responsibility which must be assumed by civilian government, not by the armed forces. In time of war the armed forces must concentrate on their primary mission of repelling attack and carrying war to the enemy. Certain quasi-military measures included in our broad definition of civilian defense are properly the responsibility of the military, even though they may involve civilian participation—measures such as black-outs, radio-beam controls, and aircraft-observer systems. But fire fighting, evacuation, care of casualties, and the like are essentially civilian in nature. They will require a great amount of local manpower. Since civilians must perform such functions, they should be responsible, at all levels of government, for planning them.

Leadership of civil defense planning has been assigned, as you know, to the National Security Resources Board. The fields of civilian participation in active defense and of passive defense measures required by military necessity have been assigned to the Department of Defense. Primary responsibility for planning the protective measures required before attack and measures to alleviate and control damage after attack, has been assigned to the General Services Administration. I believe the committee is familiar with the valuable and important work which the Atomic Energy Commission is doing in the fields of

information and training as well as in developing instruments for radiation detection.

I am going to ask Mr. Gill, who has been serving temporarily as Coordinator of Civil Defense for the NSRB staff, to describe to you in more detail the vast scope of civil defense planning, its relation to other mobilization planning, and what progress we have made in our planning.

#### **STATEMENT OF WILLIAM A. GILL, COORDINATOR OF CIVIL DEFENSE PLANNING, NATIONAL SECURITY RESOURCES BOARD**

Mr. GILL. By March 1949 the National Security Resources Board had undertaken numerous mobilization planning projects which were basic to civil defense planning. Pertinent examples were: (a) Man-power studies, including rosters of physicians, nurses, sanitary engineers, dentists, et cetera; (b) studies of strategic relocation, including industrial dispersion; (c) resource studies on water, power, housing, transportation, and communication facilities; (d) inventories of health and medical supplies, facilities, and equipment—all important and basic to realistic planning for a civil defense program adequate for the Nation's needs.

In its broad mobilization planning activities, the National Security Resources Board was using the facilities and resources of virtually all agencies of government. When, at the request of the President, the National Security Resources Board assumed leadership of civil defense planning in March of 1949, it was recognized that this responsibility could be carried out more effectively by utilizing the information, technical competence, and channels of communication then existing in other agencies.

A number of these agencies—notably the Public Health Service, the Children's Bureau, the Bureau of Animal Industry, the Food and Drug Administration, the Atomic Energy Commission, and the Department of Defense—had been, and are by nature of their normal functions, engaged in planning, training, and in day-by-day operations which are related to civil defense. However, relationships with State and local governments, with respect to over-all civil-defense planning, were conducted, as of March 1949, almost exclusively by the Department of Defense, although certain of the agencies mentioned above, such as the Public Health Service, had extensive contacts with the States on subjects of importance to civil defense.

The first step taken by the NSRB on assuming responsibility for civil defense planning was to make a study of current civil defense activities and to propose a planning program for the future. In early May, the NSRB staff prepared a Report on Civil Defense Planning, NSRB Document 112. After conferring with the President, the Chairman of the NSRB (a) approved the report in principle, (b) requested several agencies of government to undertake planning responsibilities as recommended in the report, (c) invited all agencies with a major interest in civil defense planning to comment on the report, and (d) initiated interagency staff discussions on further program development and clarification.

The realignment of civil defense planning responsibilities, in conformance with the President's directive and NSRB policies, brought to the forefront the need for a great deal of clarification and crystalliza-

tion of thinking on (a) the scope and substance of a civil defense program, (b) logical responsibilities for planning the various aspects of a program so broad and so complex, (c) relationships between civil defense and other closely allied programs such as internal security, (d) basic Federal objectives, and (e) policy decisions on relationships with State and local governments.

Staff discussions between interested agencies were begun in June, are still being held, and will continue. In spite of the magnitude of the problem, it has been possible to determine basic objectives, to clarify and agree on program scope and responsibilities to an extent permitting agency planning work to proceed at a rapid pace, and to reach necessary policy decisions on Federal-State-local relationships.

In the Department of Defense, the General Services Administration, the Public Health Service, and the NSRB, launching the program required the establishment of small civil defense staffs. Elsewhere in those agencies and in the many other agencies of Government which are participating in civil defense planning, current activities have been or will be extended or expanded to accommodate the additional responsibilities.

Launching the program meant the development of work projects of manageable proportions. A considerable number of such projects has been assigned by the participating agencies to their own staffs or to interagency working groups or committees. Civil defense activities of the Atomic Energy Commission, the Department of Defense, and the General Services Administration have been described by representatives of those agencies. I should like to tell you briefly of our relationships with State and local government, the status of their civil defense planning, our relations with nongovernmental groups and with Canada, and our accomplishments in the field of security location.

#### RELATIONSHIPS WITH STATE AND LOCAL GOVERNMENTS

On October 5, 1949, the Acting Chairman of the NSRB sent to the Governors of the States and Territories a statement, NSRB Document 121, setting forth policies for relationships with State and local governments. The States were encouraged to establish civil defense planning organizations and were requested to initiate plans for transmission of appropriate information to political subdivisions. I should like to offer this document as an exhibit. (See NSRB Doc. 121 in appendix.)

Civil defense information and recommendations are being sent to the States, and to local governments, through a series of civil defense advisory bulletins. The first of these bulletins, NSRB Document 121/1 (see appendix) which you may wish to include as an exhibit, outlined Federal Government objectives in civil defense planning, contained information on Federal agency planning activities, and advised State and local civil defense planning groups as to specific studies which they should undertake now. Information was requested on specific questions relating to State civil defense planning organization or activity.

Succeeding bulletins—NSRB Documents 121/2 and 121/3 (see appendix)—contained information prepared by the Atomic Energy Commission on the medical aspects of atomic explosion and on damage from atomic explosion and the design of protective structures. In

one of these bulletins, the States were invited to designate participants in teacher-training courses in radiological monitoring and in the medical aspects of atomic warfare.

Attention has been directed to civil defense planning in 40 States and Territories. The considerable volume of correspondence with State civil defense agencies, local government officials, associations in the field of government, and interested individuals is increasing. Direct contacts with State and local officials responsible for the direction and conduct of their civil defense planning are being emphasized.

Of the Federal agencies to which planning responsibilities have been delegated, some have established in their normal current operating procedures certain direct relationships with the States. Examples include the Department of Defense and the General Services Administration, the Public Health Service in the Federal Security Agency, and the Bureau of Public Roads in the Department of Commerce. These agencies, with the cooperation of the State civil defense planning agencies, can employ existing relationships in carrying out defense planning activities.

#### CURRENT CIVIL DEFENSE PLANNING ACTIVITY IN STATES

Civil defense or disaster preparedness laws are in effect in 17 states and the territories of Hawaii and the Virgin Islands. States include California, Indiana, Maine, Maryland, Montana, Nebraska, New Hampshire, New Jersey, Ohio, Oregon, South Dakota, Vermont, Florida, Idaho, Michigan, Nevada, and Rhode Island. World War II legislation continues in effect in 5 States: Florida, Idaho, Michigan, Nevada, and Rhode Island.

Disaster preparedness plans prepared by executive direction exist in a few other States: for example, Illinois. Civilian civil defense directors have been appointed in 16 States: Alabama, California, Connecticut, Delaware, Indiana, Maine, Maryland, Michigan, Mississippi, Nevada, New Jersey, Texas, Vermont, Virginia, Washington, and Oregon.

The State adjutant general is charged with the responsibility for direction of civil defense in 25 States: Arizona, Arkansas, Colorado, Georgia, Illinois, Iowa, Kentucky, Louisiana, Massachusetts, Minnesota, Montana, Nebraska, New Hampshire, New Mexico, New York, North Dakota, Ohio, Oklahoma, Pennsylvania, Rhode Island, South Carolina, Tennessee, West Virginia, Wisconsin, and Wyoming.

#### RELATIONSHIPS WITH NONGOVERNMENTAL GROUPS

Firm contacts in the field of State and local government have been made with many nongovernmental groups and associations having Nation-wide membership of individual officials or employees, and comprised either of policy-determining officials or of persons representing functional activities of government, for the purpose of securing from them current statistical data and other information and keeping them informed on the defense planning of the Federal Government. NSRB staff representation has been provided at some of the annual conferences of such groups as the International Association of Police Chiefs and the International Association of Fire Chiefs.

I should also like to mention our cooperation with Canada in civil defense planning. In the belief that this continent might be attacked in the event of a future war, and recognizing the importance of coordinating our civil defense plans with those of our continental neighbors, a meeting has been held here between the Coordinators of Civil Defense of Canada and the United States. That meeting resulted in complete agreement on the necessity for coordination of civil defense planning of the two countries, particularly with respect to air raid warning systems, equipment standards, and similar matters. Meetings between United States and Canadian civil defense authorities will be held frequently in the future.

The experience of Great Britain in civil defense planning and operations has been of great value to us. Civil defense planning was started in England in the middle 1920's, and the program developed there was proved under war conditions. We have sent a representative of the Board, Mr. Eric Biddle, to England to study its present civil defense activities. He returned recently and will be glad to answer any questions that you may have on the present British program and on their World War II civil defense experience. Arrangements are being made to send several of our civil defense planning personnel to the civil defense staff schools which have been recently inaugurated in England.

#### SECURITY LOCATION

One of the specific statutory responsibilities of NSRB is that of advising the President regarding "the strategic relocation of industries, services, government, and economic activities, the continuous operation of which is essential to the Nation's security."

Basic to all security location planning is the premise that any relocation of facilities must be economically feasible and consistent with our over-all policy of promoting a vigorous and expanding national economy. Planning in this area is necessarily of a long-range nature and we have felt that our best first step was to influence the location of new construction.

Accordingly, in September 1948 a study was published outlining the major security factors involved in industrial location. This study was given wide distribution with a view to encouraging managements to locate their new plants in accordance with sound security principles. A second and more comprehensive study is in process of preparation.

# APPENDIX

NSRB Doc. 121  
October 5, 1949

## EXECUTIVE OFFICE OF THE PRESIDENT

### NATIONAL SECURITY RESOURCES BOARD

#### BOARD SECRETARIAT

*Subject.*—Civil defense planning: Policies for relationships with State and local governments.

*Contents.*—Letter dated October 5, 1949, from the Acting Chairman, NSRB, to the Governors of the States and Territories.

A ten-point statement of policies for relationships with State and local governments in civil defense planning.

*Comments.*—The attached material was mailed to the Governors on October 5, 1949, by the Acting Chairman, NSRB, and memoranda of approval are on file in the Board Secretariat, received from the members of the Board as follows:

This material was submitted to the members of the Board September 15, 1949, by the Acting Chairman, NSRB, and memoranda of approval are on file in the Board Secretariat, received from the members of the Board as follows:

Agriculture: September 19, 1949.

State: September 22, 1949.

Defense: September 22, 1949.

Interior: September 22, 1949.

Treasury: September 26, 1949.

Commerce: September 27, 1949.

Labor: September 30, 1949.

EXECUTIVE OFFICE OF THE PRESIDENT,  
NATIONAL SECURITY RESOURCES BOARD,  
OFFICE OF THE CHAIRMAN,  
Washington, D. C.

MY DEAR GOVERNOR: A number of agencies of the Federal Government are engaged in the various aspects of planning for civil defense in the event of a national emergency. Many of the States are likewise engaged and some have passed, or are considering, legislation which establishes a State civil defense organization and directs local governments to do likewise.

As you may know, the President has directed the National Security Resources Board to serve as the coordinating body in the Federal Government for civil defense planning. In this connection, a primary objective of the Board is to establish basic policies for relationships between agencies of the Federal Government and the States and their political subdivisions. As an initial step in achieving that objective, NSRB Document 121 has been developed, copy attached, which sets forth the views of the Board as to the manner in which the Federal Government will deal with State and local governments in civil defense matters. In addition, the document reflects the Board's thinking with respect to certain criteria which States may wish to consider while engaged in civil defense planning activities.

To be timely, realistic and useful, plans for minimizing the effects of wartime enemy attack, and for repairing the damages from attack must call for joint participation of local, State, and Federal Governments in their implementation. It follows, therefore, that the development of civil defense plans requires the cooperative efforts of Federal, State, and local governments on a continuing basis.

The goal of the National Security Resources Board is the development of genuine and effective Federal-State-local cooperation to avoid unnecessary waste of manpower, time, and money and at the same time to achieve that degree of preparedness which may be required from time to time for our national security.

Sincerely yours,

JOHN R. STEELMAN.

## NSRB Doc. 121

## POLICIES FOR RELATIONSHIPS WITH STATE AND LOCAL GOVERNMENTS IN CIVIL DEFENSE PLANNING

1. The Chairman and staff of the National Security Resources Board will deal directly with State governments, or through State governments with political subdivisions within States.

2. Information or advice released by NSRB will be channeled to States; it is assumed that States will relay the same to their political subdivisions when appropriate.

3. Requests for information or advice received from political subdivisions may be answered directly with copies of the correspondence going to the appropriate State government; however, requests of this nature will be referred to State governments for direct reply as State facilities for processing them are developed.

4. NSRB will look to various agencies of the Federal Government for the development of civil defense plans and preparedness measures. When understandings are reached regarding assignments of this nature, State governments will be notified. Where other Federal agencies are involved in civil defense planning assignments which require the maintenance of channels of communication with States and local governments, they will be guided by the policies outlined in paragraphs 1, 2 and 3 above.

5. NSRB will maintain contact with national organizations in the field of State and local government on civil defense planning matters for the purpose of—

(a) Securing from them current statistical data and other types of general information; and

(b) Keeping them informed of civil defense activities of the Federal Government.

6. The NSRB will encourage States to adopt civil defense legislation which—

(a) Creates a State civil defense planning body;

(b) Provides for civil defense planning bodies in its political subdivisions;

(c) Charges the State officials and subordinate planning bodies with responsibility for both peacetime and wartime disaster relief planning and preparedness measures.

7. Although the report of the Office of Civil Defense Planning entitled "Civil Defense for National Security," known as the "Hoppley Report," has not been officially adopted, and although the NSRB does not agree with all the recommendations made in this report, the NSRB does believe the report to be a useful guide to the substantive areas in which planning must be done for Federal, State, and local civil defense.

8. The Federal Government is not prepared at this time to furnish to State and local governments all of the information and guidance needed by them from Federal sources to prepare well-integrated and timely civil defense plans for State and local use in emergency. While the agencies of the Federal Government are working toward the fulfillment of these needs, the NSRB will encourage State and local governments to proceed as far as practicable with their civil defense planning. In the process of this planning, it would appear advantageous in the immediate future for the State and local governments to place major emphasis on plans for relief from the effects of peacetime disasters. The experience gained in dealing with peacetime disaster, if carefully evaluated, can constitute a realistic frame of reference against which wartime civil disaster planning can be appraised.

9. The NSRB, directly or through other Federal agency channels, will transmit to States—

(a) Information on activities in other States.

(b) Information on activities of Federal agencies.

(c) Policy guidance and planning criteria.

10. The NSRB and other Federal agencies will solicit from States current information as to progress in State and local civil defense planning.

NSRB Doc. 121/1

EXECUTIVE OFFICE OF THE PRESIDENT

NATIONAL SECURITY RESOURCES BOARD

*December 1, 1949*

## CIVIL DEFENSE PLANNING ADVISORY BULLETIN

## INTRODUCTION

Through this and succeeding bulletins of this character, the National Security Resources Board plans to carry out the provisions of NSRB Document 121 for transmitting frequently to State governments information and guidance for use in civil defense planning. The bulletins will also be used occasionally for the purpose of soliciting information from States. Reproduction of this and subsequent bulletins by the States is authorized.

Bulletins in this series will not be the sole medium for the transmission of information and advice to State and local civil defense planners. These bulletins will, however, be used to call attention to other useful sources of information.

## PART I. FEDERAL OBJECTIVES IN CIVIL DEFENSE PLANNING

Various agencies of the Federal Government, under the leadership of the National Security Resources Board, have been discharging their responsibilities for civil defense planning with certain common objectives in view. It is desirable to restate those objectives for the information of State and local governments. They are as follows:

1. Determining the eventual needs for readiness of communities, States, and the Nation to assist in averting enemy attack, or, if attack should come, to minimize its effects and to repair the damage it creates.
2. To advise with respect to the degree or level of civil defense readiness consistent with a balanced civil defense program.
3. Development of plans for an operating civil defense organization in the Federal Government, these plans to be for use only when such an organization is determined to be needed.
4. Securing the assistance of States and communities in reaching the determinations made under 1, 2, and 3 above.
5. Keeping States and communities informed of the determinations made under 1, 2, and 3 above and of any subsequent revisions therein.
6. Developing guides or standards for use of States and communities in making their own determinations of civil defense objectives and the means for achieving them.
7. Giving constant emphasis to the inherent responsibility of States and communities to develop and later to implement their civil defense plans, with recognition of the Federal Government's obligation to furnish information, guidance, and suggestions to States and communities for the development of civil defense plans and its obligation to be ready to render aid to States and communities in time of actual or impending wartime enemy attack.

Implicit in the foregoing objectives is the principle that civil defense planning, and likewise the operation of a civil defense program in time of need, is a responsibility which must be shared by Federal, State, and local governments. For civil defense plans to be timely, realistic, and useful, they must be developed with this principle continuously in view.

In civil defense planning it seems appropriate to determine first, what must be done to accomplish the objectives; second, what resources of manpower, materials, and equipment are needed and what resources are available; and then, finally, what organization is best suited to place the plans in operation. For the present, as the President has stated, the essential need is peacetime planning in preparation for civil defense in the event of war, rather than the operation of a full-scale civil defense program.

We should like to call your attention to the tendency to conceive of civil defense primarily in terms of atomic disaster. True readiness involves the development of measures to cope with all types of potential enemy attack, including conventional bombing and bacteriological or chemical warfare. This all-inclusive planning is being considered by all the agencies of the Federal Government which have responsibilities in the civil defense planning program.

## PART II. INFORMATION ON FEDERAL ACTIVITIES IN CIVIL DEFENSE PLANNING

Among the activities which the Federal Government has undertaken are the following:

1. The Atomic Energy Commission is continuing to collect all available data on the effects of atomic explosions on men, animals, plants, and structures. Through its national laboratories and contracts with universities, research institutions and hospitals, the Commission has been sponsoring studies of the effects of radiation and the care of casualties. Information thus developed is published in technical reports of which more than 400, half of them unclassified, have been issued to date. A selected bibliography of unclassified reports and publications of the Atomic Energy Commission and the Manhattan Engineer District (enclosure No. 1), and a selected bibliography of periodical and book material (enclosure No. 2), both pertaining to civil defense against atom bombing, and both compiled by the Atomic Energy Commission, are attached.
2. For the past 10 months a board of scientists and military officers organized by the Department of Defense and the Atomic Energy Commission has been compiling an authoritative summary of the effects of atomic weapons. In addition, the Atomic Energy Commission is currently preparing unclassified papers of importance to civil defense which will be made available to States as soon as they are published. These papers will include information on the treatment of persons exposed to radiation; on the character of atomic damage to structures and means of minimizing such damage; on the operation and maintenance of monitoring instruments, with standards of tolerance; and on decontamination.
3. The Department of Defense, responsible under the civil defense planning program for those aspects which involve civilian participation in active military defense, recently concluded an exercise known as Operation look-out in 10 northeastern States. This exercise was for the purpose of testing the aircraft-observer organization and facilities designed to supplement the radar-detection system, and for planning, instituting, and testing an air-raid-warning system. Volunteer civilian spotters served in the capacity of observers and assisted in operating filter centers and control centers necessary to the system. The Department of Defense is now contemplating additional exercises in other areas of the country and has solicited the cooperation of State and local governments in conducting these exercises. Under the terms of NSRB Document 121, item 4, you are informed that the expansion of "operation look-out" under this or other designation is a recognized activity under the civil defense planning program and States which have been contacted are urged to cooperate to the fullest extent.
4. The educational aspects of the civil defense planning program are being expanded. This activity embraces training work already under way, expansion, creation of new training programs, and the development or revision of training materials. Information on radiation problems and effects has been given to hundreds of physicians, biologists, and public-health officers in a continuing series of training courses in the medical aspects of atomic energy. These courses are operated by the Atomic Energy Commission in cooperation with universities and the armed forces. Information on training developments will be made available to the States through succeeding bulletins in this series.
5. The National Security Resources Board, the General Services Administration, the Federal Security Agency, the Departments of Agriculture and Defense, and other organizations, working together, are developing criteria as guidance for States and communities in the health and medical aspects of disaster relief. The Health Resources Division of the National Security Resources Board has well under way studies on health manpower (doctors, dentists, nurses, etc.), and on health supplies of all types, which will be extremely useful in considering the requirements for health manpower as well as for health supplies and equipment for the implementation of civil defense plans. These studies are basic to more detailed civil disaster plans and are being developed in cooperation with various governmental health agencies.
6. Specific studies have been undertaken by the National Security Resources Board, the General Services Administration, the Department of Defense, and numerous other Federal agencies covering various aspects of other important civil defense problems. These include studies of problems incident to (a) rescue of persons under conditions of wartime disaster, (b) evacuation of urban areas both prior to and in situations resulting from enemy attack, (c) demolition of

damaged structures which are a hazard to public safety, and (d) the use, protection, and restoration of housing and community facilities.

7. The Public Health Service, the Children's Bureau, the Bureau of Animal Industry, and the Food and Drug Administration are by nature of their normal functions continuously engaged in planning and training and in day-by-day operations which contribute to our readiness for civil defense. The Public Health Service not only directly participates in disaster relief, but is in constant contact with the State health departments for the purpose of increasing the health of our civilian population and for improving sanitary conditions throughout the Nation. It also advises and assists in dealing with the effects of disaster. One of the functions of the Food and Drug Administration is to inspect and, if necessary, condemn food in disaster areas. The Bureau of Animal Industry's functions with respect to the prevention and control of animal diseases, including the exclusion from the United States of dangerous infections, and with respect to the inspection of animals and meat, are closely related to civil defense.

Additional activities will be reported as they are undertaken and, as studies are concluded, their results will be made available for use in State and local civil defense planning.

### PART III. RECOMMENDATIONS FOR STATE AND LOCAL CIVIL DEFENSE PLANNING GROUPS

Some of the civil defense planning done by State and local planners must await information or guidance on technical matters from the Federal Government. As stated in NSRB Document 121, the agencies of the Federal Government are working constantly toward the fulfillment of those needs. There are, however, various types of planning activities in which State and local planners can engage without the need for information, guidance, or assistance from the Federal Government. Examples of planning activities of this type are listed below in the form of recommendations for State and local civil defense planning groups:

1. At this time only tentative estimates can be made of the materials, manpower, equipment, and supplies needed to operate a civil defense program in States and cities in time of war. Studies of existing and potential resources, however, need not be delayed. It is therefore recommended that State and local governments arrange for studies to be made of existing resources of major importance to civil defense plans, if they have not already done so. Among these are (a) water-supply systems, including the consideration of potential reserve supplies; (b) means of communication when normal means have been disrupted; (c) street and highway systems, including means of alternative routes and their adaptability to evacuation; (d) means of transportation, such as bus, truck, automobile, water, trolley cars, and subway; (e) means for emergency shelter of evacuated persons; (f) hospital and first-aid facilities; (g) fire-fighting equipment; and (h) manpower resources available in connection with the foregoing.

Resource studies of the type recommended above could include, but not necessarily be limited to, the following considerations:

- (a) Inventory of existing resources now in use;
- (b) Inventory of reserve or stand-by resources;
- (c) Capability of existing and reserve resources to satisfy current and anticipated needs;
- (d) Availability in emergency of substitute resources;
- (e) Conservation of existing resources;
- (f) Stock piling of additional reserves;
- (g) Availability of plans and blueprints of existing water, gas, and communications systems for use in repairing or restoring facilities disrupted or damaged during enemy attack.

Such resource studies should be utilized to incorporate civil defense considerations into current municipal planning and the planning of civic improvements.

2. Effective planning for civil defense must embrace consideration of the question of mutual aid between communities within a State and between States. Legislation may be required to make mutual aid agreements practicable. It is, therefore, recommended that State and local civil defense planning groups examine the conditions existing and consider the removal of such barriers to intrastate mutual aid agreements and interstate pacts as are found to exist. It would be helpful if State governments would give consideration

to the need for and the provision of interstate mutual aid pacts and convey to the National Security Resources Board their respective views and the results of such interstate conferences as may be held to discuss the subject.

3. The Atomic Energy Commission has prepared a report entitled "The City of Washington and an Atomic Bomb Attack." We attach herewith a copy of the complete report (enclosure No. 3) and suggest that it be brought to the attention of those in State and local governments who are concerned with civil defense planning. Although the report points to the potential effects of an atomic attack on the city of Washington, D. C., certain of its principles apply to any other large city. It is recommended that State and local civil defense planning groups also examine the publication, National Security Factors in Industrial Location, which was published in September 1948 by the National Security Resources Board. A copy of this booklet is attached as enclosure No. 4. Additional copies may be secured from the Superintendent of Documents, United States Government Printing Office, Washington, D. C., at 15 cents each. A second and more comprehensive booklet on the same general subject is now in process of development and should be published and placed in your hands within the next 3 months.

4. Civil defense planning groups at all levels should acquaint themselves with the history of civil defense activities in this and other countries and should study selected writings on potential civil defense problems. To aid civil defense planning groups, there has been prepared a preliminary bibliography of civil defense publications, copy of which is herewith attached as enclosure No. 5. This bibliography will be expanded and revised and through the medium of these bulletins you will be kept advised of changes and additions thereto.

#### PART IV. INFORMATION SOUGHT FROM THE STATES

It is requested that information on the items listed below be made available to the National Security Resources Board at the early convenience of the States. In the event that some of the questions have been anticipated and answered in your previous correspondence with NSRB, please disregard such questions.

1. What State legislative provisions are now effective relative to civil defense planning, both for State and local governments? Please provide copies of acts.

2. Have civil defense planning responsibilities been assigned under the terms of legislation or by executive action to (a) a State council, (b) a State department, (c) a civilian defense director, or (d) to the Adjutant General?

3. Please name the department or individual responsible for civil defense planning, and indicate whether correspondence on civil defense matters between the Federal Government and your State should be directed to the office of the Governor, to the planning agency head, or both.

(Enclosures (5).)

#### *List of enclosures*

The following enclosures should be considered as supplements to the information contained in NSRB Document No. 121/1:

1. A Selected Bibliography of Unclassified Reports and Publications of the Atomic Energy Commission and the Manhattan Engineer District.
2. A Selected Bibliography of Periodical and Book Material.
3. The City of Washington and an Atomic Bomb Attack.
4. National Security Factors in Industrial Location.
5. A Preliminary Bibliography of Civil Defense Publications.

NSRB Doc. 121/2

EXECUTIVE OFFICE OF THE PRESIDENT

NATIONAL SECURITY RESOURCES BOARD

January 13, 1950

#### CIVIL DEFENSE PLANNING ADVISORY BULLETIN

1. Attached herewith is a report entitled "Medical Aspects of Atomic Weapons," which has been prepared for the National Security Resources Board by the Department of Defense and the United States Atomic Energy Commission.

2. As indicated in the report itself, additional reports will soon be made available, dealing with (1) damage caused by the air blast created by an atomic explosion and construction designed to resist these effects, and (2) how contamination can be detected and measured.

3. This and subsequent reports of the same nature are essential to the development of realistic and useful plans and readiness measures for civil defense. Therefore, all State and local agencies or individuals concerned with civil defense planning should have access to them.

4. Reproduction of Medical Aspects of Atomic Weapons by States and communities is authorized. Printed copies can now be ordered, at a nominal price, from the Superintendent of Documents, United States Government Printing Office, Washington 25, D. C.

(Enclosure: Medical Aspects of Atomic Weapons.)

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NSRB Doc. 121/3

EXECUTIVE OFFICE OF THE PRESIDENT

NATIONAL SECURITY RESOURCES BOARD

*February 3, 1950*

CIVIL DEFENSE PLANNING ADVISORY BULLETIN

INTRODUCTION

This Civil Defense Planning Advisory Bulletin is the third in a series initiated by the National Security Resources Board for transmitting information and guidance to the States for use in civil-defense planning.

PART I. TRAINING COURSES IN ATOMIC SUBJECTS

In keeping with its policies for furnishing information, advice, and assistance to States and communities in civil-defense planning, and with full recognition of the principle that planning and the development of preparedness measures for civil defense are responsibilities shared by local, State, and Federal Governments, the NSRB has completed arrangements to launch the first two of a group of training courses in civil-defense subjects. Those two courses, mentioned separately in the succeeding paragraphs, are concerned with the techniques for dealing with the effects of atomic attack. They have been developed with the cooperative efforts of the Atomic Energy Commission, Department of Defense, and General Services Administration and are designed for laying the ground work for the development and operation of training programs by States for personnel within States.

Participation by the States in these courses is at the discretion of each State. The Federal Government will bear the expense of conducting the courses described below; however, the travel and subsistence expenses of the State participants in the courses will be borne by the States. It is contemplated that States will bear the expenses involved in their subsequent development and operation of State training programs in civil-defense subjects.

A description of the courses which have been developed for inauguration in the early future, including the criteria for selection of State participants, follows:

*1. Radiological monitoring*

One important phase of civil defense in the event of atomic attack upon the United States is the subject of radiological defense. The crux of such defense is the ability to detect, measure, and interpret the significance of any harmful radiations present in an area after exposure to attack by atomic weapons. Therefore, the need of training personnel to perform the function is an important consideration in any realistic civil-defense planning.

The Atomic Energy Commission, as a participant with the National Security Resources Board and General Services Administration in the Federal Government civil-defense planning, is completing arrangements for training courses in radiological monitoring to be given at Atomic Energy Commission facilities. The purpose of this training is to prepare, through the instruction of a limited number of qualified individuals in the subject of instrumentation and radiological aspects of atomic warfare, a corps of teachers who will return to their institutions and

train others who, in courses given locally, will subsequently disseminate this information to local civil defense personnel.

The Atomic Energy Commission courses thus will be essentially teacher training in nature and at a comparatively high academic level. Individuals chosen to represent their respective States in this course should possess a background of experience in modern or nuclear physics or electrical or chemical engineering and have considerable teaching ability.

State governors are invited to nominate at least one person from their respective States for this training. In making nominations, it is suggested that the State university system be utilized to the fullest extent for both advice and selection of individuals for training and for the establishment of the subsequent training courses.

Names of candidates for this training should be submitted to the National Security Resources Board by each State governor not later than March 1, 1950, together with the statement of the education, experience, and present position of each individual. Because of the technical nature of the training to be given, it is believed advisable that the Federal agencies review the individual qualifications.

These monitoring courses will be given at five locations: Brookhaven National Laboratory, Upton, Long Island; Oak Ridge National Laboratory and Oak Ridge Institute of Nuclear Studies, Oak Ridge, Tenn.; the Illinois Institute of Technology, Chicago, Ill.; Reed College, Portland, Oreg.; and the University of California, Los Angeles. These courses will start in mid-March or soon thereafter, and will be approximately 5 weeks in duration. Government dormitory housing accommodations will be available at Brookhaven and Oak Ridge at a nominal cost.

Upon receipt of nominations from governors and acceptance of candidates, the NSRB will immediately issue invitations to all individuals selected for the radiological monitoring courses and will advise them of definite starting dates and centers to be attended. Because of the time factor involved, telegraphic invitations will be issued directly to the selected candidates.

## *2. Medical aspects of atomic warfare*

Another important phase of the program for wartime disaster relief planning is the establishment of training courses in the treatment of radiological injuries among civilians. To meet this need the Atomic Energy Commission has planned and is now prepared to offer courses in this subject to a limited number of physicians from each State.

The purpose of these training courses is to provide at the State level a nucleus of trained physician teachers in the medical aspects of atomic warfare. It is assumed that physician teachers will return to their States and train others who will subsequently provide training for doctors, nurses, and dentists and allied professions at the local level.

To assist in selection of candidates and to keep registration within limits of available facilities, a committee composed of representatives of the AEC Division of Biology and Medicine, the NSRB, and the interested universities and laboratories have specified the following sources from which selections should be made, and, criteria for individual qualifications:

### *A. Source criteria*

1. A qualified teacher from each class A, 4-year medical school within the State;
2. A qualified teacher from each osteopathic college within the State approved by the American Osteopathic Association;
3. A qualified physician from the State health department;
4. A qualified physician from the largest professional association of physicians in the State.
5. A qualified physician from each city within the State having a population of 100,000 or more, and which is too far removed (at least 75 miles) from a medical school to be convenient in training the secondary group of teachers.

### *B. Criteria for individual qualifications*

Those nominated for the teacher training courses should meet the following qualifications:

1. Should be a competent, experienced teacher or educator;
2. Should have some background of special knowledge related to atomic energy in order that he can absorb a large amount of material on the medical aspects within the short training period of 1 week;

3. Should be interested in the field of atomic medicine to the extent that he would keep abreast of the advances in this field.

4. Should be willing to assume responsibility for teaching this subject to medical students, physicians, and other health personnel; and to cooperate with the State and community civil defense organizations.

It is suggested that the governors of each State or Territory may wish to appoint a committee to assist in nomination of candidates for these courses. Such a committee might be composed of the deans of class A 4-year medical schools within the State; the president of the State medical society or his designated representative, and the State health commissioner or his designated representative.

The location of the medical training centers and the States from which the candidates for each course will be drawn are indicated below. It is possible that, in some instances, not all candidates can be accommodated at the nearest AEC facility and that some of them may have to obtain training at one of the AEC facilities other than as indicated.

AEC Laboratory, University of Rochester, N. Y.: Connecticut, Maine, Massachusetts, New Hampshire, New York, Rhode Island, Vermont.

Johns Hopkins University School of Medicine, Baltimore, Md.: Delaware, District of Columbia, Maryland, New Jersey, North Carolina, Pennsylvania, South Carolina, Virginia, Puerto Rico.

Western Reserve University School of Medicine, Cleveland, Ohio: Indiana, Kentucky, Michigan, Ohio, West Virginia.

University of Alabama School of Medicine, Birmingham Ala.: Alabama, Arkansas, Florida, Georgia, Louisiana, Mississippi, Tennessee.

Argonne National Laboratory, Chicago, Ill.: Illinois, Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, South Dakota, Wisconsin.

University of Utah School of Medicine, Salt Lake City: Colorado, Idaho, Montana, Nevada, Oregon, Utah, Washington, Wyoming.

AEC project, University of California (Los Angeles): Arizona, California, New Mexico, Oklahoma, Texas, Hawaii, Alaska.

The training courses at all centers will last one week. Those at the University of Rochester and Johns Hopkins Medical School will begin on March 27, 1950, and those at Western Reserve University Medical School on April 3, 1950. Definite starting dates for the other four centers will be determined and communicated to State governors within the next 10 days. Candidates for this training should be submitted to NSRB by each governor not later than March 6, 1950, together with the statement of the education, experience, and present position of each individual. As in the case of the monitoring courses, it is believed advisable that the Federal agencies review the individual qualifications, because of the technical nature of the training to be given. Upon receipt of nominations from governors and acceptance of candidates, the NSRB will immediately issue invitations to individuals selected from the medical training courses and furnish them any additional necessary information. Because of the time factors involved, telegraphic invitations will be issued directly to the selected candidates.

## PART II. ATOMIC WARFARE DEFENSE REPORTS

The second report in a series prepared for the National Security Resources Board by the Department of Defense and the United States Atomic Energy Commission, dealing with the effects of atomic explosion, is titled "Damage from Atomic Explosion and Design of Protective Structures." A mimeographed copy is enclosed.

Printed copies of this report will be sent soon to State civil defense agencies in numbers sufficient to meet their immediate needs for distribution to key State and local civil defense planning personnel. Additional printed copies may be secured from the Superintendent of Documents, United States Government Printing Office, Washington, D. C., at 10 cents each, with a discount of 25 percent on quantities of 100 or more.

The first report in this series, entitled "Medical Aspects of Atomic Weapons," which was forwarded to States on December 2, 1949, as an enclosure with NSRB Document 121/2, is now available at 10 cents per copy and may be secured from the Superintendent of Documents, Washington 25, D. C. A discount of 25 percent is given on quantities of 100 or more.

(Enclosure: Damage from Atomic Explosion and Design of Protective Structures.)

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# CIVIL DEFENSE AGAINST ATOMIC ATTACK

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## HEARING

BEFORE THE

JOINT COMMITTEE ON ATOMIC ENERGY

CONGRESS OF THE UNITED STATES

IN EXECUTIVE SESSION

EIGHTY-FIRST CONGRESS

SECOND SESSION

ON

CIVIL DEFENSE AGAINST ATOMIC ATTACK

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PART 2

MARCH 30, 1950

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# CIVIL DEFENSE AGAINST ATOMIC ATTACK

THURSDAY, MARCH 30, 1950

CONGRESS OF THE UNITED STATES,  
JOINT COMMITTEE ON ATOMIC ENERGY,  
*Washington, D. C.*

The joint committee met in executive session, pursuant to notice, at 10:30 a. m., in room G-48, Capitol Building, Washington, D. C., Senator Brien McMahon (chairman) presiding.

(The following statements were presented to the Joint Committee on Atomic Energy. They have been edited so as to exclude all classified information.)

## **STATEMENT OF DR. NORVIN C. KIEFER, DIRECTOR, HEALTH RESOURCES DIVISION, OFFICE OF CIVILIAN MOBILIZATION NATIONAL SECURITY RESOURCES BOARD**

Dr. KIEFER. The necessity for coordination of civil defense plans with total wartime mobilization plans already has been discussed with you. The plans for health (and medical) services in civil defense, which I would like to describe to you, represent a specific illustration of this general principle.

The NSRB is concerned with three types of health resources—health manpower, supplies, and facilities—and about 20 professions of which the chief representatives are physicians, nurses, dentists, veterinarians, sanitary engineers, and pharmacists. Our general health resources mobilization plans are based on consideration of both civilian and military wartime needs.

Civilian needs are of two chief types: First, to maintain adequate civilian health services throughout the duration of war, and second, to provide emergency health services following civilian wartime disasters. The latter type must include care and treatment of civilian casualties, maintenance of public health protection, and restoration of environmental sanitation measures.

Civil defense needs are an integral part of the general needs for mobilization of health resources; to consider them as an independent entity would be illogical and, in fact, dangerous. For example, use of health manpower for civil defense purposes cannot be planned without thorough consideration of the effect on health manpower needs of the armed forces or the remainder of the civilian population. So far as possible, the huge quantities of health supplies needed for civilian wartime disasters must be provided—but not by drawing off supplies that the military forces need just as badly.

With your permission, I should like to describe in general some of the conditions that might follow a successful enemy attack on our civilian population, some of the consequent problems that the health services would have to solve, and, finally, some of the specific plans that are being devised to meet these problems. I am going to present an unpleasant but specific example of the magnitude of our problems before telling you what the Federal Government is doing to meet them.

Estimates of the potential number of civilian casualties are of somewhat limited usefulness because unpredictable factors, such as the degree of success of penetration of our defenses by enemy planes, or the accuracy of enemy bombing, may make the most careful estimate of casualties grossly inaccurate; it is even possible that in another war there would be no effective attacks on our cities. Nevertheless, in our civil defense planning work it is only prudent to assume that there will be a large number of casualties among our civilians. My statement to you is based on this assumption.

Because I am trying to make an entirely realistic presentation, I must state that the adequacy of health services following disasters causing these assumed casualties can be viewed only in relative terms. Completely adequate health services would become impossible after any disasters of substantial size because NSRB studies of American health resources have shown that the following shortages would occur under our assumed conditions:

1. There would be inadequate numbers of all types of health personnel.
2. There would be severe shortages of health supplies.
3. There would be serious shortages of hospital facilities.
4. Even if we could assume—and we certainly cannot—that we would have adequate numbers of personnel and adequate supplies, immediate mobilization and transportation of large numbers of professional persons and huge quantities of bulky supplies to reinforce local services and commodities would be severely limited by availability of interurban transportation (which might be crippled by enemy attack) and of intracity travel (which would be impeded by fires, debris, and similar obstacles).

Consider, for instance, a civilian disaster such as the one at Hiroshima which resulted in about 80,000 casualties. It is estimated that just to furnish the initial first-aid and treatment for this number of casualties would require, in the first week, supplies that would demand nearly 200 railroad boxcars for transportation.

Let me continue to use Hiroshima as an example. In some American cities, just as Hiroshima, 50 to 90 percent of the hospitals would be unusable because of total destruction, severe damage or inaccessibility owing to surrounding fire and rubble. Approximately the same percentage of the physicians and nurses would themselves be casualties. Even if they were not, thousands of physicians, nurses, and other health personnel would have to be mobilized in nearby and distant cities and quickly transported, with equipment, to the stricken city. Within the first week, at least a quarter of a million pints of whole blood or blood derivatives—with an equal number of bottles, tubes, and needles—might be needed.

About 40,000 of these injured persons might not be able to reach even a first-aid station by themselves but would have to be trans-

ported by litter and later by vehicles to emergency hospital facilities. These emergency hospitals might have no light because of damage to electric power; they might be without safely treated water—in fact, they might be without any water other than that which could be delivered by tank trucks; and they might be deprived of heat because of fire hazards.

We have been aware of all of these staggering difficulties for well over a year and during that time have been working—with other government health agencies—on the most effective means of solving them. It is a slow, deliberate process, not because of lack of appreciation of wartime dangers, not because of lack of cooperation from other agencies, not because of unavailability of professional competence, but because the problem is too huge and the decisions to be made are too important to allow for hasty or haphazard planning.

To strike a more encouraging note, let me state that there is little about the effects of either old or new weapons which is new to the health professions. The atomic bomb produces burns, lacerations, amputations, crushing injuries, and blast injuries which all surgeons are accustomed to treating. Radiation sickness is a new type of wartime injury, but it is not a new disease and its symptoms are recognized by physicians, particularly radiologists. Biological warfare is only an extension—with some new means of introduction and dissemination—of a form of warfare that nature has waged against man for centuries and for which our health departments have, over decades, built effective defenses. Chemical warfare introduces new agents but does not materially change principles of treatment now used by internists and surgeons.

In the last several years, unprecedented advances have been made in the treatment of injuries and diseases, including many of those which might be encountered frequently in future warfare. There are, however, some “new wrinkles” in warfare for which short periods of specialized training for all physicians will be necessary.

The fundamental problem therefore remains a quantitative one: to mobilize and transport professional health personnel and health supplies in enormous numbers; to transport, hospitalize, and furnish prompt treatment to unprecedented numbers of casualties; to maintain or restore environmental sanitation, and to preserve the safety of food, milk, and water following unparalleled damage to normal protective facilities, equipment, and services. These are the problems which we must solve.

We are fortunate in having existing governmental health agencies with competence related to practically every health aspect of civil defense. The Health Resources Division of NSRB therefore requested these agencies to present detailed recommendations concerning 69 assigned subjects which comprised all or certainly most of the important fields for which national planning is necessary to provide health services in the event of civilian wartime disasters. The Public Health Service worked on 43 of these subjects. The Health Resources Division itself did all of the work on some of those which were closely related to total mobilization planning.

In addition to the official agencies, national professional organizations have been consulted and their advice will be utilized freely now that basic recommendations are ready for further consideration. Incidentally, our problems and tentative recommendations were pre-

sented, in January of this year, to a standing panel of consultants, consisting of five prominent nongovernmental physicians and dentists. They contributed valuable suggestions and expressed their enthusiasm for the nature and progress of our civil defense health plans.

About 1,500 typed pages of tentative proposals and recommendations were submitted to us. These have been revised or supplemented by discussions in numerous meetings and conferences. Individual projects are now being integrated according to major functional areas and will form the basis of recommendations to the President. The plans, however, will never be final; they will have to be revised periodically. We are attempting to establish patterns which are elastic and readily adaptable to alterations necessitated by changing methods of warfare or concepts of defense.

A difficult preliminary step is to grade proposed activities according to relative essentiality and urgency. This is necessary because, although implementation of practically all of the recommendations would be desirable for an adequate national civil defense program, the cost might be prohibitive. Priorities therefore are being devised on the basis of calculated risks and with consideration of existing services which could, without expansion, provide definite, even though incomplete assistance.

I would now like to describe the major areas in which we are planning in order to meet the challenge of war on civilians in the atomic age:

#### I. SPECIAL TRAINING

##### *A. For atomic warfare defense*

Courses for teachers to train all physicians, nurses, and dentists in the treatment of radiological casualties have been announced and are being started by the Atomic Energy Commission in cooperation with the National Security Resources Board and General Services Administration.

Courses for public health physicians and nurses, sanitary engineers, and veterinarians have been planned and will be started by the Public Health Service in April. These are designed for instruction in problems of radiological contamination of food, water, and environment in both peacetime and wartime.

##### *B. For biological warfare defense*

After several conferences between representatives of NSRB, the Department of Defense, the Public Health Service, and the Bureau of Animal Industry, a unanimous agreement was reached to downgrade the security classification of certain aspects of biological warfare defense in order to release needed information to appropriate State and municipal public health officials. The Public Health Service and the Bureau of Animal Industry were designated as the appropriate agencies to conduct courses of instruction for such persons. These agencies are now devising the contents of such courses and will present their proposals to NSRB.

##### *C. For chemical warfare defense*

Brief instruction in this field is needed by physicians, nurses, sanitary engineers, veterinarians, and other professional personnel. Such courses will be ready for inclusion with the others.

*D. First-aid courses for the general public*

It is anticipated that about 20,000,000 persons can be interested in taking civil defense first-aid courses. The Red Cross could devise a new manual and organize and initiate such courses within 3 or 4 months. Advice on the content of the course would be obtained from the National Research Council and other professional groups.

## II. HEALTH PERSONNEL FOR CIVIL DEFENSE

Federal health personnel for civil defense would be needed for two purposes:

(a) Wartime Federal office of civil defense. Most of the health personnel could be assigned from the regular officers and recruited Reserve officers of the Public Health Service just as they were for the World War II Office of Civilian Defense.

(b) Mobile reserve units which could be transported any distance to reinforce local health personnel at the site of a disaster: Affiliated hospital units of inactive Public Health Service Reserve officers similar to those which were organized in World War II, as well as mobile public health units, could again be recruited and organized—on a larger scale than in World War II—and brief specialized training could be given to members.

The Public Health Service has submitted tentative recommendations; detailed proposals will soon be available.

Organization of State and local health personnel should be affected by State and local civil defense organizations with advice from the Federal Government. In most instances the official State or local health departments probably should be charged with responsibility for civil defense health services in their respective areas. Complete cooperation from the various professional organizations is indispensable.

It is extremely difficult to estimate the number of professional personnel which would be required to care for civilian casualties of warfare in the atomic age because no useful precedent is available. The only previous relevant incidents are those at Hiroshima and Nagasaki. In both cases, Japanese first-aid, medical, and other health services broke down so badly that review of their experiences is of little value to a determination of the numbers of health personnel which would be necessary for adequate services. Military tables of organization are not applicable to civilian situations; furthermore, no army ever has suffered a sudden, localized disaster of comparable magnitude.

Estimates of the number and types of professional personnel required would be valuable to plans for organization, mobilization, and transportation of such persons for immediate assistance to a stricken community. We therefore are utilizing the advice of both military and civilian experts in making these estimates. In addition, estimates of the types of casualties, by percentage of the total numbers, have been prepared.

During wartime, today's shortages of professional health personnel would be greatly exaggerated by military needs. Our peacetime economy could not support sufficient numbers of such manpower to meet every wartime need; nor could facilities to train additional personnel be rapidly expanded during wartime. These Nation-wide wartime shortages would constitute one obstacle to immediate pro-

vision of the thousands of professional persons needed in a wartime disaster area. Furthermore, high casualty rates might be expected among professional personnel in the attacked city and there would be serious transportation problems implicit to furnishing of mutual assistance. A great deal of attention therefore must be—and is being—concentrated on methods, mobilization, and transportation for health personnel.

### III. HEALTH SUPPLIES NEEDED FOR CIVIL DEFENSE

Estimates of civil defense needs for health supplies are being made with consideration of current surveys of Nation-wide health supply inventories, maximum manufacturing potentials, available materials and vulnerability of the health supply industry to enemy attack. Such supplies include instruments, drugs, chemicals, biologicals, antibiotics, glassware, textiles, and other consumable items needed for protection of both human and animal lives. Blood will be discussed separately. Studies of both resources and requirements in these health supplies constitute one of the major planning fields of the Health Resources Division. They have been in progress for some time. Preliminary results are now available; more will be within the next 2 months.

Our studies indicate that although, with proper planning, wartime health supplies could be furnished in quantities adequate to meet both essential civilian needs and the additional demands imposed by military operations, the amounts of surgical supplies and equipment would be grossly inadequate for major wartime civilian disasters. The chief reason for the latter difficulty lies in the fact that no substantial reserves of these supplies are held in civilian warehouses, which are practically nonexistent, on retail dealers' shelves or in hospitals. We are, therefore, giving serious consideration to methods of building necessary security reserves of health supplies. The possible methods include Federal purchase, and storage on a regional basis. In the meantime, States and municipalities can determine the location and nature of all health supplies within each State and within or nearby each large city.

### IV. HOSPITAL SERVICES FOR CIVIL DEFENSE

Nine assignments in this planning area were made, chiefly to the Public Health Service, with the Atomic Energy Commission, Department of Defense, and the American National Red Cross making major contributions. Their recommendations, revised by the Health Resources Division, are now ready for discussions with nongovernmental hospital and related organizations, and include those for—

(a) Interchange of hospital accommodations between military, governmental, and nongovernmental hospitals.

(b) Relationship of civil defense and other wartime needs to future hospital building programs. Fortunately, the emphasis of the Hospital Construction Act on suburban and small community hospital needs is automatically resulting in a considerable

amount of dispersion of new hospitals from the industrial—and therefore strategic—hearts of metropolitan areas.

(c) Evacuation of patients from hospitals.

(d) Organization of first-aid stations, emergency hospitals and related facilities. Specific recommendations for organization of these services have been devised.

(e) Selection of buildings for use as emergency hospitals. Detailed general suggestions have been submitted. Further study of individual local problems is needed.

(f) Medical and nonmedical equipment for emergency hospitals. Itemized lists of the needs have been submitted and are being critically examined.

(g) Recommendations for methods of conservation of hospital water supplies during a water shortage in a wartime disaster. The recommendations which have been submitted are sufficiently complete to permit publication and wide distribution, after discussion with nongovernmental hospital organizations.

#### V. CIVIL DEFENSE FOOD SUPPLY PROBLEMS

Recommendations for nutritional standards relating to emergency rations for the infant, child, and adult populations, the injured and ill, and persons requiring special diets, in areas of civilian wartime disaster, have been submitted by the Public Health Service and the Children's Bureau. These include detailed recommendations for a priority rating of needs for emergency milk rations in order to prevent deaths or damage to health among certain groups to whom an uninterrupted supply of milk is essential.

#### VI. FOOD AND MILK SANITATION

These are normal responsibilities of the Public Health Service, the Bureau of Animal Industry, the Bureau of Dairy Industry and the Food and Drug Administration, and their State and local counterparts. Extensive recommendations for specific adaptations of existing practices, and standards to fit wartime disaster situations, have been submitted by Federal agencies.

#### VII. PROTECTION AND MAINTENANCE OF WATER SUPPLIES AND EMERGENCY SEWERAGE AND WASTE SANITATION

From these planning fields arise some of the biggest civil defense health problems. Water supplies are essential to life; unsafe water supplies can be just as deadly as loss of water supply or as bombs. That the purity of these supplies is customarily assured in American cities probably makes us more helpless and in greater danger when we are deprived of normal safety measures. Emergency treatment of water, emergency methods of disposal of excreta and other sewage and solid wastes must be provided immediately in civilian wartime disasters. The sanitation aspects of these services are normal responsibilities of Federal, State, and local health departments. Detailed recommendations for emergency practices and standards have been submitted to us by the Public Health Service.

## VIII. MISCELLANEOUS ENVIROMENTAL SANITATION MEASURES

These include:

(a) Sanitation in emergency eating places to prevent wide-scale food poisonings and other gastro-intestinal diseases.

(b) Special sanitation problems incident to evacuation of large numbers of people from a wartime disaster area. The Public Health Service has submitted detailed recommendations for measures required in these two areas.

(c) Control of rats and other rodents, and flies and other disease-carrying insects, after wartime disasters. It is rare that large-scale destruction does not have as one aftermath extensive problems of control of rats and insects which transmit serious diseases to man. Control of this problem is necessary in order to preserve the lives of those who escape the direct blow of the enemy attack. These measures are normal activities of government agencies, particularly the Public Health Service. Detailed recommendations for extension of these activities to meet wartime disaster conditions have been submitted to us.

## IX. SPECIAL PROBLEMS

*A. Blood and blood derivatives*

It has been estimated that several million pints (or units) of blood might be needed within the first few weeks of an attack on our civilian population. Provision of large quantities of this indispensable life-saving item presents some unique problems which arise from the fact that under proper refrigeration, whole blood can be preserved for only 3 or 4 weeks.

Intensive research on methods to extend this period is being conducted but until it is successful we must base our plans on present limitations. It would be extremely wasteful and probably impossible to maintain a 3-week stock pile of such proportions. Plasma can be kept for several years but, although it is useful in the treatment of shock, it is by no means a complete substitute for whole blood.

Therefore, the only recourse is a highly efficient organization—including a huge reserve of standard bottles and other supplies—ready to stage a mass blood procurement from persons outside the attacked area.

It is entirely possible to devise, on paper, an organization which could recruit millions of blood donors within a period of one to several days. But this is a highly technical operation which produces a commodity that can be lethal unless it is collected and transfused with strict conformity to complex safety standards.

To activate an adequate and safe wartime blood program without previous, extensive, actual experience in peacetime would be virtually impossible. If an efficient integrated, Nation-wide peacetime blood program could be organized it would answer an immense and vital peacetime need and also would offer a strong foundation on which an expanded wartime program could be built with relative ease, safety, and speed. Standardization of equipment is imperative and, in addition, great efforts must be made to extend the period in which whole blood can be preserved and to develop more effective blood substitutes.

The NSRB therefore is initiating a series of conferences between the various interested agencies in order to solve these problems and to plan a blood program which will be adequate for wartime civilian and military needs. The Public Health Service has already submitted detailed recommendations, including those for emergency blood-matching laboratory services and for a number of other emergency laboratory services which would be essential to the management of civilian wartime disaster casualties. Extensive suggestions for mobile laboratories, laboratory personnel organization and use of auxiliary laboratory workers are included.

#### *B. Standardization of supplies for treatment of burns*

One of the most common types of casualties in civilian wartime disasters is burns. Even before the advent of the atomic bomb, fire raids such as those on Hamburg and Tokyo resulted in enormous numbers of burn casualties. Based on Hiroshima experiences, about 60 percent of atomic bomb casualties would be burn cases, with or without other accompanying injuries or radiation sickness. It is well known that burns require an extraordinarily large amount of nursing care and of supplies. The multiplicity of methods of treatment for burns makes it essential that if reserves of health supplies are developed they must conform to the needs of one uniform system of treatment. We therefore are concentrating a great deal of attention on the development of a method of treatment which would be medically sound and effective and, at the same time, practical for use in large disasters.

### X. TRANSPORTATION PROBLEMS

Recommendations relating to litter services, emergency ambulances, and evacuation of civilian casualties are being developed by the Public Health Service, American Red Cross, and Department of Defense. Needs for transportation services for professional health workers in disaster areas also are being considered.

### XI. SPECIAL VETERINARY MEDICAL SERVICES

Specific training programs have already been described. Recommendations for emergency measures to prevent spread of disease from animals to man and for emergency standards of meat inspection have been prepared and submitted by the Bureau of Animal Industry.

### XII. INDUSTRIAL HYGIENE AND MEDICINE

Detailed proposals for special disaster programs within industry, as well as suggestions for methods to minimize industrial hazards to neighboring areas have been prepared by the Public Health Service. All ultimate services in this area must be integrated with the general community organization.

### XIII. MENTAL-HYGIENE PROGRAM

Peacetime planning for measures to study the psychological impact of war on civilian populations is a part of general mobilization plans. Special comprehensive methods limited to civil defense uses have been described, and suggestions for the management of psychiatric patients

confined to institutions in disaster areas have been submitted, by the Public Health Service.

#### XIV. MORGUE AND BURIAL SERVICES

These services are indispensable to provide identification of bodies and to avoid the health hazards arising from inadequate burial facilities. The Public Health Service has submitted recommendations with the help of the Department of Defense. Some of these are sufficiently complete to permit publication as manuals within a short time.

#### XV. MAINTENANCE OF VITAL STATISTICS

Detailed recommendations for wartime extension or adaptation of peacetime vital statistics, reporting and identification procedures have been submitted by the Public Health Service. Without extensive peacetime planning—and, in some cases, implementation—many of these extended and extremely important services could not be provided in wartime.

This completes my summary of the NSRB planning activities for health services needed in civilian wartime disasters. In each of these 15 areas, comprehensive proposals are now being prepared by the Health Resources Division in consultation with other governmental and nongovernmental agencies and professional organizations and individuals. All material is being developed for the purpose of aiding States and communities in their civil defense planning activities. In some areas further study and research is required. Some of the plans—such as those for training courses—will be ready for implementation during this fiscal year. Some of the recommendations could be published in the form of reports or manuals within a short time. In every case, periodic review must be made to determine whether revision is indicated by shifting international relations and changes in potential methods of warfare.

#### **STATEMENT OF RALPH R. KAUL, ACTING DIRECTOR, HOUSING AND COMMUNITY FACILITIES DIVISION, OFFICE OF CIVILIAN MOBILIZATION, NATIONAL SECURITY RESOURCES BOARD**

Mr. KAUL. In any future war we can expect urgent housing needs to arise almost immediately in all industrial communities and military centers, whether or not these communities are subject to enemy attack. These needs would arise when essential war plants are expanded and put on a two- or three-shift operation, or when essential plants have to be relocated into undeveloped areas for strategic reasons, or when military installations, located near outlying and dormant communities are suddenly put into full operation.

Civil defense will add to these needs to the extent that housing and community facilities are destroyed and shelter must be provided for the evacuees of disaster areas. During the past year the National Security Resources Board has been developing a comprehensive planning program for the mobilization of housing and community facilities to meet wartime needs.

## PROGRAM

The allotted time will not permit a detailed description of the entire war housing and community planning program. But before I get into the direct civil defense planning of the Housing Division, I would like to simply enumerate the seven major problem areas in which we are working. These areas are—

First, utilization of existing housing;

Second, the regulation of private construction, maintenance, and repair;

Third, the provision of emergency and mobile housing and community facilities;

Fourth, the management and operation of war rental housing;

Fifth, the provision of adequate facilities and services for community mobilization;

Sixth, the encouragement of research and development in this field; and

Seventh, planning for the organization and administration of a wartime-housing program.

All of the housing mobilization plans have a bearing on civil defense preparedness but there are two programs which are particularly important to civil defense. These are housing utilization and emergency and mobile housing. I would like to discuss these programs briefly as examples of what is being done and how we in the National Security Resources Board staff have gone about doing it.

## EXAMPLES OF MOBILIZATION PLANNING—PRELIMINARY INVESTIGATION

Since the cities of this country had never been subjected to enemy attack, one of our first jobs was to look into the World War II experience of other countries. Early last year, in April to be exact, the National Security Resources Board arranged with the Housing and Home Finance Agency, Department of State, and the Civil Affairs Division of the Army to investigate the housing and care of civilian population in the bombed cities of England, Germany, and Japan. Several significant facts emerged from this preliminary investigation:

First, the magnitude of damage to housing and community facilities was vastly greater than our estimates. In England, for example, the German bombings seriously damaged or destroyed  $4\frac{1}{2}$  million out of 13 million dwellings. Similar damage occurred in German cities where Allied air attacks resulted in the damage or loss of 6,000,000 out of 18,000,000 dwelling units. These were the results of conventional warfare over a period of months. In Hiroshima, on the other hand, one atomic blast totally destroyed or severely damaged 59,000 out of 90,000 buildings in an area of less than 10 square miles. None of these countries were prepared for the large number of their people left homeless and destitute and the corresponding loss of strength in their industrial and civilian economies.

Second, no type of housing or construction system was found which could replace housing losses of such magnitude in a war economy. England, Germany, and Japan had to cut out practically all new housing construction and meet the problem with emergency structures and with greater use of existing facilities.

Third, under the pressure of enemy attack the civilian populations accepted very substandard living conditions providing families were housed together and given privacy. For example, the separation of parents from children or the lack of a private bathroom or kitchen, with no foreseeable prospect of getting them, proved to demoralize families and war workers even more than bombings.

Lastly, it was revealed that community facilities, such as restaurants, theaters, nurseries, laundries, beer parlors, and the like, had a tremendous influence on morale and efficiency. It was found that workers would put up with very inadequate housing provided there was a retreat to adequate community facilities. This condition was confirmed in the experience of our own occupation forces in Japan and Germany.

#### UTILIZATION MEASURES

In the light of this preliminary investigation, the planning of utilization measures in wartime was given a high priority in the program of the Housing and Community Facilities Division. Detailed research projects on housing utilization policies and methods in England, Germany, and Japan were initiated. The first of these to be completed is a study on Emergency Measures for Housing and Community Services in Germany during World War II, prepared for the National Security Resources Board by the United States High Commissioner for Germany. This study brings out several noteworthy factors in civil defense planning:

First, housing utilization measures were cut to fit the requirements and resources in each community. Even under the extreme regimentation of a totalitarian system, the German Government had to depend on the initiative and discretion of local authorities for adequate housing measures. This is indicated by one of the conclusions in the German report, which I quote as follows:

Particular emphasis was given to the flexibility of the general orders. The Nazi authorities \* \* \* understood that in this particular instance the initiative of the local authorities must not be limited except for the framework of over-all planning and direction.

Second, in some German cities where civil defense measures were well organized, bombings did not result in complete community disorganization as was the case in cities where civil defense was not well planned. This was brought out clearly in the comparison of the cities of Duisburg and Hanau in the report. The city of Duisburg was exposed to air raids early in 1941, and a competent and well-organized civil defense system gradually grew up in that community. As a result, the casualties were small and essential work was effectively maintained during the period of intensive bombings in 1943 and 1944. The city of Hanau, on the other hand, felt that it was too small and unimportant industrially to be a target for heavy air raids. Civil defense plans were not taken very seriously. When a large air raid did occur in December 1944, the Hanau population was panic-stricken and fled the city without organization or plan. Within one night, this community of 43,000 people became a mass of ruins with only five or six thousand people left of its original population of 43,000 and it has never recovered from this disaster.

Third, sustained air raids caused a migration of the civilian population from the large vulnerable cities into the smaller outlying towns.

For example, the population of Cologne dropped from 763,000 people in 1943 to 40,000 when the armistice was concluded, whereas the university town of Heidelberg increased from 86,000 to 120,000. The air raids thus created congestion and housing shortage in these smaller towns as critical as that in the bombed cities.

The surveys on England and Japan are bringing out similar results and conclusions. On the basis of these investigations, and taking into account the homes use program in the United States during the war, the NSRB is developing a housing utilization plan for wartime. This plan includes registration methods by which available housing resources can be quickly appraised in any community. It would provide a range of inducements and regulations which could be employed, depending upon the local circumstances, to assure the maximum use of available accommodations. Finally, it takes into account possible methods for the requisition and assignment of housing to meet critical needs in disaster areas. It is too early to have any final conclusions but as the housing utilization plans are perfected and amplified, they will provide for community mobilization and civil defense needs in any future emergency.

#### EMERGENCY AND MOBILE HOUSING

The second planning area of the Housing Division which is directly related to civil defense requirements is the provision of emergency and mobile housing and community facilities. Although we have some 43 million dwellings in this country, less than three-tenths of 1 percent of these resources are mobile or capable of being moved from areas of housing surplus to the critical war areas. We must be prepared to provide housing and community facilities of many types which can be shipped into disaster or shortage areas ready for immediate use, or those which can be built quickly with a minimum of local labor and materials. This is how the Federal Government has tackled this problem and the progress that is being made in the field:

Emergency and mobile housing was given a top priority among the other programs.

Our second step was to work out specific projects and assignments for the participating Federal agencies.

For example, through the combined efforts of the State Department, the United States High Commissioner for Germany, and the Department of Defense, studies have been undertaken of emergency and protective structures in England, Germany, and Japan.

The first of these studies, the one of the German experience, was completed and submitted to the National Security Resources Board only last week. There has not been sufficient time to appraise this study fully, but it does bring out the importance of various types of emergency and protective shelters, as well as the planning of communities to minimize the effects of bomb damage. The report is now being distributed for review by the General Services Administration, the Housing and Home Finance Agency, the Department of Defense, and the Federal Security Agency, and will be used in the development of mobilization plans in this field.

The Department of Defense, through the Munitions Board, has been working on a number of types of shelters and emergency facilities which can be used for civil defense purposes. These include tent and

panel structures of the Army Quartermaster, mobile water and power units of the Army engineers, and mobile and demountable community buildings of the Army engineers and the Navy Bureau of Yards and Docks.

Other agencies, such as the Housing and Home Finance Agency, the Public Health Service, and General Services Administration, are working on trailers, sectional houses, mobile medical units and other types of shelters and facilities in which they have special competence. Also, case studies have been started which show the housing and community needs in war towns and disaster areas and how those requirements were met in actual experience.

The third step is the evaluation of these projects and assignments as they are completed. For this purpose an Interagency Working Group on Emergency Housing and Community Facilities was created last fall by the Chairman of the National Security Resources Board. It consists of the Housing and Community Facilities Division, Housing and Home Finance Agency, Department of Defense, General Services Administration, and Federal Security Agency. The Group has met intermittently since it was created and has considered the task in terms of four major questions:

1. What are the kinds of housing and community facilities that will be needed?
2. What types of emergency facilities could be provided under wartime shortages of materials, labor, equipment, and so forth?
3. How can up-to-date plans on emergency housing and community facilities be kept in constant readiness for use by Federal, State, and local governments in any sudden emergency?
4. What steps can be taken to encourage research and development and the strengthening of housing resources that would be needed in wartime?

Within a few days the Interagency Working Group will complete its first and preliminary report. As soon as this report is completed and reviewed by Mr. Paul Larsen and Dr. Steelman, a copy will be furnished for the information of the committee. If time permits, I can briefly summarize for you the results, thus far, of this interagency project:

Case studies are being reviewed on the housing and community services in eight war communities and disaster areas as follows: Oak Ridge, Tenn.; Seneca, Ill.; Orange, Tex.; Provo, S. Dak.; Richmond, Calif.; the Texas City disaster; the Vanport flood, and the Maine fires.

These studies are bringing out the types of requirements in wartime. The Oak Ridge story, for example, shows the vital need for prefabricated mobile housing. Texas City brings out the urgent need for emergency feeding, sheltering, and medical facilities. Vanport shows the job that trailers could do as a stopgap housing resource.

#### REPORTS ON AVAILABLE FACILITIES

Also, the Working Group has reviewed, or is reviewing, some 16 special types of emergency housing and community facilities, which

already have been developed and would be available for use if an emergency came tomorrow. These reports include such systems<sup>as</sup>:

- Portable tent-type shelter, Army Quartermaster
- PHA house trailer
- Ibec concrete house
- Mobile medical units
- Sectional mobile house, TVA system

and a number of others which are listed here for the record:

- Steel arch rib hut (Quonset), United States Navy
- PHA portable house
- PHA dormitories
- PHA demountable house
- PHA temporary dwelling units
- Precast concrete units
- Water pumping, purifying units, Army engineers
- Portable electric unit, Army
- Mobile sanitary facilities
- Mobile commercial facilities.

I have here the preliminary report on the portable tent-type shelter, recently developed by the Army Quartermaster, as an example of this work. The shelters are briefly and pictorially described in this report, which includes a summary of their potential civil defense uses. The reports will be used by Federal, State, and local civil defense authorities to let them know what is available and to give them the widest possible choice of solutions for their emergency needs.

The Interagency Working Group proposes to continue its survey of emergency and mobile housing until all important systems and methods have been reviewed, and to keep the reports up to date with technological developments and significant changes in requirements in this field.

#### CONCLUSION

The final step in this process of mobilization planning is an end product of readiness measures and future plans. In closing, I would like to sum up briefly the preliminary findings thus far, and our plans for continued emphasis and work in the coming months:

First, civil defense authorities will need a wide choice of mobile and emergency housing and community facilities when mobilization starts. A number of reports are now in shape for reproduction and distribution. Eventually all types of emergency facilities will be evaluated and cataloged for mobilization purposes.

Second, there is need for continuing research and development of emergency and mobile facilities. The systematic appraisal of our emergency housing requirements and resources will serve as a stimulus and guide to the work of Government agencies, as well as private industry and research organizations. As our work progresses, the research activities of the Federal Government will be drawn more and more into the solution of civil defense requirements.

Third, with all our large housing resources and construction capacity, the amount of mobile or portable housing in this country is negligible. There is a need for increasing the resources of housing.

and facilities which can be shifted in wartime to critical areas. Much can be accomplished in building up this resource if we give greater consideration to mobility, speed of construction, conservation of labor and materials, and economies of mass production in our peacetime housing and construction programs.

Fourth, we cannot safely count on having the time or resources for a vast construction program after the emergency starts. Our communities must be prepared to use their existing housing and community facilities wisely and fully to meet emergency needs. We have made a good start in assembling and reviewing the wartime experience in the United States and in those foreign countries that have suffered serious damage to their cities. This mobilization planning will culminate in recommendations for community mobilization measures which provide the greatest personal safeguards and at the same time achieve the degree of utilization necessary to meet disaster needs.

Finally, we are giving consideration to protective construction and community plans which will minimize the effects of attacks on our cities. A good start has been made in the analysis of the foreign experience. As our work goes forward on vulnerability analysis, which Mr. Paul Larsen has already described, the Federal Government will be in a position to provide increasingly effective leadership and guidance in this area.

In closing, I would like to mention that we have had the cooperation of numerous individuals and organizations in the housing and community planning field, and the unstinted assistance of the other Federal agencies participating in this work. Our future progress in this field depends on the continued cooperation and hard work of these agencies.

I thank you for permitting me to discuss this work with you and will attempt to answer any questions the committee may have in this mobilization planning field.

#### **SUMMATION STATEMENT ON CURRENT CIVIL DEFENSE PLANNING, BY PAUL J. LARSEN, DIRECTOR, OFFICE OF CIVILIAN MOBILIZATION, NATIONAL SECURITY RESOURCES BOARD**

Mr. LARSEN. The planning program which the National Security Resources Board has undertaken on civil defense aspects has been outlined in general to your committee.

In summation, it can be said that the over-all planning has been basic in order to round out a complete civil defense plan from the Federal Government standpoint, the implementation of which will be the responsibility of the States and local community organizations. Our planning in respect to this Federal plan has differed from other nations' planning, basically because of our governmental structure and the belief that civil defense operations must be maintained on the basis of our democratic system of Government.

It is our belief that the responsibility of the Federal Government in civil defense activities even after implementation will not require the establishment of a large Federal organization in order to insure adequate civil defense to overcome disaster which may occur by enemy action. The Federal agency for civil defense will be basically

responsible prior to mobilization for (1) formalizing a Federal plan which will be accepted by States and local communities, (2) assisting States and local communities in training of volunteer workers, (3) establishing national schools for training of key State and community civil defense personnel, (4) evaluating requirements of equipment and resources for civil defense and determining which of these should be obligations of the Federal Government and/or State and local communities, (5) evaluating weapons effects in order to determine sound dispersion and evacuation policies of Government activities and/or other vital installations, (6) maintaining such reserve stores or critical materials as will be required in event of disaster plus control and distribution of these to communities requiring them in the event of disaster, and (7) maintaining close liaison with the public and public groups through the medium of information, public relations and education on civil defense planning and the dangers which the public should prepare for without introducing hysteria or fear which would affect morale and effective civilian participation in the civil defense program and the public's main functions of maintaining activity at top level for the war effort.

The National plan can in our estimation be implemented by the States and local communities for the present without necessity for Federal civil defense legislation beyond that now existing in the National Security Act of 1947. Additional legislation will be requested when appropriate in order that the Federal Government can implement its planning, training, and operation program in order to establish supplies for emergency uses and to establish an operating Federal organization.

We will, in the future, submit to your committee, if you so request, our firm plans when these are ready so that your committee may have full knowledge of the progress of Federal planning on civil defense.

# APPENDIX

The following was among the material distributed to the States in connection with the National Securities Resources Board Civil Defense Planning Advisory Bulletin of January 13, 1950, designated "NSRB Document 121/2."

## MEDICAL ASPECTS OF ATOMIC WEAPONS

Prepared for the National Security Resources Board by the Department of Defense and the United States Atomic Energy Commission

*This document is issued by the National Security Resources Board as one of a series designed to meet the current informational needs of Civil Defense Planning Agency representatives of State and local governments, and other citizens interested in the discussion and planning of civil defense.*

JOHN R. STEELMAN,  
*Acting Chairman.*

### FOREWORD

This is one of a series of reports which assess in general terms what is known about the results of an atomic explosion, what damage and injuries a bomb can cause, and what can feasibly be done to protect people and structures. This first report deals particularly with the effects of an atomic bomb explosion upon people within its range, the medical and biological aspects of injuries and their treatment. This and the other related reports are being prepared at the request of the National Security Resources Board, which has been charged by the President with responsibility for coordinating plans concerned with civilian defense in event of war.

The material is based on a wide variety of investigations, discussions, and documents brought together by experts in the various fields. Later reports will deal with (a) the damage caused by the air-blast created by an atomic explosion, and how buildings can be constructed to resist these effects, and (b) how contamination can be detected and measured.

A complete book on the effects of atomic weapons is under preparation by a board of editors organized by the Atomic Energy Commission's Los Alamos Scientific Laboratory for the Department of Defense and the Atomic Energy Commission. Some of these reports to NSRB will be based upon material gathered for the comprehensive book.

### INTRODUCTION

A single atomic bomb of the type dropped on Nagasaki and Hiroshima during the war can lay waste the heart of a large city and injure and kill great numbers of people. In the two Japanese cities, over 100,000 were killed, and nearly as many were injured. If a bomb were dropped in such a way as to leave the area contaminated with radioactive materials, other casualties might result and rescue and repair work would be hampered. The area of damage, the number and kind of casualties and the extent of contamination would depend on how powerful the bomb was, and on how it was used—whether at high or low altitude on a clear or stormy day, or exploded in a river or harbor.

Each way in which a bomb was used would have its own particular type of Hazard. In some cases, the area of damage would be at a maximum; in others the area of damage might be reduced but radioactive contamination would be more severe. In these discussions, we are primarily interpreting data derived from the Japanese bombings in which an atomic bomb, considered as roughly equivalent to setting off 20,000 tons of TNT, was exploded at a height of about 2,000 feet above the earth on a clear day. This was about the altitude at which

a bomb of this power is estimated to have the greatest effect. Higher than this, its blast effects would be weakened, lower than this, the circle of damage would be reduced.

#### *The power of the bomb*

The Hiroshima and Nagasaki bombs caused total destruction and serious damage to buildings—death and injury to people—for 2 miles from the point at which the bomb was set off, the extreme limit of damage was about 4 miles. More powerful bombs could cause a wider area of damage, but very great increases in explosive force are necessary in order to accomplish relatively small increases in the area of damage. For example, it would be necessary to double the power of a bomb in order to increase the radius of severe damage and injury by one-fourth from 2 to 2½ miles. Estimates based on the type of bomb dropped over Japan can be used as a rough basis for discussion and planning.

#### *The way bomb is used*

A high air burst, such as that in Japan, leaves no dangerous amounts or radioactivity on the ground. A bomb exploded in the air at low altitude—as in the Alamogordo test—will pulverize and vaporize materials in its immediate vicinity. It will not affect as wide an area, and the screening effect of hills will be increased since the explosion takes place closer to the earth. Radioactive contamination will, however, be severe within a limited area.

An underwater explosion of an atomic bomb also might cause serious contamination. The area affected would depend on where the bomb exploded, on the combined depth of the water, and the soft bottom such as mud, and upon the direction and force of the wind. At Bikini, the underwater (Baker) test caused what is known as a *base surge*—a 200- to 300-foot “wave” of heavy radioactive mist which spread outward from the base of the mushroom tower of water, turned into a low-lying rain cloud and precipitated radioactive materials over the surrounding area. If the explosion of a bomb caused such a base surge, contamination of any adjacent land areas would result. Other types of injuries from the explosion itself, however, would be reduced.

#### *Effects upon people*

The effects of the burst of an atomic bomb upon people are essentially the same as those caused by an amount of TNT that releases an equivalent total of energy, but with certain added factors. Mechanical injuries suffered in the collapse of buildings will predominate in both cases. The main differences are, first, the greater amount of radiant heat released by an atomic explosion; second, the large amounts of light, including ultra-violet; and, third, the large amounts of nuclear radiation.

Injuries to people from an atomic bomb can be divided into four general categories—those caused by the blast pressure wave directly; those caused when buildings are wrecked; those caused by burns either in the wreckage or from radiant heat; those caused by nuclear radiation, either directly or through residual contamination.

In the case of an underwater blast, the water absorbs the radiant heat, light, and nuclear radiation, hence direct injuries from these sources do not occur. The contamination absorbed by the water is, however, spread whenever a base surge is formed.

In the case of such a high air blast as in Japan, some 15 to 20 percent of the deaths probably will be caused solely by nuclear radiation. The remaining 80 to 85 percent will be caused primarily by injuries suffered in the collapse of buildings and by burns, although many of these also suffered severe radiation exposure.

Direct injury from radiant heat occurs at the explosion of the bomb; Japanese people in the open suffered third-degree burns up to 1,500 yards and second-degree burns up to 2,500 yards. The effect was instantaneous. Nuclear radiation continues in dangerous quantities for 60 seconds but most of it is concentrated in the first few seconds, 50 percent occurring in the first second. People suffered injuries from nuclear radiation, but beyond a mile and a quarter injuries fell off sharply. The shock wave from the blast sweeps outward rapidly from ground zero and, in the case of Japan, took up to 10 seconds to travel 2 miles to the perimeter of greatest damage. Injuries from its effects occurred throughout this region.

In the following sections, we will discuss (a) the type of injuries caused by an atomic explosion, and the extent to which they occurred in Japan at various distances from ground zero, (b) the nature of the radiation hazard, the effects of

exposure, and some of the treatments for acute radiation sickness, (c) the nature of the hazard from radiological contamination—not encountered in Japan—and some of the precautions that can be taken against it.

### INJURIES FROM ATOMIC BOMBS

#### *Air blast effects*

Air blast effects on people fall into two categories: (a) Those caused directly by the pressure wave of the blast, and (b) those caused indirectly by collapse of buildings, flying wreckage, and by people being thrown against solid objects.

#### *Direct injury*

Direct blast injury may occur wherever the air comes into contact with body surfaces—particularly the intestinal tract, the stomach, the lungs, the ears, and the sinuses about the nose. Greatly increased pressure, especially if the increase is sudden, can tear these tissues. Few injuries of this sort were reported in Japan among survivors.

In the water, the dangerous level for pressure is about 500 pounds per square inch. In an underwater atomic explosion, any person immersed in the water probably would be killed or seriously injured up to 2,000 yards from the zero point.

#### *Indirect injury*

Secondary blast injuries are an important cause of death in an atomic bomb explosion. Since practically all brick and light masonry buildings with weight-bearing walls in the blast area will be wrecked, wooden buildings flattened, and the doors and other partitions of blast-resistant steel-reinforced concrete buildings blown out, people in or near these buildings will be killed or injured by collapse of structures, and by missile effects of debris. Among such injuries will be crushing, fracturing of bones, and lacerations and bruises of various types. Mechanical injuries resulting from atomic bomb damage vary in no way from those that would be produced by other explosives or missiles.

Flying glass contributes a large share of superficial injuries to be expected in any powerful explosion. In Japan, glass fragments penetrated over an inch beneath the skin. The clinical course of Japanese patients with mechanical injury showed that there was no damage attributable specifically to the nature of an atomic blast which impaired either rate or type of healing. Such impairment as occurred was clearly attributable to infection, loss of blood, starvation, loss of body fluids, or a combination of these factors.

#### *Injuries due to heat and light*

Severe burns were caused both by the radiant heat from the explosion of the atomic bomb (flash burns) and from the fires that broke out in the wreckage (flame burns). The effects of visible light probably are not significant. Even those who looked directly at the burst apparently suffered only temporary dazzling and loss of vision, but no clear-cut evidence of harm was reported. Temporary blindness resulted when the intense light bleached out the substance within the eyeball called "visual purple," and persisted for several hours until the body could manufacture a new supply.

Where hemorrhages of the eye occurred, it was from the general systemic effects of nuclear radiation. Conjunctivitis was common, but this infection of the outer eye was caused by smoke and dust.

#### *Flash burns*

The flash burns caused by an atomic explosion may be first degree, merely reddening the skin; second degree, causing blisters; or third degree, damaging all layers of the skin. The severity of an individual's injury, as with other types of burns, depends not only upon the degree of the burns, but even more upon the proportion of the body's total skin area that is affected.

Atomic bomb flash burns are distinctly different from those caused by other types of explosion, since they are due to radiant heat rather than to hot gasses, as in the case of shell bursts or gasoline explosions. They are readily distinguished because atomic flash burns are sharp in outline and are oriented to the point of the explosion. Shadow effects are prominent. An ear, for example, might be badly burned yet the skin behind the ear be unharmed.

Even loose clothing afforded some protection against atomic flash burns, and color also had a protective effect. White clothing tended to reflect the radiant

heat, darker clothing to absorb heat. Burns sometimes were cross-hatched where light clothing was marked with dark lines. Tight clothing was less protection, and burns were inflicted at elbows and where straps crossed the shoulders, for example, while other places where clothing was loose were protected, or less severely burned.

The effects of ultraviolet light produced by the bomb are uncertain. Ozone generated from the air by the explosion would absorb a great deal of the ultraviolet spectrum. The flash-burned Japanese did show darker pigmentation about their scars, and this is still apparent, but no clear evidence has been found that ultraviolet radiation caused this or that such radiation played a prominent part in causing burns.

#### *Flame burns*

The flame burns in Japan mostly occurred when people were trapped in the wreckage of buildings which afterward caught fire. A conflagration may be expected to follow any atomic bomb blast. Not only is the radiant heat sufficient to ignite wood and lighter materials, but the collapse of structures overturns stoves and furnaces, breaks electric wires and ruptures gas lines. About 70 percent of Hiroshima's fire-fighting equipment was destroyed, firemen were killed, the water supply was disrupted, and streets were clogged with debris.

The uprush of the atomic cloud after the explosion causes an inrush of wind, and heat from fires augments this effect. At Hiroshima a "fire storm" resulted, with gale-winds sucked inward toward the center by the continued uprush of hot air. This did not occur at Nagasaki, but must be assumed as a danger in an atomic blast. At the very least, fires about the perimeter will tend to consolidate and cut off help from people trapped within the blast area.

Burns suffered from flames, in such cases, differ in no way from those encountered in any ordinary intense fires. If the case is not complicated by injury from nuclear radiation, the determining factors in survival and rate of recovery will not vary from those of a comparable ordinary burn. Where radiation injury has been suffered, infection will be a grave danger as explained in the following section.

Among the injured in Japan, there were many cases where excessive scar tissue (keloids) formed, and many of the survivors have contraction deformities resulting from improper care of burns and other injuries during the healing process. The deformities and the keloids are not specifically related to exposure to the atomic bomb, but rather to slow healing and to infection. The keloids also apparently stem from a tendency in the Japanese as a race; and burns suffered in nonatomic bomb raids resulted in comparable amounts of scar tissue. Adequate medical care would reduce the amount of keloids and prevent much of the crippling.

Had proper medical care been available, it is also probable that many of the Japanese who died from burns, as from other causes, might have been saved. The death totals must be weighed in relation to the fact that all medical care for days after the atomic blast was totally disorganized.

Adequate care to injuries and burns suffered in an atomic explosion present a problem of great magnitude. While the types of injuries, aside from the radiation hazard, are similar to those encountered in ordinary bombing or other catastrophe, the large numbers of individuals involved in an atomic blast, and the general chaos that results, present a problem whose solution requires a great deal of careful planning and preparation.

It would be unrealistic to prepare for fewer than 40,000 to 50,000 severely burned persons from a single atomic explosion. Ideal care of a severely burned patient, according to one such case, would include provision for 42 tanks of oxygen, 3 nurses, 2.7 miles of gauze, 36 pints of plasma, 40 pints of whole blood, and 100 pints of other fluids plus drugs such as morphine and the antibiotics. Obviously such ideal treatment would be impossible under catastrophe conditions. Although not all the burn cases would require as much support as the case cited above, this example, nevertheless, makes apparent the magnitude of the burn problem alone. Fortunately severe symptoms from radiation in those not killed outright do not ordinarily come on until several days after the acute exposure, so that those suffering from burns and mechanical injuries will actually constitute the chief immediate medical problem and make their heaviest demands on emergency facilities at a time when those suffering solely from acute radiation will require very little attention.

## THE RADIATION HAZARD

The nuclear radiation that causes direct injury in an atomic explosion includes *neutrons* and *gamma-rays*. The former are tiny invisible particles driven out of fissioning atoms; the latter are invisible electro-magnetic waves very similar to powerful X-rays and constitute the greatest radiological danger in an atomic blast. Both forms of radiation cause the same type of injury. They penetrate deeply into the body and *ionize* the atoms that make up the various elements—carbon, nitrogen, hydrogen, oxygen among others—so that the atoms are no longer neutral electrically, but carry a positive or negative electrical charge which makes them violently reactive chemically. Nuclear radiation, or *ionizing radiation*, disrupts the complex combinations of these elements and thus changes the proteins, enzymes and other substances that make up our cells and bodies. As a result, the cells are injured or killed, and bodily functions can be affected; if enough cells are damaged or killed, the person becomes seriously ill or dies.

This ionizing radiation cannot ordinarily be detected by the senses. If one touches a hot stove, the sensation of heat and resulting tissue damage is immediate. But one may receive an amount of ionizing radiation that will produce far more serious tissue damage than a burn without any sensation. Although chemical and physiological changes are produced almost instantly, no damage will be apparent for several days.

Beyond these general facts cited, we know very little about the exact mechanism by which radiation harms living molecules, cells and tissue. The clinical effects have, however, been extensively studied in Japan. And in the United States a Nation-wide research effort to investigate these effects has been under way since the early days of wartime development. (See Sixth Semiannual Report of the Atomic Energy Commission, July 1949.)

*Acute radiation illness*

These clinical findings in Japan show that people exposed to heavy radiation suffer various injuries, sicknesses, and malfunctions which together are called the *acute radiation syndrome*. Physicians find that the severity of the symptoms is related importantly to two factors: the amount of radiation absorbed in a single dose, and the proportion of the body exposed.

It is possible to expose a skin cancer an inch in diameter to 5,000 roentgens<sup>1</sup> of radiation (X-ray) without any effect on the patient other than that upon the cancer cells and, some scarring of adjacent normal tissues. But one-tenth this amount of radiation (about 500 roentgens), given over the whole body would probably prove fatal. And 400 roentgens of whole body irradiation is believed to be the dose that will kill about half of all the persons exposed to it (a dose called the human LD-50, or 50 percent lethal dose). Half of that amount of whole body irradiation, 200 roentgens, would cause radiation illness and, in rare cases, might result in death. The degree of acute radiation illness, and the probability of recovery or death, will thus vary sharply with the dosage received. The syndrome also can result from radioactive materials absorbed and lodged widely within the body where they then could emit their destructive radiation at close range. This danger from *internal* radiation is discussed later. Here, we are concerned with the effects of *external* radiation.

*Results of exposure*

Clinical observations have made it clear that heavy external exposure to penetrating radiation causes a massive break-down of the body's tissues, particularly in certain organs of the body. Since destruction of cells in various tissues reaches its height at different times after exposure, symptoms from these injuries will occur at different times. Two features make this type of body damage unique:

1. No two organs or tissues of the body suffer exactly the same amount of damage. Lymphoid tissue, bone marrow, the sex organs, and the lining of the small intestine suffer heavy damage. Muscles, nerves, and fully grown bone are not so easily injured. Other tissues, such as skin, liver, and lung, lie in between these extremes.

2. Unless the radiation has been extremely heavy, cells may not die for hours or days. For a week after skin is injured, it may show only a surface reddening and swelling of the underlying tissues. Blistering and loss of dead skin may be delayed for 2 weeks.

<sup>1</sup> The roentgen is a measurement of the ionizing effect of radiation. The precise definition of this measurement is less important here than the number of roentgen which will produce a certain effect upon a person exposed to it. A roentgen is defined as the amount of X-rays or gamma-rays required to produce ions equivalent to one electrostatic unit of charge in one cubic centimeter of air under standard conditions.

The course of illness in acute radiation syndrome can be described from the case records of Japanese exposed to atomic bombings, where their injuries were uncomplicated by blast damage or flash burns. Among Japanese who received 600 roentgens or more of radiation, the onset of the syndrome was violent and, in 75 percent of the cases, the first symptoms appeared within a half hour of exposure, great weakness followed and death sometimes occurred within 24 hours. Some patients lived 10 days. Among those receiving around the LD-50 or 400 roentgens, the first symptoms might not appear for several hours and, after the first onset, the patient might be able to carry on normal duties for a week. One Soldier in Japan, exposed in this way, afterward marched 15 miles with a full pack.

The sequence of symptoms among all exposed to heavy radiation was roughly the same, but the time intervals of various phases of the illness varied according to the severity of the exposure. Those who received around 400 roentgens or less developed additional symptoms—loss of hair and severe infections. The illness of a typical patient among the latter group goes through four phases:

*Phase I.*—Within an hour or so after exposure, the patient becomes nauseated, vomits, and suffers general prostration and weakness. Diarrhea may occur and his blood pressure may fall a little. In general, the heavier the dosage, the more ill the patient will be. This phase is quite similar to the "radiation sickness" suffered by patients treated intensively with X-ray or radium.

*Phase II.*—After the first onset of the illness, symptoms tend to disappear, and for a period of a few days to several weeks the patient feels less ill. For patients who have suffered the heaviest radiation, this period will be short. Reports have stated that Japanese injured by radiation alone were entirely without symptoms during this time, but the best information is that they were sick people who, because of the emergency, drove themselves to do what had to be done.

*Phase III.*—The illness reaches its height during this phase. Whether or not the patient survives depends on his ability to endure this acute stage. The patient becomes apathetic and develops a fever and rapid heart action. He becomes increasingly weak and loses weight. He loses his appetite, may become nauseated and suffer severe diarrhea which is sometimes bloody. Small hemorrhages may appear in the skin and the gums bleed. In severe cases, infected ulcers may spread throughout the mouth and alimentary tract. The hair may fall from the head and body about 3 weeks after exposure.

The slightly injured recover quickly, but those who receive a heavier dose of radiation may continue gravely ill for weeks. The most severely injured may grow progressively worse over a period of weeks and finally succumb, or may die within a few days.

*Phase IV.*—Patients who survive enter a convalescence during which a feeling of weakness and fatigue are the outstanding symptoms. It may be months before the patients recover normal strength and weight. The skin hemorrhages disappear and the hair, if lost, gradually regrows. Usually within 6 months, the patient feels completely well. All usual methods of examination indicate that, by this time, the patient is normal. Nevertheless, it is too soon to say that survivors will not suffer further ill effects.

#### *Other reactions*

Besides the symptoms described, the acute radiation illness includes damage that can be detected only by laboratory tests—changes in blood cells, in male sex organs, and in the functioning of other organs.

Several symptoms of the third, or acute, phase of the illness stem directly from injuries to certain elements in the blood. Infections and ulcerations arise because radiation destroys white blood cells that normally aid in combating bacteria. A few days after radiation exposure, the number of white cells declines and, in severe cases, the cells disappear almost entirely. The skin and gum hemorrhages are seemingly connected with a fall in the number of *platelets* in the blood, since these substances play a role in the clotting of the blood. Other causes, such as an increase in anticlotting substance that resembles heparin, a normal blood chemical, also contribute. Platelets begin to decline only after an interval of weeks and, where the patient survives, reappear during convalescence. A third, and very serious, effect upon the blood, the decline in the number of red cells, causes anemia and contributes to the general weakness and debility so marked in acute radiation illness. The decline in the number of red cells starts immediately after exposure and may continue for months.

Microscopic studies of tissue, amplified by more complete research with animals, indicate these blood changes are caused by radiation damage to the bone marrow and to the lymphoid tissue where these various cells are born. And the injury to

tissue, as well as the course of illness in the patient, can be traced to damage to the cells. Radiation causes the cells to swell, disorganizes their structure and stops them from reproducing themselves. The stoppage of cell division occurs immediately after irradiation; structural changes appear more gradually. The most spectacular change is the collapse of certain parts of the cell, and the shrinkage of the nucleus followed by death and disintegration. The interruption of cell division is temporary, but when new cells begin again to divide they often show bizarre changes in their inner structure.

#### *Treatment of radiation injuries*

Many people believe that very little can be done in treatment of radiation casualties. This is true in case of a lethal dose; but certainly is not true when the exposure is in the median lethal range. Many borderline cases can be saved by:

- a. Good medical and nursing care.
- b. Whole blood transfusions, given as may be required in the individual case until the bone marrow has had time to regenerate and produce blood.
- c. Control of infection by antibiotics such as penicillin.
- d. Intravenous feeding to supply necessary sugars, proteins and vitamins.
- e. Control of the bleeding tendency by use of drugs.

Whole blood would be required in great quantities, primarily to treat the casualties suffering from mechanical injuries and burns, secondarily to treat victims of ionizing radiation.

It has been estimated that for a catastrophe such as at Hiroshima approximately 250,000 pints of blood would be needed, 80,000 per week for the first 3 weeks. Subsequent to this, there would be only a nominal requirement for whole blood. This time relationship favors the possibility of obtaining blood from donors, processing it, and transporting it to the operations area, as is envisaged in the blood program of the American Red Cross.

Equally, the time factor would permit evacuation of victims to unbombed areas where better nursing care, so essential to recovery, could be better provided.

#### *After effects of radiation exposure*

Many people who recovered from radiation sickness itself afterward died from tuberculosis, pneumonia, or some other disease which appeared as a complicating factor during that illness. No unusual ill effects directly attributable to ionizing radiation have occurred among Japanese survivors. Whether or not such after effects will occur among these survivors will have to be answered in the future. There are two possible after effects from radiation exposure that cannot be fully assessed for many years—effects on heredity, and effects on fertility (occurrence of sterility).

Since the demonstration in 1927 that X-rays increased the natural rate of mutations in the fruitfly, there has been much interest in the possibility of similar effects of radiation on man. Mutations have been produced in a variety of plant and animal forms by acute as well as chronic exposure.

Mice bred up to six generations while continuously exposed to 1.1 roentgen daily of gamma radiation from radium gave normal litters and had normal life span. Mice exposed to 8.8 roentgens per day, up to a total dose of 880 roentgens for females and 1,100 roentgens for males, showed no genetic changes in the first generation offspring. Single doses of 1,500 roentgens delivered to the testes of mice have produced gene mutations, both by radiation of the mature sperm present, and by changes in the sperm-forming cells, abnormalities of the feet, retardation of growth, and anemia appeared in the offspring.

From these and other investigations, it is found that the likelihood of parents having deformed children after suffering sublethal amounts of ionizing radiation is very slight.

#### *Genetic effects*

A study of the Atomic Bomb Casualty Commission in Japan deals with possible effects of massive radiation doses on human heredity. Any genetic effects among the Japanese at Hiroshima and Nagasaki will show up in the offspring of exposed people though possibly not until the second and subsequent generations. No such effects have been observed up to this time. Perhaps 25 years must elapse before reliable information can be obtained about the effects of radiation exposure upon heredity following atomic bomb explosions.

#### *Sterility*

Another Casualty Commission study deals with the fertility of the Japanese affected by atomic bomb radiations blasts. Ionizing radiation can cause permanent sterility, but it appears to require about 400 roentgens—the range of

the median lethal dose. Temporary sterility occurred among many Japanese, both male and female, but the vast majority of them have returned to normal. It cannot be stated that all returned to normal because investigators do not know how many of them were sterile from other causes before the bombing. Many have produced normal children since their illness.

#### *Cataracts*

No significant development of cataracts—a growth which makes the lens of the eye opaque and causes blindness—has been noted among the Japanese as a result of exposure to radiation although a few have been recently observed. Full evaluation of this hazard must wait on lapse of sufficient time for full development and investigation.

#### *Injury zones in atomic burst*

Radiation injury sufficient to cause acute radiation illness will occur frequently for wholly exposed persons even a mile from ground zero. Exposed people 1,400 yards away will receive the LD-50 dose of gamma radiation which will cause the death of about half of them. Under 1,000 yards, exposed people will certainly be killed. Neutron radiation would prove lethal up to 500 yards, but all people so exposed would equally receive a lethal dose of gamma rays.

In the following section, types of injuries to be expected at various distances from ground zero, as judged by effects in Japan, are given in summary. Measurements are of the radius of concentric circles whose center is ground zero—directly below the point of explosion. The effects in these zones will depend somewhat on local factors, especially such topographical features as hills, and the change from one zone to another is gradual rather than abrupt.

#### *Half-mile radius*

Within a half-mile of ground zero when the atomic bomb is similar to those used against Japan and detonated about 2,000 feet in the air, the following will occur:

The blast pressure created by the bomb explosion would demolish all structures not of reinforced concrete or steel construction. Even buildings of this type would suffer 70 percent destruction. Persons not sufficiently protected by shelter able to withstand the blast would undoubtedly be killed by falling buildings or flying wreckage.

Intense thermal energy generated by the explosion would cause fatal burns to unprotected persons and would start fires in the wreckage.

Because of the concentration of ionizing radiation nearly everyone not protected by earth, steel, or thick concrete would die. The most serious cases would succumb within a few hours to 4 or 5 days after exposure. A second group would develop susceptibility to infection due to destruction of their white blood cells and would die from 4 days to 6 weeks after exposure. Another group would incur multiple hemorrhages and die within 2 to 3 weeks from this cause.

#### *One-half to one mile*

Structural damage due to blast and fire would be general in the area outside the half-mile circle and up to one mile from ground zero. Residential buildings would be almost destroyed. Only fire and shock-resistant buildings would be immune to any appreciable extent. Casualties from flame burns, blast effects, and injuries due to falling debris and flying glass would consequently be prominent.

Second or third degree flash burns would be suffered by people not protected.

Injury from ionizing radiation also would be serious, but as the distance from the explosion point increases, shielding is more effective in lessening of damage from the rays.

#### *One to one-and-a-half miles*

Beyond a mile, blast damage would still be extensive to residential structures. Fire damage would be extensive in inflammable areas. Flash burns can be expected at this distance. Secondary injuries remain fairly prominent, in the absence of protection by natural or artificial barriers. At Nagasaki, steep hills sharply limited the effects of blast and fire.

Radiation could be expected to be very prominent among the causes of injury up to approximately one and a quarter miles from ground zero. After that distance, such cases drop off sharply.

#### *One-and-a-half to two miles*

At Hiroshima the average limit of heavy structural damage was roughly 2 miles from ground zero. The limits of fire damage would roughly coincide with this boundary, except where wind causes wider effects.

Flash burns will not be so severe in this area.

Although some Japanese at Hiroshima and Nagasaki who were ill of radiation sickness were reported to have been as far away as  $1\frac{1}{2}$  to 2 miles, observations at tests held since then indicate this is impossible.

#### *Over 2 miles*

Structural damage due to blast and fire is appreciably lessened beyond 2 miles from ground zero and secondary injuries correspondingly decrease. The maximum distance of a recorded structural damage at Hiroshima, however, was 4.1 miles.

Radiation injury and flash burns would be insignificant in this zone.

### RADIOLOGICAL CONTAMINATION

The radiation dangers discussed so far are those affecting people exposed to immediate injury from the explosion of the bomb. Under certain conditions, radiological contamination could become a dangerous after-effect of the explosion. A high air burst, on a clear day, probably would produce no dangerous contamination at all on the surface of the earth—it did not in Japan—and people could enter the area even directly under the point where the bomb exploded immediately afterward without danger from this source. This is because most of the residual radiation is swept up into the atomic cloud by the in-rush of wind that follows the explosion and is afterward dispersed into the general atmosphere. Most of this radioactive material will eventually fall to the earth but will be so dispersed and diluted that it will rarely, if ever, be hazardous. Heavier particles will fall first, so the greatest outfall will be concentrated immediately downwind from the explosion point. Here, again, no hazard occurred after the Japanese explosions.

A burst close to the surface, or under water, would increase the amount of contaminated material. When a base surge occurred, heavy contamination might be expected. The amount of such residual radioactivity, and how long it would continue to a degree dangerous to people, would depend upon many and variable factors, which are discussed in other reports of this series. Residual radioactivity can be detected and measured by trained teams using Geiger counters and similar devices, and their measurements would determine when and for how long it would be safe to enter a contaminated area.

Residual radiation could come from three different sources: (a) *Fission products* produced by the splitting of atoms in the bomb explosion and deposited on the surface; (b) *unfissioned uranium or plutonium* so deposited; and (c) *Materials made radioactive* by the radiation emitted during the explosion and either already on the surface or afterward deposited there. The radiation danger during the explosion comes from neutrons and gamma-rays. Residual radiation does not include neutrons but comes from gamma-rays and from two other types of nuclear particles—alpha and beta. The latter two are chiefly dangerous when emitted by material lodged inside the body, but they can injure the skin when they strike the outside of the body.

*Alpha particles*, which are positively charged helium nuclei containing two protons and two neutrons, have tremendous ionizing power—the factor which causes injuries to peoples' bodies—10,000 times that of gamma-rays. But alpha particles will be stopped by an inch or two of air, by a sheet of paper, or by the surface layer of the skin, which they affect very much like a burn. Alpha particles are emitted by unfissioned uranium or plutonium but, of these two, uranium is only moderately radioactive and so is not a serious hazard. Plutonium, however, is several thousand times more radioactive than uranium and would be dangerous in contact with the skin or especially if lodged inside the body.

*Beta particles*, which are negatively charged electrons, have 100 times the ionizing power of gamma-rays but can travel only a few yards through the air. Ordinarily, they also can be stopped by a sheet of paper or by clothing, and will penetrate only about a fifth of an inch into the skin, which they affect very much like a burn. Beta particles are emitted, along with gamma-rays, by fission products and other materials made radioactive by the explosion. The gamma-radiation would be the chief external radiation threat, but would be even more dangerous if the substances were taken into the body.

Thus, while the bomb burst is a direct radiological menace exclusively because of external whole body radiation, residual radiation is dangerous not only as a source of external radiation, but also internally, if taken accidentally into the body in any quantity and lodged there. Under such conditions, internal radiation

can cause acute radiation illness if widely enough distributed, can destroy or hamper vital functions of the body, or can cause cancer. These two types of residual hazard, external and internal, are discussed separately.

#### *Internal radiation*

Radioactive materials can enter the body through the mouth, through breathing, or through a wound. They are particularly destructive when retained in the body for some time. Alpha and beta particles, which can be stopped by the skin, meet no such barrier inside the body. If lodged there, materials that emit these particles can cause serious damage. In evaluating the radiation hazard from these sources, three main factors must be considered:

*First.*—The chemical characteristics of a radioactive element are important, because they determine in what organ the material is likely to be deposited. Materials that behave chemically like calcium will be deposited in bone. Plutonium and strontium are two such elements.

*Second.*—If a material is taken in through the mouth, its solubility in body fluids is important. What chemical forms are we dealing with? How much is absorbed from the gastric intestinal tract? Fortunately, most of the fission products are quite insoluble and will not be absorbed in significant amounts. Compounds of strontium, barium, and iodine are the most soluble. Plutonium exists usually in the form of an oxide and only about five-hundredths of 1 percent of the amount ingested is fixed in the body. Swallowed materials must gain access to the circulating blood before they can be deposited in an organ. Thus, even in the stomach and intestines, they are for all practical purposes still outside the body as far as radioactive poisoning is concerned.

Once plutonium enters the blood stream, it may be carried to all parts of the body, and much of it is deposited in the liver, spleen and bone. The most significant points of deposit, as far as serious injury is concerned, are close to the blood-forming tissue in the bone marrow. Here, because of the tremendous ionizing power of its alpha particles it is a constant source of injury to the adjacent tissues. If it remains in the body long enough, the injury will result in the formation of malignant tumors and severe anemia.

*Third.*—The length of time materials remain in the body depends upon their "biological half-life"—the time required by the body to lose one-half the radioactivity by decay and the body's regular processes of elimination. This varies from hours to years with the different elements. In the case of plutonium, the biological half-life is 50 years. The amount of plutonium deemed safe to have fixed in the body has been considered to be one microgram (a millionth part of one twenty-eighth of an ounce), but further analysis may show that this should be lowered by a factor of 10.

#### *The plutonium hazard*

The amount of plutonium scattered after a high burst of an atomic bomb on a clear day may be considered inconsequential. Even after a much lower burst, contamination is negligible: one would have to swallow the surface contamination contained in an area of several square yards to get a dangerous amount. The situation probably is not greatly different when atomic bombs are exploded in other ways.

#### *Drinking water contamination*

Much concern has been expressed regarding the contamination of drinking water. In a high air burst on a clear day, the fall out of radioactive materials is so small that dilution by the water probably ensures safety. The efficiency of the filtration plants, and the distance of sources of supply from cities are further safety factors. Fission products and fissionable material have a tendency to adhere to any organic material with which they come in contact. They will cling to the banks and the bottom of lakes, to the pipes, and other material to such a degree that it is probably that very little would ever reach the populace. Water containing one-millionth of a curie of fission products per liter is considered safe for drinking. (This means that about one atom in 250,000 billion billion is disintegrating every second.) Many popular mineral waters contain more than this. Hazards in the case of a storm or base surge remain to be evaluated. Testing for radioactivity is advisable. At Bikini, sea water from a heavily contaminated source was distilled (that is, turned into steam and condensed, not merely boiled) and found safe for drinking purposes.

*Inhaling radioactive particles*

As to the hazard of inhaling particles of matter, the size of the particle is important. The nose filters out almost all particles larger than 10 microns in size (one inch equals 25,000 microns). It will filter out 95 percent of all particles over 5 microns in size. The size at which particles most readily pass from the small air pockets of the lung into the blood stream is about one-half micron. Particles 1 to 5 microns in size may, however, reach the lymphatic system.

At a bomb burst, contaminated particles of this size—the largest only one five-hundred thousandths of an inch in diameter—ascend rapidly into the atmosphere. If they settle, as on a rainy day, they usually attach themselves immediately to larger particles. The chances of inhaling a dangerous amount of these small particles is small. A combat-type gas mask will filter out 99.999 percent of all such particles.

*Contaminated wounds*

If someone is wounded while in a contaminated area, the hazards of the situation will depend almost entirely upon the amount and kind of contamination present, and the extent to which the contaminated material is soluble in body fluids. It is difficult to conceive of a situation in which a sufficient amount of contamination would be present to endanger life by this means of exposure, although material introduced into the blood is fixed in the body in a very short time.

Such a wound should be cared for in the same manner as any similar injury in an uncontaminated area. Cleansing with soap and water is particularly important, and cutting out of damaged tissue. The wound should then be closed. Amputation is not indicated.

*External radiation*

The chief external radiation hazard in a contaminated area will come from gamma-rays thrown off by fission products or by materials made radioactive by neutrons or gamma-rays during the explosion. Alpha and beta radiations will be dangerous chiefly if they come into actual contact with the skin, but it will be necessary to guard against contaminated dust. Filter-masks, clothing tight at the wrists, ankles, and neck, and tight-wristed gloves will afford protection against alpha and beta particle contamination. Material heavily contaminated with beta-emitting material should not, however, be handled even with gloved hands since it can cause severe burns. Tongs or equivalent instruments should be used. Clothing should be discarded at the edge of the contaminated area to avoid spreading radioactive contamination. Thorough soap-and-water bathing would be a valuable precaution.

Bodies that have been exposed to radiation can be safely handled.

Gamma radiation cannot be turned aside by such simple measures as protective clothing, but dense material, such as concrete, can reduce its ionizing effect. Three inches of concrete will cut the amounts of gamma radiation by half, and the customary 9-inch concrete wall used in construction would reduce gamma rays to one-eighth their original potency. However, the gamma radiation from a bomb is measured in thousands of roentgens and, even at distances of 1,000 yards from ground zero, 21 inches of concrete would be necessary to cut down gamma rays enough to prevent serious radiation injury. Gamma radiation from contamination will not approach the power of direct bomb radiation, but it still can be severe. The best protection against contamination that gives off gamma radiation is to use instruments to detect its presence and to avoid any dangerous concentration.

What is a dangerous concentration of ionizing radiation? There is a general agreement that, wherever possible, it is desirable to avoid all exposure to ionizing radiation. This, of course, is impossible. Radiation exists everywhere in the world; it comes from radioactive material distributed throughout the earth's crust but its chief source is the bombardment of the earth by cosmic rays from the sky. Human life has always been exposed to this radiation.

In the atomic-energy program, a standard has been set—called the maximum permissible dose—which stipulates an exposure which experts believe a man could experience every day in his life without danger of injury. This has been fixed at a maximum of one-tenth of a roentgen a day with a weekly maximum of three-tenths of a roentgen. But this standard applies to *daily* exposures—a

very different matter from a one-time exposure in emergency. Thus, in the course of a medical study of a disease of the stomach or intestines, a patient may be exposed to some 40 roentgens in undergoing a series of X-ray examinations. X-rays of the teeth may subject the patient to about 2 roentgens. It is clear that a person may be subjected to a one-time exposure of many times the daily "maximum permissible dose" without suffering injury.

In emergency operations, a person could probably be exposed to 50 roentgens of total body radiation without incurring injury and be able to continue at his duties. A person exposed to 100 roentgens might have some nausea and changes in the number of blood cells, but most likely would be able to continue at his normal duties. Those exposed to 200 roentgens probably would become incapacitated after the injuries suffered began to take effect—probably a matter of some hours. In rare cases, as stated earlier, 200 roentgens might ultimately cause death.

While acute exposures of 200 roentgens and more will result from atomic bomb explosions, radiation of this degree will rarely result from residual contamination deposited by a bomb. The rate of exposure is of considerable importance. A person who receives 600 roentgens in a single exposure within a period of a few minutes will have small chance of survival, but if a man received only 30 roentgens a day it probably would take a total of as much as 1,800 roentgens to prove fatal.

\* \* \*

The medical aspects of atomic bomb explosions have been presented here only in summary, but the main factors that must be considered have all been touched upon. In future publications, a more technical and detailed analysis of the problems involved from the medical man's viewpoint will be presented.

The summary indicates clearly that a major task for medical authorities will be the care of blast and burn injuries; that a main problem will be caring for patients in numbers that would swamp the normally available facilities, even in the improbable circumstance that facilities were not appreciably damaged. Dispersion of facilities thus becomes important as does organization of emergency work over wide areas, so that outside help can come to the rescue of bombed areas, and so that patients capable of being moved can be evacuated to places where they can receive better care.

The following material was distributed to the States in connection with the National Security Resources Board Civil Defense Planning Advisory Bulletin of February 3, 1950, entitled "NSRB Document 121/3."

### DAMAGE FROM ATOMIC EXPLOSION AND DESIGN OF PROTECTIVE STRUCTURES

Prepared for the National Security Resources Board by the Department of Defense  
and the United States Atomic Energy Commission

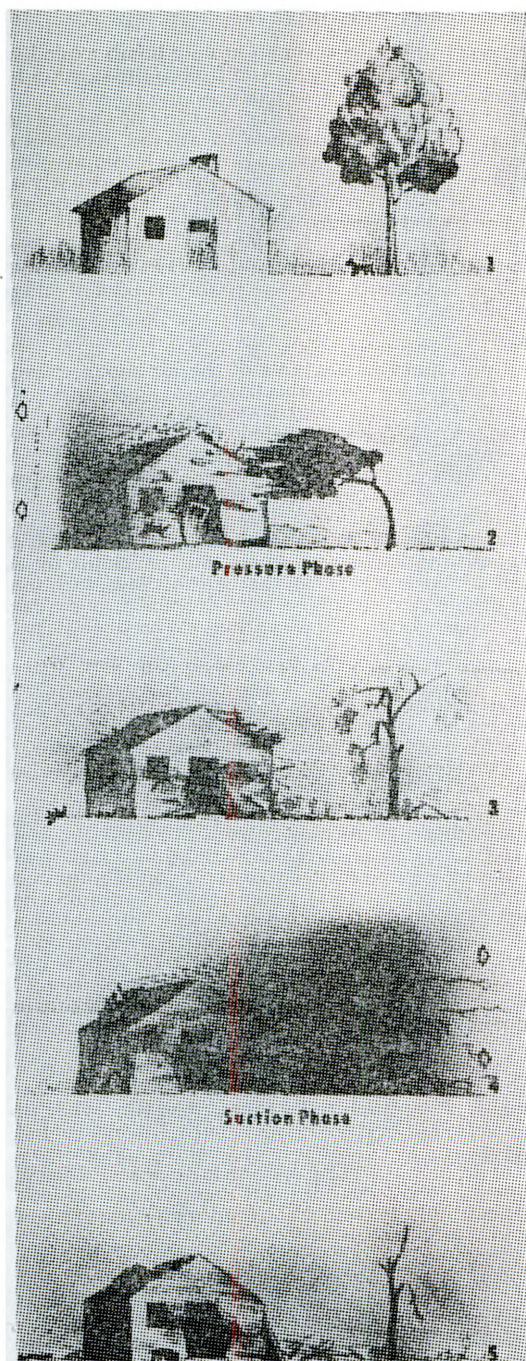
*This document is issued by the National Security Reserves Board as one of a series designed to meet the current informational needs of Civil Defense Planning Agency representatives of State and local governments, and other citizens interested in the discussion and planning of civil defense.*

JOHN R. STEELMAN,  
Acting Chairman.

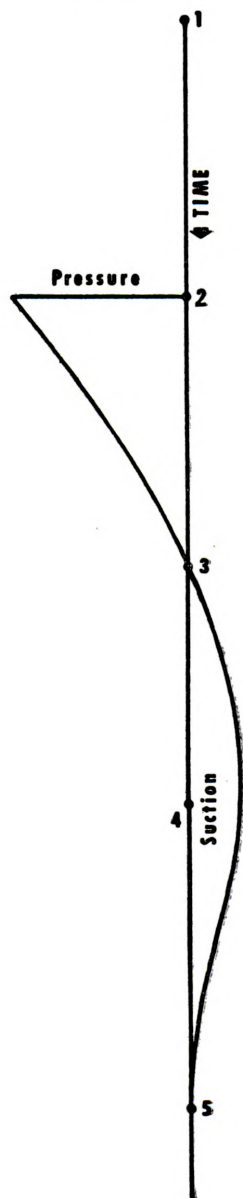
#### FOREWORD

This report assesses in general terms certain effects of atomic weapons. It deals particularly with the damage an air blast would cause to various types of structures and buildings, and building construction to resist these effects. A complete handbook on atomic weapon effects is under preparation by a board of editors organized by the Los Alamos Scientific Laboratory for the Department of Defense and the Atomic Energy Commission. The present report is taken from the material gathered for the comprehensive report on the effects of atomic weapons. This material is based primarily upon the material contributed by Sherwood B. Smith, Office of the Chief of Engineers, United States Army, and Curtis W. Lampson of the Ballistics Research Laboratory, Army Ordnance Department, with the invaluable technical assistance of many other specialists who have advised the Los Alamos Scientific Laboratory in evaluating the effects of atomic weapons.

Wind velocity (mph)	Duration (sec)	Overpres- sure (psi)	Miles	Feet	Damage
					Limit of light damage at 8 miles.
50	1.25	1.5	2.25	12,000	Light damage to window frames and doors, moderate plaster damage, complete window damage.
60	1.23	1.7	2.0	11,000	Flash charring of telegraph poles. Roof and wall covering on steel frame building damaged.
70	1.20	2.0	1.75	10,000	Partial damage to structures in area. Blind damage to majority of homes. Severe fire damage expected. Flash ignition of dry combustible materials.
80	1.15	2.4	1.50	9000	Heavy plaster damage. Moderate damage to area.
100	1.12	2.9	1.25	8000	Severe damage to homes, heavy damage to window frames and doors, foliage scorched by radiant heat.
125	1.06	3.6	1.0	7000	Structural damage to multistory brick buildings. Roof tiles bubbled (melted by heat).
160	0.98	5.2	0.75	6000	Severe damage to entire area. Severe structural damage to steel frame building. 9-inch brick walls moderately cracked. Electrical installations and trolley cars destroyed. Multistory brick building completely destroyed.
200	0.90	7.4	0.50	5000	12-inch brick walls severely cracked. Steel frame building destroyed (mass distortion of frame). Light concrete buildings collapsed.
270	0.77	10	0.25	4000	Reinforced concrete smoke stack with 8-inch walls overturned. 18-inch brick walls completely destroyed.
380	0.62	16	0.125	3000	Virtually complete destruction of all buildings, other than reinforced concrete aseismic design.
550	0.45	24	0.0625	2000	Limit of severe structural damage to earthquake-resistant reinforced concrete buildings. Reinforced concrete building collapsed, 10-inch walls, 6-inch floor. Mass distortion of heavy steel frame buildings. Loss of roofs and panels.
800	0.37	36	0.03125	1000	Decks of steel plate girder bridge shift laterally.
					0 Air Burst of an Atomic Bomb.



**PRESSURE-TIME RELATION  
OF BLAST WAVE STRIKING  
THE STRUCTURE**



**FIGURE 1.—The effect of a blast wave striking a structure.**

## I. DAMAGE FROM AIR BLAST

The large amount of energy released suddenly when an atomic bomb explodes in air appears in two major forms—*mechanical energy* transmitted to the surrounding air, and *radiant energy* (heat, gamma rays, nuclear particles, etc.).

The mechanical effect on the air arises from the sudden heating of the air to a very high temperature. This heated air, in its efforts to expand, exerts an outward force of great magnitude. The sudden expansion produces a compressive shock wave similar to that caused by the detonation of conventional explosives of equivalent explosive energy. This report assumes a nominal atomic bomb releasing energy equivalent to about 20,000 tons of TNT. Only the mechanical, blast effects of the bomb are considered. The first section is devoted to the behavior of the air shock wave and the damage it is capable of doing to various classes of structures. The second section deals with the problems of designing structures to withstand the blast effects.

*Characteristics of the air shock wave*

Figure 1 shows graphically certain important features of the air shock wave:

- a. An abrupt rise in pressure, which takes place immediately.
- b. A gradually decreasing pressure, lasting for about a second.
- c. A suction phase characterized by a decrease below normal atmospheric pressure which lasts for several seconds.

Associated with the abrupt rise of pressure in the first phase of the blast wave is an intense wind velocity which persists—but with diminishing velocity—throughout the pressure phase, blowing away from the point of detonation. This wind reverses its direction at the start of the suction phase, blowing with a lesser velocity in the direction opposite to its former course, but persisting for a longer period of time. The effect of these winds, in the case of long duration blast waves, is to produce a force on the structure for a relatively long time after the shock front has enveloped it and passed by. These various stages of the blast phenomena are illustrated in figure 1.

*The nature of blast effects on structures*

The general nature of the effect of a blast wave on a structure is that of a giant blow due to the sudden onset of pressure, followed by a more or less steady force on the structure directed away from the source of blast which lasts until the blast wave envelops the building. At this time a pressure builds up on the opposite side of the structure (exerted back toward the blast) and adds a net squeezing or compressional force to the over-all structure unless the pressure is relieved by the failure of doors and windows or other structural members.

The ability of a building to resist this rough treatment depends mainly, of course, upon its strength, to a lesser degree upon its shape, and upon the number of openings through the building which can serve to relieve the pressure on the outside walls. The strength, used in this sense, is a general term influenced by many factors, some of which are obvious and others not. The most obvious indicator of strength is massiveness of construction, but this is modified greatly by other factors not immediately visible to the eye, such as (a) the resilience and ductility of the frame, (b) the strength of beam and corner connections, (c) the redundancy or duplication of supports, and (d) the amount of diagonal bracing in the structure.

The strongest structures are heavily framed steel and reinforced concrete buildings, while the weakest are probably certain shed type commercial structures having light frames and long spans of unsupported beams. Certain types of lightly built residential construction also fall in this category, but well-constructed frame residences show good resistance to blast from ordinary bombs and presumably would also to blast from atomic bombs. The resistance to blast of brick structures in which the walls support a load is rather poor, due probably to lack of resilience and relatively poor strength of the connections put under stress when the blast-load is applied laterally to the building.

The effect of shape is not very pronounced in conventional structures which are generally of a rectangular plan form, but of course a long narrow structure will be more resistant to blast against the end than on the side. The shape effect is most pronounced in certain auxiliary parts of the structure such as smoke stacks which, because of the rapid equalization of pressure around them and their relatively low wind drag, are surprisingly resistant to blast; these frequently remain erect when the structures adjacent to them are leveled to the ground. On the other hand, flat surfaces such as windows in an extensive wall surface will have no rapid relief of pressure except by breakage and, having a short period of

vibration, will have a maximum of strain induced in them with a high probability of failure even at comparatively low blast pressures.

Recognizing that substantial variations in blast resistance will occur as a result of differences in building design and construction, it is nevertheless possible to draw significant conclusions from a table of expected damage versus distance, assuming that the strength of the structures approaches what may be termed an average value. Damage information given in table I was prepared largely from data acquired by exhaustive surveys of the damage at Nagasaki and Hiroshima. The numerical values are calculated. Differences from our own construction practices may produce some discrepancies, but it is not believed that they will be very significant. Certain of the Japanese structures were designed to be earthquake resistant, which probably made them stronger than their counterparts in this country; other construction was possibly lighter than our own. However, contrary to popular conceptions concerning the flimsy characteristics of Japanese residences, a group of highly qualified architects and engineers who surveyed the damage concluded that the resistance to blast of American residences in general would not be markedly different from that observed in these cities. Examination of table I indicates that for a nominal 20,000-ton TNT equivalent energy atomic bomb, the categories of damage together with their radii and areas will be as follows:

a. *Virtually complete destruction* will occur out to a radius of approximately one-half mile from the ground zero point when the bomb is exploded at about the optimum height (assumed 2,000 feet) to cause the maximum of destruction. This area of destruction will be approximately three-quarters of a square mile.

b. *Damage ranging from severe to destructive* will occur out to a radial distance slightly in excess of a mile from ground zero, which corresponds to an area of 4 square miles. Severe damage is defined as major structural damage resulting in collapse or liability to collapse of the building.

c. *Moderate to destructive damage* will occur out to a radius of about  $1\frac{1}{2}$  miles, corresponding to an area of 8 square miles. Moderate damage is defined as damage that is short of major structural damage but sufficient to render the structure unusable until repaired.

d. *Partial damage* will be inflicted out to a radius of approximately 2 miles. This adds 4 square miles of damage area, making a total of 12 square miles subject to some degree of damage more severe than plaster damage and window destruction.

e. *Light damage*, which is mostly plaster damage and window breakage, may extend out to a radius of 8 miles or more, encompassing an area of about 200 square miles. Actually these distances at which window and light plaster damage will be inflicted vary markedly with the meteorological conditions at the time of detonation. It is possible to have a "focusing effect" which can produce appreciable damage at quite remote distances. This effect would depend on a set of meteorological conditions which exist occasionally over extensive areas of the United States.

The distances and areas of the various classes of damage cited above are based on the nominal atomic bomb mentioned earlier. Larger bombs would cause greater damage, but a bomb of twice the size—40,000 tons TNT energy equivalence—would not double the area, but would increase it by about 60 percent. The radii of the various zones of damage would be increased by about 25 percent.

#### *Ground shock damage from an air burst*

The burst of an atomic bomb in the air at a height that gives maximum air blast damage exerts a fairly large reflected pressure, of the order of 25 to 50 pounds per square inch, on the ground directly underneath the point of burst. This pressure exists for a period of time equal to the duration of the blast wave itself, although the rate of dissipation with time would be more rapid.

Applying such a load suddenly to the ground surface causes it to act somewhat like a bowl of jelly does when a finger is placed rather gently but suddenly in the center. The surface waves radiating out from the center produce what is termed "ground roll," which in the case of an air burst is a rather minor oscillation of the surface sufficient to be felt but insufficient to cause any damage. However, the pressure acting on the earth's surface will be transmitted downward, with some attenuation, to any superficially buried object in the ground. These pressures might damage certain structures having shallow depths of burial, but air-raid shelters could be designed to withstand such pressure.

In general it can be said that the ground shock effects from an air bomb burst will probably be negligible at a distance, and even directly underneath the burst moderately strong underground structures will be undamaged.

Shallow burial may not be enough protection to prevent certain public utilities such as tile sewer pipes and drains from being damaged by earth shock, but metal piping would probably not be harmed except where it was exposed to disruption by damage to surrounding structures resulting from air blast.

*Structural factors which influence blast resistance*

The general effect of blast on structures varies with a number of factors—the distances from the explosion, the direction and vertical angle from the explosion, the shape and size of the structure, and the equalization of pressure by local failure such as window breakage.

#### EFFECTS OF BLASTS ON STRUCTURES

The preceding general discussion of blast phenomena will be useful in the more detailed consideration that follows of the effects on buildings, bridges, utilities, and housing. The probable effect of blast resulting from explosion of a nominal atomic bomb on various types of structures and utilities will be taken up in turn. Experience in Japan will be our primary guide but it is also necessary to consider structures of types that were not found in the blasted area and differences in construction practice which would affect comparative results in Japan and this country.

Very careful surveys were made of the areas affected by the atomic bomb in Japan. Small masonry buildings were engulfed by the oncoming pressure wave and collapsed completely. Light buildings and residences were completely demolished by blast and fire. Manufacturing buildings of steel construction were denuded of roofing and siding and only the twisted frames remained. Everything above ground at close range was destroyed, except reinforced concrete buildings and smoke stacks. Some buildings which, at a distance, appeared to be sound were found on closer inspection to be damaged and gutted by fire. Some buildings leaned away from ground zero as though struck by a hurricane of unusual violence.

There were many evidences of the effect of radiant heat in starting fires and in scorching and drying out materials that were not highly combustible. Telephone poles were charred and granite surfaces were etched by heat and by the sand blasting effects of the high winds carrying abrasive material. All vehicles at close range were damaged by blast and were burned out.

Many telephone poles were snapped off at ground level, carrying the wires down with them. Gas tanks were ruptured and collapsed and exposed gas mains across bridges were broken. Most important, water pressure was lost due to the break-up of pipes leading to buildings and houses and of mains across bridges. This breakage increased greatly the additional hazard of fires. The following paragraphs contain discussions of the details of this blast-inflicted damage.

*Multistory reinforced concrete frame buildings*

There were many building of this type in Hiroshima and a smaller number in Nagasaki. They varied in resistance to blast according to design and construction but generally suffered remarkably little damage, particularly those designed for resistance against earthquakes. After the severe earthquake of 1923 a code was established for all new construction to reduce earthquake damage. The height of buildings was limited to 100 feet and design for a lateral load of one-tenth the gravity load was required. In addition, the recognized principles of stiffening by diagonals and improved framing to provide continuity were specified. The more important buildings were well designed and constructed according to the code, but some were built without much regard for its requirements.

Close to the explosion, the vertical component of blast was more important than the lateral (sidewise), so that there was heavy damage caused by the downward force exerted on the roof. Depending upon its strength, the roof was pushed down and left sagging or failed completely. The remainder of the structure was less damaged than similar buildings at greater distances because of the lesser horizontal force.

At greater distances the lateral force was proportionately greater and produced these effects:

a. *Buckling and failure of the roof slab by lateral compression.*—This was apparently caused by the force applied to the side of the building which in turn was transferred to the roof, tending to push it back. Since the roof was restrained by connections to less affected portions of the building, it failed in compression.

b. *A similar failure in floor systems.*—Failure usually occurred in the bay between

the first row of interior columns and the affected wall. Buckling was usually upward.

*c. Cracking of concrete and overstressing of concrete and steel at haunches and connections.*—This effect was apparent in a large number of buildings and is readily explained by the tremendous lateral force applied.

*d. Failure of columns by shearing action.*—Columns in the first story were cracked diagonally. This was probably caused by the higher shearing force in the first story resulting from the lateral pressure on the building. Since these columns would receive a heavier lateral force than those above, it is quite natural that they would fail first.

*e. Failure of exterior walls.*—On the side toward the blast, walls were dished inward. The degree of such action depended upon the distance from ground zero, the strength of the wall, and the number of windows which, by breakage, assisted in equalizing pressure rapidly.

*f. Failure of floors.*—Floors were most affected by direct blast in those cases where pressure equalization was not possible. For example, the floors over enclosed basements were pushed downward when higher floors were undamaged.

*g. Miscellaneous effects.*—In addition to the above structural damage, there was heavy damage to false ceilings, plaster, and partitions. Such damage occurred in varying degrees out to a distance of 12,000 feet in Nagasaki. Glass window panes were blown out as far as 12,000 feet from ground zero. This type of damage is extremely important because of the large number of casualties caused by missiles and flying glass.

#### *Multistory steel frame buildings*

There was only one building of this type on record. This was in Nagasaki at a distance of 4,750 feet. The roof was dished 3 feet but the remainder of the frame was largely unaffected. The only part of the structure not classified as being of heavy construction was the roof, which was of thin concrete supported by unusually light steel trusses. The downward failure of the roof was the only structural damage in the building. Reinforced concrete buildings at the same distance were undamaged. However, it is difficult to draw any conclusion as to relative resistance of the two types.

#### *Steel industrial buildings*

In Nagasaki there were many steel buildings used for manufacturing; these were generally of the shed type, with some of the saw-tooth design. Roofs and siding were of corrugated sheet metal or asbestos cement. In some cases there were rails for heavy gantry cranes, but most cranes were of low capacity. Construction was generally comparable to that in the United States. The first effect of blast was to strip off the siding and roof material. Since this did not occur instantaneously, a large impulsive force was applied to the frame. Severe damage occurred up to a distance of 6,000 feet.

There were several types of failure of such structures. At close range the buildings were pushed over bodily, while at greater distances they were left leaning away from ground zero in many cases. The columns, being long and slender, offered little resistance to the lateral force. Sometimes columns failed by a combination of lateral force that caused flexure and, at the same time, an increased downward load from the vertical component of blast on the roof. This caused buckling and collapse. Roof trusses were buckled by compression resulting from blast on the exposed side of the building.

A difference was noticed in the effect on the frame depending upon whether a brittle material like asbestos-cement or a material of high tensile strength such as corrugated sheet iron was used for roof and siding. Asbestos-cement broke up more readily and transferred less force to the steel frame with less structural damage.

Fire produced heavy damage to unprotected steel members so that it was impossible to tell exactly what the blast effect had been. In general, the steel frames were badly distorted and would have been of little use even though siding and roofing material had been available for repairs.

#### *Other types of industrial structures*

Wood trusses were also used to support the roofs. These were more vulnerable to blast because of poor framing and connections and were readily burned out by fire. Concrete columns were used in some cases with steel roof trusses. The concrete columns were more resistant to buckling than the steel.

*Machine tools.*—Damage to machine tools was caused by debris, particularly in reinforced concrete sheds, by fire in wood frame structures, and in all cases by dis-

location and overturning caused by damage to the structure. In many cases the machine tools were belt driven, so that the distortion of the building pulled the machine tool off its base, damaging or overturning it.

*Stacks.*—Stacks are of special interest. Those of reinforced concrete were particularly resistant to blast. This can be accounted for by the shape and small cross section, which permitted the blast to equalize quickly, by their long periods of vibration, and by their inherent strength. Steel stacks stood up fairly well, but, being lighter in weight and subject to crushing, were not comparable to reinforced concrete. Well-constructed masonry stacks also withstood damage reasonably well.

#### *Building with load-bearing walls*

Smaller buildings of this type with light walls collapsed. Large buildings with cross walls and of somewhat heavier construction were more resistant but failed at distances up to 6,200 feet. Even when the building remained standing, cracks were observed at the junction of cross walls and side walls.

#### *Timber-Framed Buildings and Housing*

While the quality of the workmanship in wood buildings was high, little attention was paid to engineering principles. Mortise and tenon joints were weak points and connections in general were poor. Timbers were notched excessively or splices were put in improper locations. In general the construction was not well adapted to resist wracking or twisting action. Housing collapsed at Nagasaki up to a distance of 7,500 feet and there was structural damage up to a distance of 8,600 feet. Roofs, wall panels, and partitions were damaged out to a distance of 9,000 feet.

#### *Bridges*

There were a number of kinds of bridges exposed in Hiroshima and Nagasaki. Those of wood were burned in most cases but the steel girder bridges came through remarkably well. One was only 260 feet from ground zero. It was a girder type and had a reinforced concrete deck. There was no sign of any structural damage. The spans had apparently been deflected by the blast and had rebounded, causing a slight movement. Other bridges at greater distance suffered more lateral shifting. A reinforced concrete deck was lifted from the supporting steel girders of one bridge, presumably by force of the blast wave reflected from the water below.

#### *Utilities*

In Nagasaki the public utility system was comparable to that in an American city of 30,000 population, except that open sewers were used.

Damage to the water supply essential for firefighting was of the greatest significance. Except for one case, this was caused not by failure of the underground mains but by loss of pressure through breakage of pipes in houses and buildings. In one filled-in area, surface depressions up to 1 foot in depth were observed at scattered points as far as 2,000 feet from ground zero. This caused a series of failures of 12-inch cast iron water pipes 3 feet below ground. This breakage was probably caused by unequal vertical displacement. There was no serious damage to reservoirs and water treatment plants as they were located at too great a distance from ground zero.

Overhead utility poles were broken close to the ground by blast, and overhead utilities were heavily damaged at distances up to 10,000 feet. Underground electrical conduits were little affected. Switch gear and transformers were not damaged directly by blast but by secondary effects such as collapse of the structure in which they were located or by debris. Motors and generators were damaged by fire.

Gas tanks were heavily damaged by blast at 6,600 feet; the escaping gas was ignited but there was no explosion. Gas mains suffered no observable damage except where exposed over bridges. Street railway equipment was heavily damaged by fire and blast. Buses and automobiles in general were damaged by blast, and were burned out at shorter distances. As an example, an American-made car was heavily damaged and burned at 3,000 feet while one at 6,000 suffered only minor damage.

#### *Shelters*

Caves were used for shelter to a large extent, but there were many timber, semiburied shelters with earth cover. The semiburied shelters were not particularly well built, but in some cases they withstood the blast at a distance of 900 feet from ground zero and none was damaged beyond one-half mile.

## DISCUSSION OF PROPARLE EFFECTS IN THE UNITED STATES

While the structural effects observed in Japan are comparable in general to what would be expected in this country, some differences are worthy of discussion. Studies of the resistance of small bridges in Japan to atomic blast gives no direct guide to the question of the larger bridges in many American cities.

*Reinforced concrete frame buildings*

In Japan, reinforced concrete buildings of earthquake-resistant design withstood blast quite well. These buildings were designed for a lateral force equal to 10 percent of the vertical load. When lateral pressure tends to displace the top of the building with respect to the foundation the resulting action is roughly the same as if earthquake forces moved the foundation against the inertial resistance of the structure.

Our multistory buildings in this country are generally designed to withstand wind load only. Therefore our reinforced concrete buildings would be generally less resistant to collapse than those designed for earthquake resistance in Japan. In the 11 Western States of this country, the building codes provide for the design of structures to resist horizontal earthquake forces varying from 2 to 16 percent of the vertical load, which is usually taken as dead weight plus half the vertical design live load. Of the earthquake zones the Pacific coast area has the highest requirements. The earthquake design requirements as stipulated in the building codes are similar to those for wind loads, but call for a 33-percent increase in the allowable working stresses. These buildings would be proportionately more resistant as the percentage of horizontal to vertical design load increases.

*Steel-frame buildings*

The effect on steel-frame buildings, such as multiple storied office and hospital structures, should be approximately the same as that on reinforced-concrete. Tall buildings having heavy steel frames and a long period of vibration should withstand the effect of blast very well.

*Industrial type buildings*

Our steel industrial buildings would probably fare no better than those in Japan. The saw-tooth roofs designed as rigid frames would be especially vulnerable to blast damage.

*Housing*

Tests made on typical housing of wood frame construction with conventional bombs up to 500 pounds, and at various distances, indicate a high degree of resistance against blast beyond 30 feet. While no direct interpretation of these results can be made with regard to the blast from a large explosion which would have quite different characteristics, it is believed that the radius of material structural blast damage from a nominal atomic bomb burst would not exceed 7,500 feet. This is slightly less than the extreme radius in Nagasaki, where severe damage to houses extended in some cases to a distance of 8,500 feet.

*Bridges*

In Japan, bridges withstood vertical blast loads very well, and there is no reason to believe that all bridges would not behave in a similar fashion. Lateral loads, even if excessive, would affect the less important structural members of the bridge. The actual lateral loads are difficult to calculate. We are dealing with blast wind velocities that may approach that of sound. It is clear, however, that in this case only the drag pressure will be of great importance, and there will be relatively small effect from the shock wave blast because of the comparatively small size of the members. Wind tunnel tests would be necessary to provide accurate data on drag coefficients.

## II. PROTECTIVE CONSTRUCTION

In planning protective construction, it is reasonable to assume that any prospective enemy would attempt first to destroy our ability to wage war by attacking selected vital facilities. In such an attack the enemy would attempt to do the greatest possible damage with the bombs available and the force he has to deliver them. Conversely, the primary objective from the standpoint of protective construction is to make it as difficult as possible to reduce our war potential. If we could make the enemy expend more effort to produce the same damage, it should be an important factor in the outcome of any future war. In fact, by making our country less vulnerable, we increase our military strength.

With the above general objective in view, this section indicates measures of protection that can be provided by site planning, design of new structures, and modification of existing structures. The effects of the atomic bomb discussed in section I provide a good basis for indicating protective requirements. Of primary interest to the architect and engineer are air blast, earth shock, prompt ionizing radiation, and radiant heat. There is a great deal that can be done to minimize the damage resulting from these phenomena.

New construction affords the best opportunity for the inclusion of measures of protective construction at minimum cost. Location is probably the primary consideration, involving both the existing target value of the surrounding area and the new plant. If the facilities being planned are important to the war potential, they may be dispersed so as to reduce their attractiveness as targets.

Also, it is possible to make structures more resistant to blast, ground shock, and fire, and thus increase the protection afforded to personnel and equipment. For example, blast effect is reduced by strengthening structures, particularly against lateral and downward blast forces, and avoiding types and materials of construction that would be hazardous to occupants when buildings are subjected to violent forces.

Fire hazard is reduced by site planning for new construction; by use of fire-resistant construction; by avoiding exposed inflammable materials which might be ignited by radiant heat; and by insuring adequate means of fighting fires.

New facilities might be placed underground in an existing mine or a site excavated in rock for the purpose. This provides a high degree of protection and the cost is not unreasonable, particularly when an existing mine is used. Studies of European experience and possibilities in this country indicate that for the most vital industrial facilities underground construction is entirely practical. Also, control facilities for civil defense could be placed underground to good advantage.

The effectiveness of various combinations of the above measures may depend upon the particular situation. Therefore it is necessary to evaluate the hazard, the importance of the facility, and the cost of protective measures to decide on the measures to be used. Furthermore, it is necessary to consider the broad problem including civil defense. An atomic bomb explosion will affect a large portion of a city, so that protection of any facility is inevitably linked with that of the community in which it is located. Disaster control is vital, and protective construction measures must insure that services essential for control, rescue, and limitation of fire damage will remain available.

#### PROTECTIVE MEASURES

With the above general introduction the separate measures that may be employed will be discussed in greater detail. These relate to the broad field of protective construction as applied to industry, city planning, and civil defense. Specific examples are given to indicate what is possible. In general it is assumed that damage within a radius of one-half mile would be so severe as to make protection of above-ground facilities impractical within that area.

It is important to bear in mind that the statements made here concerning types of protective measures that might be employed are simply statements of physical fact. Applying some of these measures, such as dispersion, means far-reaching decisions of policy that will affect many people and communities. This discussion does not go into the policy questions which are outside the scope of this paper.

##### *Dispersion*

Dispersion is of primary importance in planning rescue and damage control services in a city. Constant effective control is vital in carrying out rescue operations and limiting fire damage. It may well be that control centers must be located centrally in which case structural protection of the centers would be desirable. However, it appears entirely feasible to have control centers at two or more locations at least 3 miles from the probable target area and thus obtain reasonable assurance that control can be maintained. Control requires adequate and uninterrupted communication with field units to obtain information on casualties and damage, and to direct relief efforts. Since a major disaster may destroy all normal communications facilities, the control center should be able to broadcast from a self-contained power unit.

##### *Duplication*

The provision of duplicate services on a stand-by basis is another principle of protective construction. For example, a separate connection to a second power source might be provided and thus duplicate incoming power lines serving a

manufacturing plant. To be effective, the lines should be separated as far as possible. It is rarely practicable, however, to have complete duplication. In many cases, it is possible to provide greater assurance of continued operations by partial duplication. For example, there might be a primary control center, complete with all necessary communications and a secondary control center so equipped that it would serve as a primary center in case of damage to the regular primary center. It is quite possible that the extra space and communications over and above that needed for use as a secondary station could be provided at reasonable expense.

Duplication of water supply to the fringes of various areas in a city, assuming loss of pressure in those areas, will be desirable. Similarly, increasing the fire-fighting force and facilities in suburbs of a large industrial city to assure better protection of the city itself might be considered a form of duplication.

#### METHODS OF REDUCING BLAST HAZARDS IN BUILDING

The most serious danger to persons and equipment in a building is from total collapse. Design to reduce danger of collapse is discussed in the latter part of this section. From an over-all viewpoint, the more important consideration is to reduce the hazard to persons who are in buildings that are able to resist collapse but would be damaged to some extent. A well-attached, reinforced concrete shell on a frame of either steel or reinforced concrete will provide a high degree of protection to persons both inside and outside the building, whereas a lightly attached wall of concrete blocks or bricks will provide almost no protection inside the building and will provide missiles both inside and out. Avoiding danger of injury from flying glass, displaced equipment, falling fixtures, and false ceilings is particularly important.

Flying glass is a serious hazard that should be considered in design. Measures used in protection against conventional bombs, such as muslin glued or pasted over the surface of the glass and frame, would have little value as the long duration of an atomic blast would cause the glass to be blown out anyway. Tentatively, wire glass plus half-inch-mesh wire screening, securely nailed to the frame, may afford a partial measure of protection. This would not cut off light appreciably and would stop the larger, more dangerous pieces of flying glass. Another possible measure would be the use of plastic substitutes for glass.

Consideration should be given to the possible hazard from fixtures and heavier ornamental plaster or other interior treatment that might be thrown down by the blast or wracking action on the building. The safest procedure would be to remove any hazardous item. If this is not fully practicable, such partial safeguards should be provided as may be feasible.

Blast walls of the type provided to localize damage from ordinary bombs will be helpful in reducing injury from flying missiles and will afford some protection against atomic blast. Similarly, walls around transformers and other equipment will be effective in reducing damage. These walls should be of reinforced concrete 12 inches thick and should be made resistant to overturning. This may be accomplished by use of counterforts, providing a wide base, or by use of steel beams incorporated into the wall and extending into the ground. The last method is preferred.

In an industrial plant, there may be requirements for protected areas—for essential control or first-aid facilities—that will provide reasonable safety against blast and radiation injury at a distance of one-half mile from ground zero. A total thickness of about 21 inches of concrete will be required to protect against serious prompt radiation injury at one-half mile. If a first-aid room is to be provided in a steel mill-type factory building, for example, it should be of reinforced concrete of that thickness. Consideration in design should be given to possible debris load, blast pressure, and wracking action. Locations where heavy debris loads might come on the first-aid room should be avoided. In framed structures the roof of the room should be designed for a static load of 500 pounds per square foot to resist debris loads and blast. Walls of the shelter should be designed for a static load of 500 pounds per square foot to protect against blast. There should be no windows, and doors should be designed for the same pressure as the walls. There should be at least two means of exit. Fillets at the corners with diagonal bars to resist wracking action are recommended. Water storage, emergency rations, and emergency lighting will be desirable.

In a city, a protected area on one of the lower floors of a fireproof, well-constructed, reinforced-concrete or steel-frame building might offer the best possibility for a control or first-aid room. The building should be either in a

group of fireproof buildings or isolated from other buildings to avoid hazard of a general conflagration. An effective degree of blast protection within such a building could be provided by enclosing a properly located area with a 12-inch reinforced-concrete wall, anchored to the floor to prevent displacement and braced or secured at the top to prevent overturning. It is believed, in this case, that the blast pressure inside the building would be considerably reduced and that a 12-inch thick wall would be adequate at a distance of one-half mile. It is assumed here that the exterior walls of the building would have a protective value against prompt radiation equivalent to 9 inches of concrete, which together with the special area wall, would provide a total effective thickness of 21 inches.

#### *Underground construction*

Vital installations may be put underground in an existing mine or newly excavated site, to obtain a high degree of protection against the atomic bomb. Studies recently completed indicate that there are no serious difficulties in constructing and operating underground manufacturing plants. When noxious fumes or large amounts of heat are produced, the capacity of the air-conditioning equipment must, of course, be adequate, which will add to the cost; but for certain types of manufacturing there is only a small difference in the cost whether the plant is built above ground or below ground in an existing mine. Estimates are that there are approximately 320 million square feet of floor space available in mines of suitable type in the United States. Many of these are within reasonable distance of transportation and labor supply. Construction in a suitable geologic formation would be more costly but by no means prohibitive.

There may be tunnels or caves near cities that can be used for control centers, emergency operating rooms, or for storage of medical supplies. They must be in good condition and in a suitably stable geologic formation. The entrance doors must be protected against blast by barricades (walls in front of doors to reduce blast effect) and should be of heavy steel construction.

#### *Heavy concrete construction*

Military requirements exist for heavy concrete structures that will afford protection against direct hits of high-explosive bombs and which will provide protection against the atomic bomb except at extremely close range. Such structures would be of little use in an area where large-scale fires might occur which would render them untenable, or where they might become isolated by damage to communications. There is serious question as to the justification for such construction in a city, that is, heavy enough to withstand a very close atomic-bomb explosion, but it may be required for vital facilities in vulnerable areas where underground construction is not feasible.

#### *Design of buildings to resist blast effects of the atomic bomb*

If buildings must be constructed in possible target areas for atomic-bomb attack, prudence dictates that they be designed so as to increase the safety of occupants and offer the greatest practicable resistance to collapse and damage. Target areas are defined generally in the NSRB publication, *National Security Factors in Industrial Location*. A general evaluation of the importance of industry or other activity in war should provide additional guidance as to vital targets. Any building to be constructed within 3 miles of any such vital target should be considered as in the target area. In determining the degree of protection to be provided, the location of the building within this area should be considered.

Considerable study is being given to the problem of blast-resistant design by the Department of Defense and educational institutions. There remains, however, a great deal to be done before satisfactory design procedures can be established. Therefore more detailed discussion would have little value at this time.

#### RECOMMENDATIONS ON CONSTRUCTION

For the present the following tentative recommendations are made: *Multistory reinforced-concrete or steel-frame building*.—It is suggested that the designer assume a horizontal wind component of 90 pounds per square foot and a vertical component of 70 pounds per square foot for protection against structural collapse from an atomic bomb releasing energy equivalent to 20,000 tons of TNT, exploding at a horizontal distance of one-half mile and a height of approximately 2,000 feet. It is also suggested that buildings and their component parts be designed employing the methods, allowable stresses, and details employed in wind- or earthquake-resistant design. For greater distances, it is recommended that the designer re-

duce the pressure in proportion to reduction in peak pressure indicated in table I, allowing for the change in vertical angle.

The above recommendations are based on the experience in Japan for this type of building limited to 100 feet in height. Wind load is believed to be the best basis for design to resist blast. Design for a 90-pound horizontal-component wind load compares roughly with an earthquake-resistant design for a lateral force equal to 10 percent of the weight. Since earthquake-resistant buildings suffered no damage to the frame at 2,000 feet and beyond in Nagasaki, this appears to be reasonable.

*Smaller reinforced-concrete buildings.*—Design for same pressures prescribed for multistory buildings as monolithic structures employing principles of earthquake-resistant design.

*Steel mill buildings.*—Design for horizontal component of wind pressure of 90 pounds per square foot and vertical component of 70 pounds per square foot for resistance of frame at horizontal distance of one-half mile and height of explosion of 2,000 feet. This assumes that failure of corrugated metal or asbestos-cement siding and roofing will reduce the load on frame, thus compensating for the lighter weight. Use of a material such as asbestos-cement which will break up more readily than corrugated metal will contribute to reduction in load on frames and reduce injuries and damage from pieces of siding or roofing that strike occupants and equipment.

#### *General considerations in structural design of buildings to resist blast*

Rigidity, redundancy, and ductility are important factors affecting resistance of buildings to blast. All of these increase resistance but it is now necessary to suggest design methods for improving resistance in these respects. Stability is also a factor, but in the usual case will be less important. The stresses produced by overturning effect should be considered in all cases, however.

*Rigidity.*—It is believed that the general solution of the problem of designing a building to resist high lateral and downward pressures is to provide additional resisting elements, such as transverse shear walls, lateral beams, and deep lateral trusses, and to design concrete floors and roofs to transmit the lateral forces to shear walls. In bending caused by frame action, the conventional use of the column as the resisting elements is unsatisfactory for high lateral forces. The establishment of design requirements for a static wind load is largely arbitrary and is useful in providing a design criterion. It will be beneficial to include any design feature that will provide greater strength where cost is not materially increased. It will also be found that limiting the height of buildings is desirable in order to avoid high lateral stresses.

*Redundancy.*—In the sense used here, redundancy is the quality of a structure to resist damage when certain members fail, by bringing into play other structural elements. Suppose, for example, that first-story columns were damaged by shearing action but that there were reinforced-concrete walls that would help support the load from above. The walls may be damaged too, but they may continue to support the second floor of the building. In a Manila public building several columns in a row in the first story were destroyed by artillery fire. The second floor sagged slightly but the damaged portion was bridged by the undamaged structure above. In general, reinforced-concrete structures have this quality. No absolute guide can be laid down for design, but a study of probable points of failure and possible support that might be provided by adjacent portions of the building should indicate to the designer both possible and practical means of adding to the blast-resistant quality of the building.

*Ductility.*—Ductility in a building material refers to its quality of yielding gradually under stress, or of undergoing deformation before failing. Usually a ductile material would deform to a greater extent within the elastic limit under the same load than one that is less ductile. In that sense a requirement for ductility is not consistent with rigidity. Nevertheless, ductility is an important consideration in resisting collapse. When the elastic limit of a ductile material such as steel is exceeded, considerable yield results before failure occurs. On the other hand a brittle material such as concrete would yield only to a limited extent before failing.

Tests have shown that for blast resistance purposes a structural-grade steel is much better for reinforcement than a hard-grade. When a reinforced-concrete structure is subjected to heavy blast forces and damage occurs, the softer steel may elongate or deform without failure where the hard-grade steel snaps. More energy is absorbed in the plastic range by the structural-grade steel. Accordingly, the use of a structural-grade reinforcing steel is recommended. In the usual case such a selection will have little effect on rigidity.

### *Bridges*

Since most of the bridges exposed in Japan were small in size there is little indication of what would happen to the larger bridges of varying types found in the United States. It is recommended that bridges be analyzed dynamically. For chord members or suspension cables, drag force would receive primary consideration. The vertical component of blast on the deck could be serious, but bridges are designed for vertical load. Stressing of cross-bracing by the lateral component of the blast force would probably not be critical.

### *Strengthening existing structures and reducing hazards*

This is a much more difficult problem than that of incorporating necessary measures in design. It will be necessary to analyze the structure, find weak points and then determine the best method of strengthening. It is believed that adding bracing and shoring of new transverse reinforced concrete walls will, in most buildings, be more feasible than strengthening the frame. Removal of portions of interior construction and fixtures likely to injure personnel or provision of adequate safeguards must be considered. Also overhanging cornices, finials, etc., on the outside, will be a hazard to passers-by, and their removal would be worth while. One very simple requirement is for the provision of materials for replacement of roofing and siding of steel mill buildings, closure of window openings, and other measures to protect against the weather.

### *Fire protection*

Fires are started by radiant heat and by secondary effects such as overturning of stoves and rupture of gas pipes. Fire-resistant construction and avoidance of fabrics and other light material of inflammable character are essential to reduce fire damage. The possible disruption of water supply and the tremendous demand for fire-fighting services in time of disaster must be kept in mind.

All of the proved methods of design to reduce fire damage are fully applicable in plans to minimize the effect of atomic bomb. Extreme fire-protective measures are indicated under certain conditions. The value of protection of steel columns and other steel members from fire is emphasized by the distortion of exposed structural steel frames in Japan. Narrow fire breaks in Japan were of little use. Fire breaks which may be provided in city planning, or by demolition once fires have started, must be adequate for a major conflagration.

The provision of an adequate water supply is probably the most important single element in control of fires. In Nagasaki, it was estimated that almost immediately after the detonation, fires were started in dwellings within a radius of 3,000 feet from ground zero. Beyond this distance, fires were caused largely by spread; nearly all fires were secondary. The water pressure was only 30 pounds per square inch at the time of the explosion and because of breaks in mains and house service lines, soon dropped to 10 pounds and on the following day was zero.

The experience at Nagasaki gives some idea of the area immediately affected and that in which some control may be possible. As indicated earlier, there are certain areas of most big cities that would contain probable targets. The enemy would probably want to damage facilities or plants most important to the war effort. However, there would be no assurance that the explosion might not occur at some other point because of errors by the attacking force. A reasonable approach would be to study the map of the city and make various assumptions as to areas in which large scale fires might be started by an atomic bomb with loss of water supply occurring in the same area. The objective would be to provide for the localization of the loss of pressure and water in order to assure adequate pressure and supply for firefighting in fringe areas.

Storage tanks for local supply would be of value in stopping incipient and local fires, but would probably have limited value in large-scale fire-fighting operations. Their installation should be considered where appropriate, particularly for manufacturing plants.

Assurance of adequate firefighting services is a separate problem. Within the scope of this section, it is only necessary to emphasize the desirability of locating a sufficient number of fire stations on the outskirts of the city, as well dispersed as possible. Joint fire defense planning among cities is highly desirable but, to be effective, mutual aid between cities requires standardization of hose couplings or use of adaptors.

## SHELTERS

Considerations involved in the provision of shelters are (a) warning to be expected, (b) time required for persons to reach shelters, (c) number of persons to a shelter, (d) period of occupancy, (e) degree of protection to be afforded.

If there is little warning, shelter must be found, in general, close to the place of work. In our large cities, an extremely large number of persons are concentrated in buildings that cannot be evacuated rapidly. The use of shelter areas in buildings therefore appears to be the most feasible scheme unless adequate warning can be assured. Even with adequate warning the practical problem of finding a place for shelters in a congested city would be difficult.

Plans for locating shelter areas in buildings should be given first priority. Principles involved are briefly as follows: First, select fireproof reinforced-concrete or steel-frame buildings that are resistant to collapse; next, find areas that offer acceptable protection against blast, radiation, flying glass, and debris. These areas will be found usually on the lower floors and in halls or the interior portion of the building. Avoid secondary hazards such as that from falling plaster or fixtures and inflammable materials. At least two means of exit are essential for safety. Since general evacuation will probably be necessary, an important requirement is a means of leaving the building without depending on elevators, which might be inoperative.

With regard to details of protection, table I indicates the blast pressure to be expected in the open. The reduction in pressure to be expected inside a building must be largely an estimate. The amount of glass and strength of intervening partitions would be factors. Around the shelter area, a 12-inch-thick reinforced-concrete wall well tied into the outer structure would, in most cases, be adequate to resist blast at a distance of one-half mile.

Basements of homes would offer reasonable protection against distant detonation. However, care must be taken to provide escapes to be used in case the house above catches on fire.

Outside shelters should, in the usual case, be built to resist the full effects of a near miss of a high explosive bomb and the blast effects from a nominal atomic bomb at a reasonable distance, say one-half mile. They should be located well clear of buildings to avoid hazard from debris and fire. A buried or semi-buried shelter will usually be the best choice (for protection from an *air burst*) as blast effect will be less than that on a surface shelter. Reinforced concrete is a good construction material and can be made strong enough to resist the forces involved. Alternatively, for a well-buried shelter corrugated sheet iron of the type used in culverts has strength and is capable of a high degree of distortion without failure. Wood is also suitable but less permanent.

Tentatively, shelters may be designed for a static load of 500 pounds per square foot with usual design stresses. This should provide protection against blast at one-half mile from ground zero if an earth cover of at least 2 feet is provided. This cover is necessary for protection against ionizing radiation; it also adds appreciably to the blast resistance. Dead load should be figured separately. Adequate drainage should be provided. The shelter should be capable of being closed up so as to be air tight. Doors should also be blast resistant and designed for static pressure of 500 pounds per square foot, and should close tightly against seals in the frame. A ramp entrance is preferred to one with steps. At least two means of exit are essential.

Shelters vary in capacity, and the equipment that can be provided will be more extensive in a large shelter than a small one. Generally, the following should be considered in design.

**Ventilation**

Mechanical ventilating system.

Hand-powered ventilating system if no power available.

**General**

Telephone between inside and outside of shelter.

Lights—battery operated.

Light system if power is provided.

Power plant with separate gasoline or Diesel drive, located in separate part of shelter accessible to outside air with operating switches in closed portion of shelter.

Benches.

Bunks were justified.

Chemical toilets.

Drinking water.

Emergency rations.

First-aid equipment.

Blankets.

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# **CIVIL DEFENSE AGAINST ATOMIC ATTACK**

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## **HEARING**

**BEFORE THE**

**JOINT COMMITTEE ON ATOMIC ENERGY**

**CONGRESS OF THE UNITED STATES**

**EIGHTY-FIRST CONGRESS**

**SECOND SESSION**

**ON**

**CIVIL DEFENSE AGAINST ATOMIC ATTACK**

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**PART 3**

**MARCH 17, 1950**

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**Printed for the use of the Joint Committee on Atomic Energy**



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# CIVIL DEFENSE AGAINST ATOMIC ATTACK

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FRIDAY, MARCH 17, 1950

CONGRESS OF THE UNITED STATES,  
JOINT COMMITTEE ON ATOMIC ENERGY,  
*Washington, D. C.*

The joint committee met at 10:30 a. m., pursuant to call, in the caucus room of the Senate Office Building, Senator Brien McMahon (chairman), presiding.

Present: Senators McMahon (chairman), Connally, Tydings, Hickenlooper, Knowland, and Bricker; and Representatives Holifield, Price, and Elston.

The CHAIRMAN. The joint committee will be in order.

Before we hear from the Commission, I would like to say that this is the first in a series of hearings regarding the state of our civilian defenses as it pertains to atomic attack.

I personally have great faith and hope that any set-up that we have will never be made use of. We must realize, however, that we are spending some \$15,000,000,000 a year on our Military Establishment, and we are spending it for the purpose of protecting this country. It therefore would seem only right and sensible that we examine into the state of the plans for the protection of our civilians, at least as far as we can, in the atomic field.

The people of the United States are not aggressively minded, but past history has shown they can be very aggressive when they are attacked. If we should be in the future, we will, I am sure, give a good account of ourselves. We will also give a good account of ourselves on the home front, if that should become necessary.

I have asked the Atomic Energy Commission to come and present their views, which I might say are being presented after extensive executive hearings. The matters that will be presented here have been carefully screened, and they are designed for the information and help of the citizens of the United States, and not for aid and assistance to anybody else.

In our executive hearings we have heard from the Commission, from General Bradley, and from the National Security Resources Board representatives. The staff has made a rather complete study of the civil defense plans of other countries, and we have a joint committee print of preliminary data on that subject.

Now, Commissioner, with that introduction, will you come forward, please?

## STATEMENT OF GORDON E. DEAN, COMMISSIONER, UNITED STATES ATOMIC ENERGY COMMISSION

Commissioner DEAN. Mr. Chairman and members of the committee, it will be our purpose this morning to explain to you first, rather briefly, the role of the Atomic Energy Commission in this field of civil defense. We will go on beyond that with additional witnesses to convey to the committee some of the knowledge which has been developed inside the Commission which pertains to this subject.

I have prepared a brief opening statement here which I should like to offer for the record, not with a view to having it printed, necessarily, because I will paraphrase it in my remarks.

(The statement follows:)

### STATEMENT PREPARED BY GORDON E. DEAN, COMMISSIONER, UNITED STATES ATOMIC ENERGY COMMISSION

As you know, the President last spring gave the National Security Resources Board primary responsibility for civil defense planning. The Board, in turn, has been in touch with various agencies of the Government, including the Atomic Energy Commission, and it has indicated what our role shall be.

In an exchange of correspondence of last July it was agreed by us and by the NSRB that "the Commission's role in civil defense planning will be in large measure one of supplying information to other agencies with primary responsibility for civil defense planning."

As we conceive our role, it is to supply to the NSRB—because we are the people who presumably know most about it—the information on atomic energy which we have inside our organization and which might be useful to the NSRB in planning for civil defense against atomic warfare.

The Commission and the NSRB agree that the Commission should not have any planning or operating function in the field of civil defense. For example, the NSRB does not expect us to perform or plan for such typically civil defense functions as the administration of emergency medical aid, fire fighting, or area evacuation, or, except as provided through stopgap emergency arrangements, the monitoring of an area contaminated by the explosion of an atomic bomb.

I would also like to emphasize that we are not the experts on such questions as what would be the most logical targets within the United States to defend against atomic attack, or whether, when, or how the dispersal of industries or cities should be carried out.

Our job, then, is to supply the information that we have on atomic energy to the people who make the decisions and carry on operating functions in the field of civil defense. I would like to say at this point that we are acutely aware of the value of the information we hold to civil defense authorities, and of our responsibility to supply as full a measure as possible of the information relating to atomic energy that is essential to the proper handling of civil defense functions. At the same time, however, the Commission must always be aware of the equally important need to keep restrictions on certain information in the interests of the national defense and security. The task of striking a proper balance between these two important considerations is a difficult and delicate one.

In this connection, we have declassified about 150 documents out of some 400 that we have in our organization which we believe would be useful in civil defense planning. These documents have been made available to the NSRB.

We are also preparing, together with the Department of Defense, a Weapons Effects Handbook, about which we have reported to you in the past. Progress on this has been slow, partly due to the need of first preparing a classified draft and then determining how much of it can be declassified. Because of this, we decided a few months ago not to wait for the handbook but to get out the most useful information that could be made public at the moment.

As a result, we have prepared three studies which have been supplied to the NSRB and reproduced and distributed by them. One—a very short one—had to do with the effects of an atomic explosion on the city of Washington. The others, both prepared by us jointly with the Department of Defense, are called Medical Aspects of Atomic Weapons, and Damage from Atomic Explosion and Design of Protective Structures. The first describes the injuries caused by atomic

bombs, the effects of radiation and the nature of residual radiological contamination. The second deals with the damage an air blast from an atomic bomb would cause to various types of structures and buildings, and how buildings may be constructed to resist these effects.

There is also presently being prepared for submission to the NSRB a study, titled "Radiation Detection Instruments," which describes the operational characteristics of the portable instruments now being used by radiation monitoring specialists in the atomic energy program. One of the principal needs of civil defense monitors will be a simple, rugged, easily operated radiation monitoring instrument that can be used by people without advanced training in this field. We have recently made some progress in the development of such an instrument.

At the request of the NSRB, we are also engaging in some training activities, which we feel is another especially good way to get the information held by people within our organization out into the hands of those who will instruct the people required in civil defense work.

We have conceived our purpose in connection with our training work to be this: That we should not go out and train people in all of the States, but we should train instructors from the States who can in turn go out and train people in their own areas under the direction of their own local civil defense authorities. We have accordingly established training courses at a number of conveniently located laboratories for doctors and radiological monitoring experts.

I have with me here Dr. Shields Warren, Director of our Division of Biology and Medicine, who is prepared to tell you about these training courses, and also about those features of our medical research program which have a civilian defense application.

Also here, are Mr. John A. Derry, executive officer of the Biology and Medicine Division, who will describe our program for the development and use of radiation detection instruments, and Mr. Harry L. Bowman, a consultant to the Biology and Medicine Division, who will discuss the effects of atomic explosions on structures.

These gentlemen have been given primary responsibility within the Commission for liaison with the NSRB and other Government agencies on civil defense planning matters.

Commissioner DEAN. As you know, the President last spring gave to the National Security Resources Board the primary responsibility for civil defense planning. The Board, in turn, has been in touch with the various Federal agencies that might have some contribution to make to the subject, and included among those agencies has been the Atomic Energy Commission.

The NSRB, as the National Security Resources Board is commonly known, assigned to us a role. That was done last spring following their designation as the agency of primary responsibility by the President.

As we conceive our role, it is to supply information to the NSRB—because presumably we are the ones that have the most information on this subject, that is, information concerning the effects of atomic explosion.

The Commission and the NSRB agree that the Commission should not have any planning or operating responsibility; that we are simply dispensers of information on the effect of atomic explosions. For example, the NSRB does not expect us to perform or plan for such typically civil defense functions as the administration of emergency medical aid, fire fighting, or area evacuation, or, except as provided through certain emergency arrangements which we will deal with later, it does not expect us to even monitor areas where there has been an atomic explosion.

I would also like to emphasize that we are not experts on such questions as what would be the most logical targets within the United States for an enemy to hit, or whether and to what extent there should be dispersal within this country.

Our job, then, is to supply information we have on atomic energy to the people who make the decisions and carry on the operating functions in the field of civil defense.

The CHAIRMAN. Mr. Dean, at that point could you tell us, while I realize it is not directly within your own scope, what other agencies have been asked to report to the NSRB, with a general explanation of their duties?

Commissioner DEAN. I am probably not the best witness on this subject. It is a long list of Government agencies.

The CHAIRMAN. Suppose you give us two or three examples.

Commissioner DEAN. One example would be the Federal Works Agency. Another would be, of course, liaison with the Defense Establishment. Another would be the United States Public Health Service. There are probably 15 or 20 agencies that would be included in the list.

The CHAIRMAN. And the Interstate Commerce Commission on communications?

Commissioner DEAN. I believe so. I am trying to find the list, because I believe there was one published by the NSRB.

I do not happen to have it before me.

The CHAIRMAN. What I am trying to bring out, in other words, right at the beginning, is that your agency is in a comparable position with some of the other agencies with regard to your peculiar field and their peculiar field. You send to the NSRB the information upon which they can base their planning, and so do 15 or 20 other departments of the Government.

Commissioner DEAN. I might name a few of these. I now have a chart before me. This is in the printed booklet prepared by the staff of the joint committee, at page 7.

You will note that under the column "Other Federal agencies and departments," the Atomic Energy Commission is listed first, and I think it is well that I read the description there:

Technical advice and assistance—Radiological defense schools.

Then it passes on to the Federal Security Agency, which is in charge of health and medical programs and plans.

Third, the Department of Commerce, Bureau of Public Roads—Plans and programs for highway use.

Fourth, the Department of the Interior, Bureau of Mines—Plans for heavy rescue activities.

Fifth, Housing and Home Finance Agency, which is responsible for plans and programs for emergency housing.

And there are other miscellaneous agencies.

I would say that those were the primary agencies with whom the NSRB is in touch.

Senator TYDINGS. I think the record ought to also show that the Interstate Commerce Commission and the Federal Communications Commission and the Maritime Commission, as well as the armed services—I will leave those out for the moment—and the Attorney General's office, the FBI, all of those various agencies have some facet in this very multiple thing that we call defense in its entirety.

Commissioner DEAN. That is quite true.

I would like to say at this point that we are acutely aware of the value of the information that we have, and of our responsibility to

supply that information to the proper agencies of government. I do not have to suggest, certainly, to this joint committee, because you are quite familiar with it, that we must also be aware of the equally important need to keep restrictions on certain information, in the interests of national defense and security. The chairman has already indicated that emphasis.

In this connection, that is, the dissemination of information to the NSRB, we have already declassified about 150 documents out of some 400 that we have in our organization which we believe are useful to civil defense planning. These documents have been turned over to the NSRB.

We are also preparing, together with the Department of Defense, a weapons effects handbook, about which we have reported to you in executive session. Progress on this, I must admit, has been rather slow because we first had to go through a classified version, and then we are trying to use the blue pencil and come out with an unclassified version. At the same time, I think that we have made up for that slowness by getting out three portions of the text in pamphlet form. These have been made available to the public—to the NSRB, and in turn to the public.

We have prepared one on the medical aspects of atomic weapons; we have prepared a pamphlet entitled "Damage From Atomic Explosion and Design of Protective Structures"; and a third one, a brief one, on the effect of an atomic blast on the city of Washington.

The first-named one describes the injuries caused by atomic bombs, the effects of radiation and the nature of residual radiological contamination.

The second deals with damage that an air blast from an atomic bomb would cause to various types of structures and buildings, and how the buildings may be so constructed as to withstand such blast.

There is also presently being prepared for submission to the NSRB a study entitled "Radiation Detection Instruments," of which we hope to give you some more information later on this morning, which describes the operational characteristics of the portable instruments now being used by radiation monitoring specialists in the atomic energy program.

One of the principal needs of civil defense monitors, as we see it, will be a simple, rugged, easily operated radiation monitoring instrument that can be used by people without advanced training in this field, and we have recently made some progress in the development of such an instrument. We expect to demonstrate some of these later on this morning.

At the request of the NSRB, we are also engaged in some training activities, which we feel is another especially good way to get the information held by people within our organization out into the hands of those who will instruct the people in civil defense work. And in this connection, I should like to emphasize that we have conceived our purpose in this field of training to be this: That we should not go out and train people in all of the States, but we should train instructors from the various States who can in turn go out and train people in their own areas under the direction of their own local civil defense authorities.

We have accordingly established training courses at a number of conveniently located laboratories for doctors and radiological monitoring experts.

The Commission has up here this morning three persons who have primary responsibility and peculiar knowledge in three separate fields touching on this subject. The first one is Dr. Shields Warren, Director of our Division of Biology and Medicine, who is prepared to tell you first about these training courses, and also about those features of our medical research program which have a civilian defense application.

We have also Mr. John A. Derry, the executive officer of the Biology and Medicine Division, who will describe our program for the development and use of radiation detection instruments.

We have Harry L. Bowman, a consultant to the Biology and Medicine Division, who will discuss the effects of atomic explosions on structures.

I would hope that you might have those three gentlemen in mind when you put the questions. Mr. Bowman is the expert on physical structures; Dr. Shields Warren on radiation effects; and Mr. Derry in the field of monitoring instruments. I suggest that we hear from Dr. Warren first.

#### **STATEMENT OF DR. SHIELDS WARREN, DIRECTOR, DIVISION OF BIOLOGY AND MEDICINE, UNITED STATES ATOMIC ENERGY COMMISSION**

Dr. WARREN. Mr. Chairman and members of the joint committee, I have prepared in a little more logical fashion than I perhaps would be able to present orally, my statement, and if that might be submitted for purposes of the record.

(The statement follows:)

#### **OUTLINE OF REMARKS PREPARED BY DR. SHIELDS WARREN, DIRECTOR OF THE ATOMIC ENERGY COMMISSION'S DIVISION OF BIOLOGY AND MEDICINE**

##### **CIVIL DEFENSE INSTRUCTOR TRAINING COURSES**

The starting dates of the instructor-training courses sponsored by the Atomic Energy Commission, cooperating with the National Security Resources Board and the General Services Administration, previously announced in AEC releases No. 242, December 24, 1949, and No. 248, January 15, 1950, are now set as follows:

##### *Radiological monitoring instructor-training course*

Brookhaven National Laboratory, Upton, Long Island, N. Y., March 27, 1950.

University of California at Los Angeles, Atomic Energy project, Los Angeles, Calif., March 27, 1950.

Oak Ridge National Laboratory and Oak Ridge Institute of Nuclear Studies, Oak Ridge, Tenn., April 3, 1950.

##### *Medical aspects of atomic warfare*

Argonne National Laboratory, Chicago, Ill.; University of Rochester, Rochester, N. Y.; Johns Hopkins Medical School, Baltimore, Md., March 27, 1950.

Western Reserve University Medical School, Cleveland, Ohio; University of Utah Medical School, Salt Lake City, Utah, April 3.

University of California at Los Angeles, Atomic Energy project, Los Angeles, Calif., April 17.

University of Alabama School of Medicine, Birmingham, Ala., May 1.

As of March 16, 1950, nomination of 58 candidates for the monitor course from 36 of the States and Territories and nomination of 96 candidates for the medical

course from 34 of the States and Territories have been received. Ten States have not submitted nominations. Six States and one Territory have indicated that they will not send representatives to either course.

Nominees for the radiological monitor courses, which will be of approximately 5 weeks' duration, include two university deans and several professors and heads of university departments; nominees for the 1-week medical courses include faculty members of accredited medical schools, representatives of State health organizations, and State medical associations, and general practitioners.

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#### AEC To Sponsor Training Courses in Medical Hazards of Atomic Warfare

The United States Atomic Energy Commission, in cooperation with the National Security Resources Board and the General Services Administration, will sponsor a series of 1-week "teacher training" courses in the medical hazards of atomic warfare for selected representatives of the medical profession, it was announced today by the AEC.

The NSRB, the Government agency responsible for civil defense planning, has assigned to the GSA the responsibility for planning in the field of wartime disaster relief. The AEC has been assigned the task of setting up training courses in the treatment of radiological injuries among civilians as part of the program for wartime disaster relief planning.

The first of the courses will be held in March at the Argonne National Laboratory, Chicago, Ill.; the Atomic Energy project, University of Rochester, Rochester, N. Y., and Western Reserve University School of Medicine, Cleveland, Ohio. Later in the spring, courses will be offered at the Atomic Energy project, University of California at Los Angeles, Calif.; the University of Utah School of Medicine, Salt Lake City, Utah; the University of Alabama School of Medicine, Birmingham, Ala.; and Johns Hopkins School of Medicine, Baltimore, Md.

The basic purpose of the courses is to provide information and materials to selected members of the medical profession who in turn will instruct physicians, dentists, and nurses in local areas as part of State and municipal civil defense programs. Those attending the AEC-sponsored courses will be representatives of State medical societies, accredited medical schools, and State and large city governments. Invitations to nominate representatives to the courses will be issued by the NSRB. The qualification requirements which trainees must meet will be set jointly by the NSRB, the AEC, and the GSA.

Plans for the courses were developed at a meeting this week of representatives of the AEC Division of Biology and Medicine, the NSRB, and the interested universities and laboratories. Those who attended were:

- Dr. Shields Warren, Director, Division of Biology and Medicine, AEC.
- Dr. Norvin C. Kiefer, Director, Health Resources Division, NSRB.
- Dr. Henry A. Blair, Atomic Energy project, University of Rochester.
- Dr. John Z. Bowers, Deputy Director, Division of Biology and Medicine, AEC.
- Dr. Austin M. Brues, Director, Biology Division, Argonne National Laboratory.
- Dr. Charles L. Dunham, Division of Biology and Medicine, AEC.
- Dr. Hymer I. Friedall, Department of Radiology, Western Reserve University School of Medicine, Cleveland, Ohio.
- Dr. B. V. Jager, associate professor of medicine, University of Utah, Salt Lake City, Utah.
- Dr. Perrin H. Long, professor of preventive medicine, Johns Hopkins University School of Medicine, Baltimore, Md.
- Dr. William H. Riser, Jr., professor of medicine, University of Alabama, Birmingham, Ala.

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#### AEC To Sponsor Instructor Training Courses in Radiological Monitoring

The United States Atomic Energy Commission, in cooperation with the National Security Resources Board and the General Services Administration, will sponsor three 5-week instructor training courses in radiological monitoring techniques for qualified educators and technicians selected by State governors.

The NSRB, the Federal Government agency responsible for civil defense planning, has assigned to the GSA the responsibility for planning in the field of wartime disaster relief. The AEC, in turn, has been requested to set up training

courses in both radiological monitoring techniques and the treatment of radiological injuries among civilians as part of the program for wartime disaster relief planning.

Two of the three radiological monitoring courses will be offered beginning March 13 at the Brookhaven National Laboratory, Upton, Long Island, and the Atomic Energy project, University of California at Los Angeles, California. The third will be offered beginning April 3 at Oak Ridge, Tenn. The Oak Ridge course will be administered jointly by the Oak Ridge Institute of Nuclear Studies and the Oak Ridge National Laboratory.

As announced December 24, the training courses in the treatment of radiological injuries will be given at seven institutions beginning in March.

The basic purpose of the radiological monitoring courses will be to provide technical information to selected individuals who have a background in the physical sciences as well as teaching experience, who in turn could instruct local science teachers in monitoring techniques. It is expected that these local science teachers could then be utilized to teach monitoring teams as part of State and municipal civil defense activity.

Invitations to State governors to nominate representatives for the courses will be issued soon by the NSRB. There will be facilities to accommodate approximately 25 trainees in each course. If necessary, the courses will be repeated. Specific qualification requirements will be set jointly by the AEC, the NSRB, and the GSA.

Plans for the courses were developed by the AEC Division of Biology and Medicine in cooperation with representatives of the NSRB, the GSA, and the three training centers.

Dr. WARREN. First with regard to our series of training courses, these courses have been prepared at the request of the National Security Resources Board for the purpose of instructing those from the various States who will have responsibility for setting up training in those States in these particular fields.

The courses are of two types: Radiological monitoring courses, which Mr. Derry will mention in somewhat greater detail later, of which we have three, one opening March 27 at Brookhaven National Laboratory, one opening March 27 at the University of California at Los Angeles, and one opening April 3 at the Oak Ridge National Laboratory. We have in addition, training in the medical aspects. These will open March 27 at the Argonne National Laboratory in Chicago, at the University of Rochester, Rochester, N. Y., and Johns Hopkins Medical School at Baltimore. On April 3, the Western Reserve University Medical School will have a course, at Cleveland; and the University of Utah Medical School at Salt Lake City.

Senator TYDINGS. How long does one of these courses last, approximately?

Dr. WARREN. The radiological monitoring training course is a 5-week course, Senator Tydings. The medical course is a 1-week course.

On April 17, a medical course at the University of California at Los Angeles; and on May 1, a medical course at the University of Alabama School of Medicine at Birmingham.

At the present time we have nominees for the monitoring courses from 36 of the States and Territories; and for the medical courses from 34 of the States and Territories. They are chosen by the governors of the respective States and Territories.

These persons who have these initial courses will then have the key elements of information which, together with the information available in the form of various leaflets, pamphlets mentioned by Mr. Dean which have been prepared by the National Security Resources Board on the basis of information we have submitted to them,

will enable them to carry on the necessary information to those in the intrastate and intraterritorial organizations.

Dr. WARREN. Now, so far as the medical effects are concerned there is relatively little that I need to add to the statement that has been prepared and has been published by the National Security Resources Board on these medical effects. I would, however, like to bring you up to date on some of the research activities that the Commission has in this field, because we hope from them certain matters that are considerably important in the field may result.

The first of these is a careful and thorough study of the survivors in Japan at Hiroshima and Nagasaki. The most significant finding that has been developed from them is that the vast majority of the survivors are in surprisingly good shape at the present time, that once recovered from the initial injuries there has been a very satisfactory recovery and the vast majority of people are back at their ordinary activities.

There are several points of particular interest, however. One is that the lens of the eye is particularly susceptible to injury by radiation and there is a form of cataract which develops following radiation. Of the survivors close in at Nagasaki there are some 45 at the present time who have developed this radiation-type of cataract.

Senator TYDINGS. Could I interrupt you there?

Dr. WARREN. Yes, sir.

Senator TYDINGS. How long, as a general rule, is the eye susceptible to these effects after a bomb is dropped?

Dr. WARREN. Usually a matter of several years, Senator. That is based on our previous information from experience in the X-ray field and in the cyclotron field.

Senator TYDINGS. How long would a person, who was not in the area that was bombed, be safe in going in the area? How much of the radiation would have to be removed approximately before the eye would not be susceptible to this injury?

Dr. WARREN. In the case of an air-burst, such as at Nagasaki or Hiroshima, it would be feasible to go in practically immediately afterward.

Senator TYDINGS. If you were there at the time the bomb was dropped and you survived you might have this trouble?

Dr. WARREN. If you are sufficiently close in to have received a heavy dose of radiation.

Senator TYDINGS. Now would the kind of dark glasses that they used in bomb explosions on Eniwetok eliminate that trouble if you had them on when the blast took place?

Dr. WARREN. No; they would be of no service because the type of radiation which produced the injury would penetrate them very readily.

Senator TYDINGS. Thank you.

Dr. WARREN. A second point of major importance that has developed from our studies in Nagasaki and Hiroshima has been that while there has been a considerable number of children born to the survivors, there has been in this first generation thus far, no increase in abnormalities. This is a very reassuring finding.

The next finding is that taking the mass of population in general, the cells of the bone marrow which were damaged at the time of

radiation have recovered sufficiently so that we do not expect any widespread injury to result from the bone marrow effects.

Senator TYDINGS. In order that I may follow you a little more closely, you are talking about all forms of atomic bombs generally and not just any particular type at the moment?

Dr. WARREN. Yes, that is quite true.

Representative HOLIFIELD. What percentage of radiation are you referring to in discussing these cases? Is there a way of measuring the exposure in terms of units to which you refer? If so, will you give us those?

Dr. WARREN. Yes, sir; there is. It is possible to determine, and there has been determined by theoretical calculations plus actual observations, the extent to which various types of radiation and amounts of those various types of radiation will penetrate surrounding the source of explosion. Also, studies have been made of the residual radiation.

I cannot give those to you in detail but I can say in general that those within a radius of 1,000 meters, a little over a thousand yards, would probably fail to survive in large part, or would show very heavy damage; but those who were some 3 miles away and in the open would show very little, if any, damage.

Representative HOLIFIELD. This applies to the Hiroshima and Nagasaki type of bomb only?

Dr. WARREN. That is correct.

I am speaking in terms of them at the present time.

Senator TYDINGS. Dr. Warren, there are a few questions I would like to ask.

I suppose that after the blast of a moderate type atomic bomb it would not be feasible to eat any food that was left in the city even though it apparently appeared to be undamaged?

Dr. WARREN. If it were an air burst, after appropriate check by instrumentation such as Mr. Derry will explain later on, it would be quite possible to eat a considerable amount of the food. One would want to check on it, however, but I would anticipate that a considerable portion of warehouse stocks would be entirely suitable for human consumption, assuming an air type of burst.

Senator TYDINGS. After a city has been visited with a modern atomic bomb, I take it that it would not be safe for the people to drink the water or eat the food until after it had been passed on by competent authority as being suitable as in the case of water and food for human consumption? Otherwise, even though they escaped the blast itself by being in a cave or some other fortunate circumstance, they might really save themselves only to be contaminated in some other way if they drank water or ate food that had not been declared safe in a bombed area. Is that correct?

Dr. WARREN. That is absolutely right, Senator Tydings.

Senator BRICKER. Referring to your statement a while ago about these survivors of Hiroshima, you mentioned that there had been a repair of bone marrow at the present time. Has enough time elapsed so that you can make any estimate of the ultimate effects on the corpuscle-making power of the bone marrow?

Dr. WARREN. It is still too early and we expect to continue these studies for a considerable period of time. These statements are made on the basis of our information as it exists at the present time.

Senator BRICKER. Even though there might be a temporary repair, ultimately it might have a decided deteriorating effect?

Dr. WARREN. There is that possibility and I cannot answer unequivocally at this time as to what we will find.

Representative ELSTON. Referring to your statement that there had been no abnormalities in the children born to parents who lived in Hiroshima and Nagasaki, I ask you whether or not there was any decrease in the birth rate in those cities.

Dr. WARREN. I would like to straighten out one point, if I might. There have been abnormalities that have occurred but to no greater extent than there would be in any normal population.

In ordinary circumstances we expect certain abnormalities to appear in about 1 birth in 1,000 births.

With regard to the other point which you raised, in my anxiety to get the point straight I missed it. Could you restate the latter part of your question for me?

Representative ELSTON. The question was whether or not there had been any decrease in the birth rate in those cities.

Dr. WARREN. No; there has been increase in the birth rate.

Representative ELSTON. My question was whether there had been any decrease.

Dr. WARREN. There has been no increase, either. I think in the Japanese cities it would be hard to recognize any increase. There are a very large number of children.

Representative HOLIFIELD. Doctor, on that same question I believe a more responsive answer would be, if your answer were based on the people exposed?

Dr. WARREN. Yes; this is based on a population that includes both people who are exposed and those on the fringes of the city or who had come into the city since. We have a few instances of sterility, but not sufficiently great to affect the population as a whole and the birth rate.

The CHAIRMAN. Do you remember that book, Mr. Adam, Dr. Warren?

Dr. WARREN. I read it with great interest and enjoyment.

The CHAIRMAN. Do you think that there is any immediate prospect then, from at least the Hiroshima or Nagasaki experience, that that would be anything except a fanciful tale?

Dr. WARREN. I am quite sure of that, sir. I might say in addition, that we spent last Sunday with a group of experts on heredity, addressing ourselves to exactly that problem among other genetic problems, and those who are far more informed on genetic effects than I agree with that viewpoint.

One of the very real problems with regard to bomb explosion is that of flash burns. There is intense heat that is set free from the explosion of the bomb as well as kinetic energy, air blast, and radioactivity. We are carrying out a few intensive flash-burn studies. The principal one of those is at the University of Rochester. This is being carefully correlated with research in the burn field being carried out for the armed forces by Dr. Everett Evans at the medical college at Richmond, Va.

Senator BRICKER. Is the effect of those flash burns, because of the fact that there is radiation also present, any different than what would be the ordinary burn?

Dr. WARREN. So far as we have been able to determine, they have been exactly like the ordinary burn. If there is enough radiation to alter the picture of the burn, the person will not survive.

In still another field it is necessary to know how to treat the acute and immediate effects of radiation and the damage is shown by increased susceptibility to effects, anemia, tendency to bleed, gastrointestinal disturbances.

In the studies so far there are certain drugs, chiefly in the antibiotics, that are of material aid in controlling infection. Anemia can be controlled by transfusion. The tendency to bleed can be controlled only in part by certain drugs such as one called toluidine blue and by the use of certain of the fractions prepared from blood.

Senator BRICKER. Those effects that have been observed, to which you have applied treatment, have all been the result of the weakening of the power of the corpuscle-making capacity of the body?

Dr. WARREN. Very largely that. The gastrointestinal disturbances are due to direct injury of the lining of that tract. In addition, there is some evidence that the bleeding tendency may be related to damage to the lining of the blood vessels themselves and to some of the functions of other organs.

It is quite clear that in any civil defense set-up the means of handling these injuries must be very carefully evolved and followed.

Now, one of the things that is important is to know when one can go back into these areas and we have made a few studies at Hiroshima, at Nagasaki, Bikini, Eniwetok and Alamogordo.

The nearest we have to the ground burst is the Alamogordo burst and there careful studies have been made, and we have taken the cattle that are continually grazing in the area, sampled their tissues and found that they have absorbed no radioactivity that would make them unfit for food.

We know that as early as September when I took my team into Nagasaki and Hiroshima it was safe to enter the cities at that time.

Senator BRICKER. How long was that after the bomb explosion?

Dr. WARREN. That was almost 5 weeks after the bomb explosion.

We were able to find a considerable number of people who had gone in very promptly afterward and careful study of them showed they had suffered no harm.

As you know, with the underwater type of burst, many of the Bikini ships were so active radiologically that we could not go on them for a fair period of time.

With the monitoring instruments that we will show you later it is quite possible to determine just what the hazards are, where the hazards are, and know what zones to keep out of, and what zones are safe to enter.

Representative HOLIFIELD. Dr. Warren, can you give us any percentage quantity of absorption of radiation by various types of buildings, such as plaster, cement, steel, iron, concrete, both in the air burst and the underwater-burst type of explosion?

Dr. WARREN. Yes. So far as the air burst is concerned, at a distance of approximately 3,000 feet it takes 14 inches of concrete to protect from the air-burst type of radiation.

In an underwater burst, there is no direct radiation but wherever the contaminated water might penetrate, there would be radioactivity.

Consequently, the interior of a building would be relatively safe. We found on getting our experimental animals off the Bikini ships that once we could get inside the ships down where there was no contaminated surface of the deck or bulkhead and so on, that you could get to a safe zone.

Representative HOLIFIELD. Now, can you give us one more point? What is the residual absorption of radiation by these different types of buildings so that after the explosion you would know that you should stay away from certain types of buildings longer than others?

Dr. WARREN. There really is no choice except that by and large, I would say a building with a rough, porous type of wall would soak up more contamination in the case of an air burst than a building with a relatively polished or painted wall. However, I think that in most instances one could get the protection of space, that is, air itself, if you stay far enough away from a building, and get a certain amount of protection. We have detailed information as to what degrees of contamination various types of surfaces would provide.

Representative HOLIFIELD. Thank you.

Dr. WARREN. I think those are the major points from the strictly medical aspect to which I would like to call your attention. Since I have mentioned a good deal about these protection instruments and so on, I believe it would be helpful if I could have Mr. Derry show you some of those and explain to you some of the problems.

The CHAIRMAN. All right, Mr. Derry.

#### STATEMENT OF JOHN A. DERRY, EXECUTIVE OFFICER, DIVISION OF BIOLOGY AND MEDICINE, ATOMIC ENERGY COMMISSION

Mr. DERRY. Mr. Chairman, I have some outlines of remarks from which I will talk. I do not think I will follow them very closely. I would like to put them in the record.

The CHAIRMAN. Your prepared statements will be printed in the record at this point.

(The statements referred to are as follows:)

#### OUTLINE OF REMARKS PREPARED BY JOHN A. DERRY, EXECUTIVE OFFICER OF THE ATOMIC ENERGY COMMISSION'S DIVISION OF BIOLOGY AND MEDICINE

##### INSTRUMENTATION FOR RADIATION DETECTION

During World War II, the atomic energy laboratories of the Manhattan District designed and constructed virtually all of the various radiation-detection devices required in the nuclear research and production programs and to assure the radiological safety of their employees.

Since January 1, 1947, the Atomic Energy Commission has followed a policy of stimulating the establishment and development of a commercial radiation-detection instrument industry in the United States. Whereas in 1947 there were 9 companies manufacturing and selling 19 different types of instruments, there are today 44 companies manufacturing and selling 146 different types of complete instruments, and approximately 15 additional companies manufacturing accessories and components. The per annum gross sales of such instruments now amounts to about \$5,000,000.

As part of its policy of furthering the advance of commercial production of detection instruments, the AEC has sponsored under contract the industrial engineering of numerous instrument types developed in Government laboratories. This program has provided manufacturers with prototype models as well as with the guidance of scientific personnel who originally developed them. Approximately \$1,000,000 was expended in this manner during fiscal year 1949.

The basic design and development of essentially all radiation instruments now commercially available have stemmed from the atomic energy project. Although most of these instruments are being used for peacetime applications, such as the health protection of atomic energy workers, many of them could be useful for radiological monitoring which might be required as the result of possible atomic disaster. These instruments, however, generally require considerable technical knowledge for their proper operation.

As the AEC has had much experience and a continuing need for the protection of its own atomic workers and employs many of the top authorities in the field of radiation detection instrumentation, we feel that we have a distinct responsibility to assist in the development of suitable monitoring instruments for civil defense purposes. These devices, we believe, should be easily usable by relatively inexperienced persons to detect any dangerous concentration of radiation resulting from atomic warfare.

A study to determine the scope that such an instrument-development program should have indicates that two distinct types of instruments would be required. The first would be a very simple device which would show how much radiation a person has received, to be worn by each individual in areas which might possibly be subjected to atomic attack. The readings from these devices could be of great value in determining the type of medical treatment required by those who have been overexposed. The second type would be an instrument to indicate the rate at which radiation is being received and would, therefore, inform a person how long he could safely stay within a contaminated area.

The armed services have had an active program for the development of the first type of device, and it is therefore felt that the AEC should not have a large development program for this instrument but that it should concentrate on the second type. This latter should be simple, inexpensive, dependable, and rugged, capable of being used by such persons as the air-raid wardens of World War II civil defense.

The program for the development of this second type of device falls principally into three activities:

1. Research and development in AEC laboratories (see separate statement of new AEC-developed Geiger counter suitable for civilian defense.)

2. Solicitation of proposals from industry. A large group of instrument manufacturers has been invited to submit proposals. After these proposals have been received they will be carefully evaluated. On the basis of uniqueness, practicality, simplicity, technical feasibility and other considerations, a number of these will be selected and contracts initiated.

3. Testing of the resulting prototype instruments will probably be performed by the Bureau of Standards. Based on these tests, the instrument or instruments which appear best and meet all requirements will be recommended to the National Security Resources Board as suitable for civilian radiological safety use.

#### NEW AEC GEIGER COUNTER DEVELOPED FOR CIVILIAN USE

An inexpensive Geiger counter designed to measure high levels of radiation has been developed by the instrument laboratory of the New York Operations Office of the United States Atomic Energy Commission.

Upon completion of industrial engineering, the Commission expects to submit the new instrument to the National Security Resources Board for consideration as a radiation detection device suitable for civilian defense purposes.

The new instrument is powered by three 1½ volt flashlight batteries. It weighs slightly under 2½ pounds and is housed in a moisture-proof aluminum case. The case consists of two aluminum cylinders, one holding the flashlight batteries and the other containing all the working parts of the counter.

No field calibration of the instrument is necessary, and its dial reads directly in roentgens per hour, the basic units of radiation measurement. The dial is divided into three color zones:

Green—from 0 to 0.1 roentgens per hour.

Yellow—from 0.1 to 1.0 roentgens per hour.

Red—from 1.0 to 5 roentgens per hour.

The instrument's ability to measure radiation intensities up to the relatively high level of 5 roentgens per hour makes it unique among Geiger counters. It will also give dial readings of intensities as low as 0.05 roentgen per hour, and, by using earphones, the operator can obtain an approximation of radiation intensity below this level.

It is estimated that if the new instrument were put into large-scale production it probably could be sold commercially for from \$10 to \$15.

In its present form, the instrument is not designed for prospecting or other low-level monitoring, and cannot be used for these purposes without modification. Therefore, whether or not this high-level detection instrument is manufactured may depend upon civil defense requirements for monitoring devices.

The new instrument uses a halogen-filled Geiger tube, specially designed by Amperex Electronic Products Co., Brooklyn, N. Y., which delivers between 50 to 100 times the output current of conventional tubes. For this reason, no amplification of the tube's pulses is required.

Flashlight batteries were chosen as the power supply because they are conveniently portable, have a relatively long life (80 or more hours of total operation) and are inexpensive.

The new counter was designed by H. D. LeVine, H. J. DiGiovanni, and M. R. Coe of the Instruments Branch, Health and Safety Division, AEC New York Operations Office, and models were built in the New York Operations Office's instruments shop.

#### AEC EMERGENCY MONITORING TEAMS

In an extension of its program for control of radiation the Atomic Energy Commission is establishing through its field operations offices teams of qualified personnel to monitor any radiation accidentally released in Commission activities.

These teams are to be composed of AEC and AEC-contractor personnel, with approximately 12 men per team. Originally "ready lists" of approximately 100 persons at each operations office were set up to provide a pool available for emergency monitoring duty. With the formal establishment of teams in the various areas, specified organized team personnel will replace the "ready lists." It is expected that the teams will undergo field practice in order to acquire proficiency under simulated emergency conditions.

The teams will use radiation-detection instruments presently on hand or now being procured for this purpose. To supplement existing stocks, approximately 3,000 new instruments of various types are being procured and allocated to the AEC Operations Offices at Oak Ridge, New York, Los Alamos, Hanford, and Chicago.

The Commission recognizes its teams could be useful in the event of a disaster involving radioactive hazards which do not stem from AEC activities. Such service, however, would necessarily be but an interim, stop-gap measure until the appropriate civil authorities could get on the job with groups organized for this work.

The Atomic Energy Commission's emergency monitoring teams should not be considered in any sense an adequate radiation monitoring force for use in a civil disaster resulting from atomic attack. They simply represent a presently existing stop-gap resource and would be most inadequate in dealing with the consequence of an atom bomb explosion.

Under the five operations offices, teams are being organized at a total of 18 different locations in the country where such persons and equipment can best contribute to the safety or security of the atomic energy program. These locations are:

##### Under the New York Operations Office:

- Brookhaven National Laboratory, Upton, Long Island
- Schenectady, N. Y.
- Boston, Mass.
- New Brunswick, N. J.
- New York, N. Y.

##### Under the Chicago Operations Office:

- Pittsburgh, Pa.
- Ames, Iowa
- Berkeley, Calif.
- Chicago, Ill.

##### Under the Oak Ridge Operations Office:

- Dayton, Ohio
- Washington, D. C.
- Oak Ridge, Tenn.

##### Under the Santa Fe Operations Office at Los Alamos, N. Mex.:

- Albuquerque, N. Mex.
- Los Alamos, N. Mex.

##### Under the Hanford Operations Office at Richland, Wash.:

- Pullman, Wash.
- Seattle, Wash.
- Portland, Oreg.
- Richland, Wash.

Mr. DERRY. The first subject I would like to discuss is instrumentation for radiation detection with which I am reasonably sure most people are familiar. The atomic energy laboratories of the Manhattan District designed and constructed virtually all the various radiation devices used in nuclear research and production and for the radiological safety of the employees.

Following the end of the war, the field was largely declassified because it had been declassified before the war. As everything was classified during the war, this was just another subject. Then Manhattan District started a policy, and this was furthered by the Atomic Energy Commission, of stimulating the establishment and the development of a commercial radiation-detection-instrument industry in the United States. When the Commission took over in 1947 there were about 9 companies manufacturing and selling about 19 different types of instruments. Today there are about 44 companies manufacturing and selling 146 different types of complete instruments, and approximately 15 additional companies manufacturing accessories and components, making a total of around 60 manufacturing whole instruments and accessories. The annual gross sales of these companies amount to about \$5,000,000.

This is an industry that the atomic energy program has stimulated, to which came, mostly from the project laboratories that designed these things during the war, men who set themselves up in small businesses. The Commission as a part of its policy of furthering advancement and production of these instruments developed prototype laboratory models and had the instrument companies take them and run them through their production lines and come out with a production model. We then bought these instruments from the companies in order to supply our laboratory research investigators and for use in radiological safety. The basic design and development of nearly all the radiation instruments now commercially available have come from the project. Although most of these instruments are being used for peacetime applications, such as the health protection of atomic energy workers, they could be useful for radiological monitoring which might be required as the result of possible atomic disaster. These instruments, however, the ones I am talking about now, are rather technical and require considerable technical skill and knowledge for their proper operation.

We feel the Commission has had a lot of experience in this field. Most of the people working in the laboratories are probably the top brains and the top authorities in the development of instruments for radiation detection. We felt that we had a distinct responsibility to assist in the development of a suitable or several suitable monitoring devices that might be useful for civil defense purposes. These devices we believe could be easily usable by relatively inexperienced persons who would go through several successions of monitoring training courses.

The first ones that Dr. Warren described are the ones that would be at Brookhaven, Oak Ridge, and UCLA. These are instructor monitoring training courses. From these courses we hope the instructors will go out to the States and set up State training courses, and then the cities and towns set up training courses for the air-raid wardens.

Those people we feel will have enough knowledge for operating a simple kind of device that might come out of some development we could undertake.

A study then was made to find out under the instrument-development program what was required. The first we felt would be a rather simple device. This is what we call a dosimeter. It is a quartz fiber gadget that registers an integrated dose of how much radiation a man gets. If these things are properly charged and are in the hands of competent people, they are useful. From that might be determined what kind of medical treatment would be necessary. We are doing some work in this at the Argonne Laboratory and some work at UCLA on the colorimeter dosimeter.

The largest effort by far is with the armed services. We coordinate our development in these instruments, as well as others very closely with the armed services.

Representative HOLIFIELD. Is that information made available to these small businesses on a license basis, or on a gratis basis?

Mr. DERRY. It is on a license basis, I believe. I am not particularly competent to say.

Representative HOLIFIELD. They make no charge for such research and development as they make?

Mr. DERRY. No, Mr. Holifield.

No manufacturer has ever been turned down, so far as I know, who wished to get into the business of manufacturing instruments developed on the atomic energy project. They are freely licensed and can go into the business of making these things up. The dosimeters would probably cost about \$50. We hope to get the price of these things down.

Therefore, we feel that probably the thing we should do is to develop an instrument that is simple, inexpensive, dependable, and rugged, and this would lead us into a development activity probably in three categories, research and development in our own laboratories, solicitation of proposals from industry to see if they have any ideas. If any people who have gone from our laboratories to industry have some ideas, that we feel could probably and properly be financed, we would like to see what they are.

We have solicited about 33 companies. We have had replies from about 11. We are evaluating these proposals and we will probably select a few of the most promising and contract with these people to develop further instruments.

Beyond this point we need to test the resulting prototypes. This will probably be done at the Bureau of Standards. The ones that appear to be best we will recommend to the National Security Resources Board as probably suitable for radiological monitoring.

With respect to the most promising immediate development, I think you may recall in the executive session I said that New York looked as if they were coming up with a promising development. They have come up with something that we think is of rather great promise. It is an inexpensive Geiger counter. I have here a laboratory model. It is one of the nicest little things that I think we have ever seen. In this side are batteries and in this side the Geiger counter with a scale showing three ranges, green, yellow, and red, energized by just pressing the button. We hope that that can be sold commercially for about \$10 to \$15.

That is contrasted with the price of a more sensitive Geiger counter of this model, which costs about \$200. The new one is a high range reading meter and this standard type is a very low range reading meter.

The CHAIRMAN. Whose development is this?

Mr. DERRY. The New York Operations Office development in their radiological or instruments laboratory.

We are now presently talking with an industrial instrument company whose people came from the Chicago Metallurgical Laboratory for the production and development of the new type of model, the same company that developed this one that you saw in the executive session.

This one from this rather weak source will show good radiation, will show a count on the meter. When we use the same thing on the standard large one it shows a fairly perceptible move of the arm. This meter is for quite high radiation, high level. This is only useful in places that might be endangered from an atomic-bomb burst. This, I hope, will be rugged enough and cheap enough. The companies that we were talking with believe they can do it for \$10.

The CHAIRMAN. Have you ordered any of those?

Mr. DERRY. We have not yet, sir.

We are now trying to develop an improved power supply. The holo-gen-filled Geiger tube was especially developed by Amperex. We are going to have 20 prototypes built. They will cost us approximately \$100 apiece; but, after they build the prototypes, then of course anyone can build them. The fact that this company is the one we are dealing with means that they have competent personnel. We feel that going into industry and tooling up for a thousand or more, the instruments may be sold for \$10 or \$15, not more than \$15. Our objective was \$25.

Representative HOLIFIELD. From a practical civilian standpoint, your development of a radiation instrument that would register only on pretty strong radiation would be the best?

Mr. DERRY. Yes. You see, the large one is particularly useful in our laboratory. The small one reads only gamma radiation. The large one reads beta and gamma. The large one reads very low radiation. It will not read anything higher than that because it will block. We feel that in the small one we have something.

I do not know how soon, Mr. Chairman, this thing will be available. It will take somewhere in the order of 3 to 4 months to build prototypes and then to release to industry, probably another 4 to 6 months before this thing gets into production.

Representative HOLIFIELD. This is an accomplished fact and it does work?

Mr. DERRY. Yes, sir; it does work.

I did not bring with me a strong enough radioactive source because my men told me it was not particularly safe to carry. Those things I have on the table are buttons that the sailors wear on shipboard at night to keep from bumping into each other. They are rather weak radioactive sources.

The third thing that we have that I want to talk about is what we call our emergency monitoring teams, teams which will use our normal kind of instruments. We consider this an extension of our program for the control of radiation and will establish through our field operations offices teams of qualified personnel. These people are teams that are now trained as monitors to monitor any radiation that might accidentally be released in our own laboratories or in connection with our own activities. These teams are composed of about 12

men per team, more for spares. We first set up originally a "ready list" of 100 men. We advised you, I think, about a year ago that this was to provide a pool from which to draw these teams. With the formal establishment of these teams about a month and a half ago, we have had specified areas and specified team personnel to replace these "ready lists" and it is expected that these teams will probably do some field practice in order to acquire proficiency under simulated emergency conditions. They will use radio-detection instruments presently on hand, just like this one, the kind we use in our own laboratories.

We are buying about 3,000 new instruments. By buying these in these quantities we were able to cut the price of this one from \$200 down to \$88.

The Commission recognizes that these teams could be useful in the event of disaster involving radioactivity hazards which did not come from our activities but we feel strongly that such service would necessarily be but an interim stopgap measure until appropriate civil authorities got on the job with groups organized for this work.

The Commission's monitoring teams should not be considered in any sense an adequate radiation monitoring force for use in disaster in case of an atomic attack. They simply represent a presently existing stopgap resource. It is insurance that we feel we are buying for ourselves as well as this interim gap between the training program and until the men in the instructor training courses get out in the States.

Under the five operations offices, teams have been organized in a total of 18 different locations. These locations are:

Under the New York Operations Office: Brookhaven National Laboratory, Upton, Long Island; Schenectady, N. Y.; Boston, Mass.; New Brunswick, N. J.; New York, N. Y.

Under the Oak Ridge Operations Office: Dayton, Ohio; Washington, D. C.; Oak Ridge, Tenn.

The one in Washington is the group that works under me handling these instruments.

Under the Santa Fe Operations Office at Los Alamos, N. Mex.: Albuquerque, N. Mex.; Los Alamos, N. Mex.

Under the Chicago operations office, which covers a wide territory and is not geographically identified here: Pittsburgh, Pa.; Ames, Iowa; Berkeley, Calif.; Chicago, Ill.

Under the Hanford operations office at Richland, Wash.: Pullman, Wash.; Seattle, Wash.; Portland, Oreg.; Richland, Wash.

There probably will be an extension of teams in other localities where we have interests, where we have contractors and where we have a responsibility to our own defense.

Senator KNOWLAND. Would this portable, inexpensive type be suitable in your judgment for civil defense teams that might be set up?

Mr. DERRY. They would be suitable, Senator, if the men had training, if they could properly interpret the readings.

An untrained person should not attempt to understand anything from the reading on the dial because it has to be related to the kind of radiation, the time when the radiation happened, and then related on the scale which reads directly in roentgens or milliroentgens as to how much time he should stay in. It takes some understanding of the subject before these things should be used.

Senator BRICKER. It would not take any engineering background or scientific information to train the team?

Mr. DERRY. No, sir.

Senator BRICKER. A person of ordinary intelligence could soon understand the operation and read the dial?

Mr. DERRY. I am sure that could be done. We feel, though, in the training courses we should start out with a fairly high level of instructors. We have asked the National Security Resources Board, in getting candidates from the States, that they get men to attend the first level monitoring training courses who are professors of physics at State universities or colleges, or men who have an understanding of physics, so that they can then go back and set up their own training courses in the States.

At these other courses there will be a gradual dissemination of information and a gradual diffusion of emphasis so that the men who get the instruction at the air-raid warden level or police and fire-department level will need to have only normal intelligence.

The CHAIRMAN. I am advised by Senator Knowland that Mayor Bowron of Los Angeles is in the room and that he has expressed a desire to be heard.

#### STATEMENT OF HON. FLETCHER BOWRON, MAYOR OF LOS ANGELES, CALIF.

Mayor BOWRON. Mr. Chairman and members of the committee, what I have to say relates peculiarly to the subject of civil defense on the west coast.

I appear for my own city and speak in my individual capacity. I have had an opportunity as an officer of the League of California Cities to get the thinking of the mayors and other officials of my State.

During the year 1948 I was president of the American Municipal Association and during that year we had a Nation-wide committee studying the subject of civil defense from the point of view of cities.

I may make reference to a prepared report of that committee which, however, was not adopted at our annual conference in December of that year for the reason that the Bull report and the Hopley report had not, and we understood at that time, would not be formally approved and was to an extent in some particulars considered unrealistic.

In my own city of Los Angeles, we have an organization which is prepared for any eventuality of not too great a magnitude.

It was organized during the middle 1930's. While we do not particularly like to discuss the fact or openly admit the fact, we realize that on the west coast we may at some time have a severe aspect. That was the reason for the creation of our major disaster organization, which was pretty well organized and in operation at the time of the entry of this country into the World War. It was reorganized for war purposes. At the conclusion of the war it was disbanded and again reorganized on a peacetime basis.

The organization is primarily made up of city department heads with the exception of four functions included in the organization, the American Red Cross; a transportation division, which includes representatives of some of our street railway and trucking concerns; a communications division, the head of which is the general manager of the telephone company; and a personnel and recruitment division which

is largely manned by representatives of the veterans groups, primarily the American Legion.

I should like to refer to and adopt as a portion of my statement a report of the committee on civil defense of the American Municipal Association which, as I have already stated, was not adopted as the formal action of the association but which reflects, nevertheless, my own personal views.

To be acceptable to the cities, a civil defense plan must meet the test of two standards: (1) It must be realistic, practical, and provide the absolute maximum of assurance that it will function in an efficient orderly manner under emergency conditions; and (2) it must seek to preserve rather than alter vital constitutional and statutory principles which control relationships between Federal, State, and local Government in the United States, particularly in the exercise of police powers.

There is no order of priority here. Both are indispensable, a choice is unnecessary.

There has been some confusion, I feel, relative to the accepted definition of civil defense. That set forth in the Hopley Report is not satisfactory to the cities because, without reading it, one important objection is the failure of the definition specifically to recognize that the organization of the people is a State and particularly local government responsibility.

Our previous experience with the Federal Office of Civil Defense leads us to insist that we have had enough of proposals for civil defense organization operated by civilians in some semiautonomous relationship to city government.

City defense is an integral part of the total national war effort. It is dangerous folly to develop plans for the military defense and the civil defense of the United States as though they were separate and only indirectly related undertakings.

The CHAIRMAN. As I understand it, you are critical of that definition which you just read?

Mayor BOWRON. I did not read the definition. It is included in the Hopley Report.

The CHAIRMAN. You are critical of what you have just read there?

Mayor BOWRON. Yes.

I would like to suggest another definition of civil defense which I feel reflects the thinking of those who are responsible to the people in the organized areas.

As I say, I have been mayor of the city of Los Angeles for a period of approximately 12 years and went all through this during the war. I was the head of our local organization not only in the city but in the metropolitan area. We hope that we will not have the same confusion and misunderstanding if we are going to organize a second time.

The CHAIRMAN. That is the purpose of these hearings, so that you will not have that kind of confusion in the event that it ever becomes necessary. That is exactly what we are trying to do.

Mayor BOWRON. I am very happy indeed to hear that is the announced purpose of this committee.

We would like to suggest this definition:

Civil defense is an essential part of national defense and security. It requires effective utilization of all available useful resources of Federal, State, and local governments and a mobilization, organization, and direction of the civilian populace and available private resources by the appropriate agencies of government to

minimize the effect of enemy action directed against the people, communities, industrial plants, facilities, and other installations, and to maintain or restore those facilities essential to civil life, and to preserve the maximum civilian support of the war effort.

It is the joint responsibility of Federal, State, and local governments in the operation of which the powers and resources of the Federal Government and the States are normally used, to aid and assist the cities in the task of protecting life and property.

**I would like to refer to another statement:**

Even the necessary emphasis would be difficult to accomplish without reference to a national plan. National guidance, highly technical and professional scales for operation and training will be required and these as well as access to information can reasonably be made available only from national sources.

It has been our experience, and I am speaking as a result of rather frequent conferences in my own State among mayors and other municipal officials, that no one has taken us into his confidence. We do not know what we are expected to do. One difficulty is this: A plan cannot be worked out here in Washington and expected to succeed unless it is presented in the proper light to the people. I am sure that everyone must realize that a civilian or, as it is now termed, a civil defense program must be voluntary and, in order to get the degree of voluntary, effective cooperation, it must be sold to the people.

We have just had an experience on the west coast, particularly in my own State, pursuant to a communication that was received by our Governor from the Secretary of Defense with reference to the establishment of an aircraft warning service.

Immediately people misunderstood and the press criticized this effort as unnecessary and, quoting one editorial as "silly." I myself did not understand the situation until I learned the exact purpose and just why this was necessary. As a civilian, I felt that mechanical means, particularly radar, were so far superior to ground-crew observation that I was inclined to agree with others that it was wholly unnecessary. It was only after it was explained to me that I then felt that it should be done. But still, I do not know whether I am at liberty to pass on the information that was conveyed to me. Something must be done in order to get some several hundred thousand people interested in this sort of thing. That is true with reference to any other effort. I think that the people must understand the reasons.

The CHAIRMAN. You see, Mayor Bowron, that is one of the difficulties. You rightfully point out that you have to inform the people in order to get their cooperation and the way in which that is done, so it leads to that kind of cooperation without bringing about needless uncertainty and panic, is the real problem. It is because of the existence of that problem that the committee has been considering at great length in executive session every aspect of this problem. It is one of the reasons why we decided on holding a few open hearings with the idea not only of getting out some information to the people but also getting before the people the existence of this problem.

I might say, while I have interrupted you, that there is an interesting excerpt from our own booklet which the staff has prepared. It appears on page 17, the fourth paragraph on the page.

Liaison with State and local authorities has been effected. On October 5, 1949, the Acting Chairman—

that is the Acting Chairman of the National Security Resources Board—

transmitted to the governors of the States and Territories, a statement of policies for relations with State and local governments. On December 1, 1949, the first of a series of civil defense planning advisory bulletins outlined the Federal Government's objectives in civil defense planning, set forth information on planning activities now in progress, made recommendations for State and local action, and requested information on specific questions relating to State civil defense activities.

Then it goes on to state the activities as you can see.

So this information is beginning to flow out, apparently, to the governors of the States. I do not doubt that in a short while it will come down to the municipalities.

Mayor BOWRON. I would like to make a few more statements and then my testimony will be concluded.

The Hopley Report has never been approved and the subsequent gradual infiltration and integration of military authority into the civil life of the country is a matter of national concern.

Now I would like to make it clear, speaking for one city, that we want to do our part definitely and certainly. We, however, do not like to see, certainly in a time of peace, an approach that would tend to break down the constitutional guaranties and the divisions as between the Federal and State authorities. We will assume our responsibility under the jurisdiction of the State if we can just be given some guidance as to plan and procedure but we dislike to be ordered to do it.

Conversely, having gone through the experience during the last World War, we do not want to have to do many needless things which we in the light of experience feel now could have better been devoted to the all-out war effort, and to that end we rather dislike to contemplate uninformed civilians going from place to place and telling police departments, fire departments, and city health departments just how to conduct their own business.

I do not now believe that military authority should exercise the degree of general civil defense responsibility which apparently some here in Washington have thus far advocated.

As a practical matter, no effective State and local civil defense program is possible in the absence of an adequate, effective, realistic, and very thorough national civil defense policy and program implemented under Federal authority.

In the war of national survival, as the next one clearly will be, it is cold-blooded but nevertheless true to state that the national interest in civil defense in any area is concerned primarily with sustaining the capacity of the country to prosecute the war and the will of the people to fight. The humanitarian aspects of civil defense are secondary considerations. There is the complete justification for vesting the primary obligation for developing, staffing, equipping, and, if necessary, financing the national civil defense effort in the National Government. The shaping of the policy must not distinguish between the necessity for an acceptable national civil defense program, the obligation to make available skilled technical people in the complex, technical supplies and materials that would be required, from their understandable and very desirable reluctance to establish a national civil defense agency which would attempt to take over

and control State and local government and a voluntary civil defense organization involving millions of American citizens.

The two things are entirely different and yet quite consistent as a point of divided responsibility.

Here are some of the suggestions that I would like to make:

No workable national civil defense program can be developed and no sensible, orderly relationship with State and local government can be maintained if the Federal responsibility is divided among four or five or any number of unrelated and uncoordinated Federal agencies and departments. Those of us at the civil level see this division and we are confused. We do now know whom to follow and who is responsible for the plan and who is doing the job. If Washington cannot handle this, they cannot win a war without terrific waste of resources and human effort.

It is not possible in the light of the atomic bomb and other modern weapons to develop civil defense programs now which are related to a catastrophe about the magnitude of a major fire or natural disaster and later expect us to adapt these kinds of organization and resources to meet the impact of modern war. We are wasting our time and our resources.

I seriously question whether a civil defense against the atomic bomb is possible on a company basis. If this should be true, why does not someone say so and permit us to develop this aspect of civilian defense organization on a realistic geographical basis?

If we are primarily concerned in our civil defense obligation with defense against sabotage, which we can organize to handle, and defense against atomic attack, it is true that no enemy could afford to use atomic weapons against any except primarily military targets.

Of course, I am making bold to make these suggestions without any basis or experience in connection with the military.

Resolving the doubts in favor of an adequate coverage, should we have the same kind of civil defense organization in those areas of our States which, by no stretch of the imagination would be subject to atomic attack as we have in the areas which might be? Are not the problems quite different? Why not set up a civil defense plan that squares with the facts?

Similarly, why should States which are out of range be demanding the same kind of protection and place the same demand upon the limited resources of skilled manpower and technical material as the States which are exposed to such attack? Just because it would take political courage to deny one in order to meet the needs of another does not justify the unwillingness of Federal authority to do so.

With further reference to that point, we had about the same kind of civil defense organization in every city of every State in the country last time. We wasted enough man-hours of effort in useless civil defense activities to make a material contribution to some useful part of the war effort. Are we going to do that same thing again?

Similarly with a limited supply of fire-fighting equipment available, equal demand came from every area of the country.

Are we going to be confronted with that problem again? Is the National Government going to send the people into the areas which are safe from atomic attack to teach all of the civilians how to defend themselves against an attack which cannot occur, thereby reducing the availability of such personnel for services in the areas where such

attack could occur? Are we to go without adequate medical, hospital, and similar supplies into those areas of the country subject to attack because they must be spread thin around the country to pacify the citizens?

These are questions that someone should answer.

Almost every bit of the knowledge, technical or military in character, which is needed to develop an effective civil defense program in this country is the exclusive property of Federal officials. If they are unwilling to take governors, mayors, and other key officials into their confidence to the extent which a realistic civil defense program would make necessary, then I submit that they leave us no alternative but to demand complete Federal responsibility for civil defense. We cannot build, organize, and develop programs and recruit and train volunteers when we are in ignorance ourselves. I think the American people can learn to live with the truth and if they are told by responsible authority that they live in an area which may be attacked and that they must prepare themselves to meet it, when the first shock passes I think that they will get to work. I do not think that they will ever get to work and stay at work for the kind of civil defense program such as the one we had during the last war.

Now that is the burden and the substance of my position, and again I will say I speak only for one city and one community. I have had the advantage of discussion with many mayors and of municipal officials and particularly those who went through the experience of the civilian defense organization during the last war.

Representative HOLIFIELD. Mr. Chairman, I would like my colleagues on the committee to know that Mayor Bowron represents the largest city in California, a part of which is in my congressional district; that he is looked upon as our No. 1 citizen. He is a former superior court judge, ran as a reform mayor in the city of Los Angeles and has been elected several times by both Democrats and Republicans with overwhelming majority. The fact that he is here on the first day of our hearings shows his initiative and shows the progressive type of public servant that we select in the city of Los Angeles to be our mayor.

Personally, I am glad that he is here and glad that he has made this very fine statement to the committee.

Mayor BOWRON. Thank you, Mr. Holifield.

Senator BRICKER. Mayor Bowron, do you not feel that as a result of the civil defense program during the war there was an increased zeal and a sense of responsibility on the part of the citizens partaking in it that did lift up rather than handicap the war-production effort?

Mayor BOWRON. Yes; I think so; very definitely.

Senator BRICKER. There was a certain zeal and patriotism that was the effect of the organization of civilian defense even in those areas where there was no possibility of attack at that time?

Mayor BOWRON. The over-all effect undoubtedly was good. It increased the patriotic response, but I feel there was an awful lot of waste motion.

Senator BRICKER. There is no question about that, but we had thousands in our State that otherwise would have had no sense of participation. I think, as a result of that, brothers and fathers and sons did have an added zeal through this encouragement to make an all-out war effort.

Senator KNOWLAND. Mr. Mayor, in regard to some of the questions raised and I think pertinent questions, which not only the committee but the administrative officials who are responsible must consider, you mentioned that perhaps the situation might have to be on a large, geographical basis. You have in mind in that regard that even though a community itself might not be a primary target, it would have a contribution to make in either fire-fighting equipment or in other personnel that they might send into a disaster area where the local forces might have been eliminated at least temporarily?

Mayor BOWRON. Very definitely. One thing that we did learn from our experience during the last World War was that of mutual aid. I may say that lesson has been a good one. We are carrying it forward in time of peace to the advantage of better protection to all cities.

Senator KNOWLAND. But your feeling is that there might be, and someone should have the information, prime targets throughout the country, and that on the basis of some kind of priority, with limited personnel that might be available for training purposes and otherwise they should take a realistic view and assist those communities in putting themselves in order first before going out to an area which, by no stretch of the imagination, would be likely to be a target of atomic attack?

Mayor BOWRON. Exactly.

Of course I realize that there is much information that cannot, by the very nature of things, be made public.

Take my own State of California. If the Governor of our State could be taken into someone's confidence so that he in turn could pass the word down and indicate just where and how we should prepare, I am sure that it would help a great deal in the understanding and the cooperative effort that would result. I merely suggest that someone on the civilian level should know a little bit more about the situation and the reasons why.

I feel very definitely that we should preserve the constitutional limitations. In the event of an all-out war, of course, the military would come in and we would expect to cooperate fully. Certainly in times of peace, we feel that what the civilian population is expected to do should come through civilian sources rather than the military.

Senator KNOWLAND. As a matter of fact, the basic strength of the country is this local responsibility and willingness to assume it and, if they conceivably eliminate the Nation's Capital, still have a basic strength in the Nation which in some nations where they have centralized power in a capital city they do not have. In other words, the people of the United States are in a position to assume the responsibility out on the local level, which gives us a great strength which a dictatorship nation does not have under present circumstances.

Mayor BOWRON. That is correct.

Representative HOLIFIELD. Mayor Bowron, you have made some very good points and I think that it might be well to confirm them at this time.

You do believe that there should be a national policy of civilian defense evolved which would complement itself all over the Nation?

Mayor BOWRON. Very definitely; yes.

Representative HOLIFIELD. You also believe that the local political subdivisions should have one Federal agency to deal with on this matter?

Mayor BOWRON. If possible.

Representative HOLIFIELD. Where authority is concentrated particularly for civilian defense, where immediate attack has not occurred?

Mayor BOWRON. If not one agency, it might be too much to expect that the different agencies would know what the other is knowing.

Representative HOLIFIELD. They should be coordinated so that, as far as contact on the local level is concerned, there would be no conflict between those agencies?

Mayor BOWRON. That is right.

Representative HOLIFIELD. You also have stated I think a very fundamental premise that the civilian defense should be completely under the control and direction of our local citizenry, their representatives.

Mayor BOWRON. That is what we believe; yes.

Representative HOLIFIELD. I think that those are three very fundamental premises upon which you have made your statement, and I certainly agree with them. I believe that these hearings will bring out the necessity of doing those three things.

The CHAIRMAN. Thank you very much, Mayor Bowron. I might say this to you that I at least am convinced from the hearings that we have had in executive session that some of the points you have raised, together with a great many others, have been given and are being given much study and thought. I cannot emphasize too strongly how complex a problem it is with which we are dealing. It is tremendously complex.

Mayor BOWRON. I may say for the information of the committee that the American Municipal Association has designated a committee which will be very glad to cooperate, and the chairman of that committee happens to be a resident of my home State, Richard Graves, who was, during the last war, the State director of civilian defense and one who I think has approached the subject very intelligently.

The CHAIRMAN. Yes; we have heard from them and have had a request that they be permitted to appear, and of course they will be given that opportunity.

Thank you very much.

Mayor BOWRON. Thank you, Mr. Chairman.

Commissioner DEAN. We have one more witness to present in order to cover our story.

The CHAIRMAN. We prefer not to hear him now. We can have him return at the beginning of our next hearing which will be at the call of the Chair. I am not quite certain when we can set the time.

(Whereupon, at 12:15 p. m., the committee recessed subject to the call of the Chair.)

x



# **CIVIL DEFENSE AGAINST ATOMIC ATTACK**

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## **HEARING**

**BEFORE THE**

**JOINT COMMITTEE ON ATOMIC ENERGY**

**CONGRESS OF THE UNITED STATES**

**EIGHTY-FIRST CONGRESS**

**SECOND SESSION**

**ON**

**CIVIL DEFENSE AGAINST ATOMIC ATTACK**

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**PART 4**

**MARCH 20, 1950**

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# CIVIL DEFENSE AGAINST ATOMIC ATTACK

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**MONDAY, MARCH 20, 1950**

CONGRESS OF THE UNITED STATES,  
JOINT COMMITTEE ON ATOMIC ENERGY,  
*Washington, D. C.*

The joint committee met at 2:30 p. m., pursuant to call, in the caucus room of the Senate Office Building, Senator Brien McMahon (chairman) presiding.

Present: Senator McMahon and Representatives Durham, Holifield, and Hinshaw.

The CHAIRMAN. The meeting will come to order.

This is the second session of the joint committee on the subject of civil defense.

We have with us today, representing the American Legion, Mr. Miles D. Kennedy, legislative director, Mr. Erle Cocke, chairman of the national security commission, Niel R. Allen, chairman of the civil defense committee, Paul C. Potter, consultant on panic prevention, and Granville S. Ridley, chairman of the national security training committee.

Now, gentlemen, I believe you wish to be called in the order in which I read the names of the witnesses. Mr. Kennedy, the legislative director, is the first witness.

## **STATEMENT OF MILES D. KENNEDY, NATIONAL LEGISLATIVE DIRECTOR OF THE AMERICAN LEGION**

Mr. KENNEDY. Mr. Chairman, my name is Miles D. Kennedy. I am the national legislative director of the American Legion.

I do not intend to submit any testimony personally, Mr. Chairman, but I would be most ungrateful if I were not to tell you how much the 3,000,000 men of the American Legion appreciate your courtesy and the courtesy of your fellow members on this committee in extending an invitation to us to appear here and express our views.

As you know, our membership is made up of men and women who have seen active service in either World War I or World War II, and as such, naturally they are very much interested in civilian defense and the work of your committee. On their behalf, Mr. Chairman, may I again extend our thanks and appreciation for the privilege of appearing before your committee this afternoon.

At this time I would like to introduce to you, on behalf of the American Legion, Mr. Erle Cocke, Jr., of Dawson, Ga., who is the chairman of the national security commission of the American Legion. Mr. Cocke is a young man, a veteran of World War II, who interrupted

his college course to serve in the armed forces, and became an officer in an infantry outfit and served through the European campaign, and is one of the most decorated men in the armed forces coming out of World War II, having suffered 12 or 14 wounds during the course of his service.

Ever since his discharge from the Army and entry into the American Legion, he has been most active in things having to do with civilian defense.

With your permission, Mr. Chairman, at this time I would like to introduce to you Mr. Erle Cocke, Jr., of Dawson, Ga.

The CHAIRMAN. Thank you very much, Mr. Kennedy.

I would just like to make this comment before we hear from Mr. Cocke. I believe it is true that we extended an invitation to the Legion, after the Legion had made quite a few representations to me about the subject of the civilian defense and wanting the hearing on it. That is my recollection. And I merely say that because the Legion, I think it should be pointed out, requested a hearing on this subject, and it was not something that we thought up. It was something that apparently the Legion has been thinking about a good deal.

Mr. KENNEDY. We want you to know that we want to work to our mutual advantage and cooperation for the benefit of the general public.

Thank you, Mr. Chairman.

#### STATEMENT OF ERLE COCKE, JR., CHAIRMAN, NATIONAL SECURITY COMMISSION, THE AMERICAN LEGION, DAWSON, GA.

Mr. COCKE. Mr. Chairman, as chairman of the national security commission, I would like to emphasize the point as to the three gentlemen we are going to present to you today, their testimony all comes from three different parts of our country. The first gentleman comes from Oregon, the second from Colorado, and the third from Tennessee. I think that you will find a continuity in their statements, because they all see a problem in civil defense based on the nearness, probably the need, and I think the present statement which seems to be catching on, the fact that "it is probably later than we think," and we certainly cannot be caught short; we need, and a definite need is certainly seen by the working Legionnaires of our country who feel that a sound and workable solution to civil defense is a timely problem, and we are delighted to have the privilege of being here today to present this case to you.

The first witness is a practicing attorney from Grants Pass, Oreg. He is probably in the category of a country lawyer. He is a graduate of Stanford University and was a lieutenant in World War I. He has been an active leader in Legion affairs, and particularly in the field of civil defense.

It is my pleasure at this time to present to you Mr. Niel R. Allen, to speak to you and review for you, briefly, the position the American Legion has had in civil defense for the last several years.

**STATEMENT OF NIEL R. ALLEN, CHAIRMAN OF THE CIVIL DEFENSE COMMITTEE OF THE AMERICAN LEGION, GRANTS PASS, OREG.**

The CHAIRMAN. You are Mr. Niel Allen?

Mr. ALLEN. Yes, sir; I am Niel Allen, of Grants Pass, Oreg. I am the chairman of the American Legion's civil defense committee.

Ordinarily I would prefer not to read a statement, but in this case it appears desirable to present to your committee a documentation of the position that the American Legion has had with respect to civil defense ever since World War II.

If you will bear with me, I would appreciate making our statement a part of the record.

We would like you to know that the American Legion does very earnestly and sincerely welcome the opportunity that has been offered by this invitation to include in your record a statement of its official position with respect to civil defense.

This presentation is based upon official action of the American Legion as taken in national convention and as carried forward by its national executive committee and by its standing committees or commissions as authorized.

It should be stated at the outset that the American Legion is not satisfied with the present state of civil defense planning, nor is it satisfied with the present uncoordinated and almost latent development of civil defense organization and implementation.

This clearly appears from the action of its 1949 national convention at Philadelphia, which was our resolution No. 643, at page 85 of the Summary of Proceedings of the Thirty-first Annual National Convention of the American Legion, August 29 to September 1, 1949, wherein the convention recited the fact that the American Legion at every national convention since World War II has urgently demanded preparation of a sound and acceptable plan of civil defense as an integral part of the Nation's total defense by appropriate organization of the people to minimize the effect of enemy action against life, production and property; and wherein it recited the further fact that there was yet as of that time, September 1, 1949, no accepted or approved comprehensive plan for the civil defense of the Nation; wherefore, the American Legion thereupon vigorously demanded that immediate action be taken at the Federal level to develop a sound and acceptable civil defense plan; and further demanded that this plan conform substantially to the principles expressed by the American Legion at its last four national conventions, and specifically that the responsibility for development and implementation of such civil defense plans be placed in the Department of Defense.

All departments and posts of the American Legion were furthermore called upon immediately to cooperate with State and local agencies in planning and development of civil defense plans, facilities and functions in accordance with previous national convention action.

The CHAIRMAN. You say that you want it placed in the Department of Defense. Are you certain in your own mind as to what part of it belongs in the Department of Defense?

Mr. ALLEN. Over the past 4 years, and I think that the documentation appearing in the balance of this statement will bear out an answer to your question to the effect that we believe there must be one head to this planning and development. It will develop later in the report that we also believe that it must be a civilian head, but the civilian head or civilian agency may very properly be within the Department of Defense, and we very sincerely believe that there will not be the necessary coordination otherwise.

Now, that may be subject to future changes of direction as other appropriate steps may be taken, but that is the thinking to date of the American Legion.

The CHAIRMAN. Because, of course, there are many things that must be done in the way of effective civil defense that are not primarily of a military nature. I mean your tax structure, for instance, might have to be revised, and your transportation situation within your country would have to be attended to, and I could go on and enumerate many facets of our life that would be vitally affected by a conflict, that are not primarily connected with the fighting end of the war.

Mr. ALLEN. I think you will find that our last statement in here will be entirely consistent with the thought you have developed. When I get to that point I will stop at what I have in mind in answer to your question, if I may.

The CHAIRMAN. You may proceed.

Mr. ALLEN. By November of 1949 there was still no positive overall program for a national civil defense of the Nation.

Accordingly, the national executive committee of the American Legion approved and adopted the report of the Legion's national security commission which included the following declarations with respect to civil defense:

Events of the past few weeks have made it mandatory that we reevaluate our over-all national security program. Our monopoly on the atomic bomb no longer exists. We know definitely that Russia has brought about a controlled atomic explosion and our only hope for security is through self-protection. This means an adequate and immediate civil-defense structure that will enable our communities and their people to minimize the initial attack of any aggressor nation. For several years, the American Legion has studied the need for and the requirement of a civil-defense program. Such a program evolves itself into three phases:

(1) The planning and policy stage, in which all known factors are considered that evolve from or contribute to civilians trying to help themselves in their own communities to neutralize the effects of enemy action against them, with the least possible disruption of normal community life and the least possible disruption of the organized military defense.

(2) The training phase and the establishment of cadres. These to be expanded and around which a civil-defense organization could be built as world conditions dictated.

(3) The actual implementation of the civil-defense plan, utilizing the trained people of the organized cadres as the hub of this structure.

We the national security commission believe phase (1) has been sufficiently considered and that it is high time we entered into phase (2) in acquiring for this country an adequate civil defense.

After months of intensive study, a report was released in October 1948, giving a plan for civil defense that was endorsed by the American Legion with certain recommendations. These recommendations were designed to increase the internal security of the organization and to guard against the entry of subversive elements. The American Legion in its desire to cooperate with the Federal Government in its program for civil defense has patiently waited its approval of some practical plan for civil defense in which it, the American Legion, could participate with the Federal Government to give our people the protection needed. The failure of the Federal Government to set up a sound and acceptable plan of civil defense will inevitably lead to disaster unless positive measures are taken at once.

In accordance with these findings, a resolution has been prepared demanding that the Congress of the United States take this matter into its own hands and proceed with legislation that will provide a sound and acceptable plan of Nation-wide civil-defense training designed to give to all the States a common basis for civil defense.

That was from page 132, digest of minutes, national executive committee meeting, the American Legion, Indianapolis, Ind., November 4, 5, and 6, 1949.

Since it sets forth vigorously and concisely the impatience of the American Legion with the present status of civil defense in this country, the resolution mentioned in the foregoing quotation and duly adopted by the national executive committee at that meeting is set forth in full:

#### FEDERAL PLAN OF CIVIL DEFENSE

##### RESOLUTION NO. 20 OF THE NATIONAL EXECUTIVE COMMITTEE MEETING

Whereas failure of the executive branch of the Federal Government to produce a civil-defense blueprint and training program has aroused the country, and

Whereas the American Legion believes this is inexcusable and has been demanding with all its vigor since the end of the war that the Government set up a sound and acceptable plan of civil defense, but has been ignored in all these demands and in all preliminary planning, and

Whereas our national membership is severely critical of this inaction and believes it might have tragic results, and is calling for immediate action to set up a coordinated Nation-wide training program: Now, therefore, be it

*Resolved*, That in order to put an end to these ominous delays and omissions, and in order to get the action demanded by the people and by the mandates of the San Francisco, New York, Miami, and Philadelphia national conventions of the American Legion; it is

*Resolved*, That the American Legion now demands in terms so unmistakable that there can be no misunderstanding that the Congress of the United States take this matter into its own hands and proceed to enact a law which will provide a sound and acceptable plan of Nation-wide civil-defense training designed to give to all the States a common basis of civil defense; and be it further

*Resolved*, That the Congress provide that civil-defense planning and training be made the responsibility of a single Federal office, or department, as mandated by our national convention action.

If you will note, Mr. Chairman, at that point, I think that that answers your question, that whereas in 1947 the statement had been that the department was pin-pointed as the Department of Defense, in the 1949 declaration at the national convention we said, "A single Federal department." Our thinking has not departed in fact from the thought that the Department of Defense should be given at least the major directional planning and implementation with whatever collateral and incidental powers may be necessary, rather than perhaps creating one new over-all agency which necessarily would overlap on other existing agencies.

The CHAIRMAN. Have you made any study of the English system as it was used in the last conflict?

Mr. ALLEN. We have had working with us Col. Frank McNamee, of New York, and Col. William Warner and Col. William Brewer, all of whom were closely associated in the passive defense of the Low Countries and England during the war, and they have helped in the drafting of our resolutions and our plans of civil defense. I am not familiar with it myself, to that extent.

The CHAIRMAN. I wonder if, before that resolution was passed, you know whether or not your national officers had any contact with the NSRB, the National Security Resources Board?

Mr. ALLEN. I will state the fact. The resolution that I just read came from our national executive committee meeting in November of 1949, following the summary that I have read of the resolution adopted at the Philadelphia convention. At that time, every inquiry was made as to what governmental authority we could go to to find where we were in this country with regard to civil defense. We got the most active cooperation from the Department of Defense, which sent down representatives to meet with and to discuss with us the status, the planning, and the future of civil defense, and to help us in our thinking.

We made a similar request of the NSRB, and we were advised that they had no man in there who knew anything about civil defense.

Now, let me qualify that statement. We know that they did have some men who knew something about civil defense, but the response that was made was with particular reference to the action the Legion was wanting to take at its Philadelphia convention, as to what we could set up as a plan. It was our understanding that the work in the NSRB was almost purely an investigatory and planning type of work, and that they were not vested with authority to promulgate plans.

The CHAIRMAN. That is not quite accurate, I think. After all, they are the coordinating agency for all of the departments of the Government which have an interest in civilian defense. There is scarcely an agency of the Government that does not have some function, some part to play.

Mr. ALLEN. That is right.

The CHAIRMAN. There is the Treasury, the Department of Justice, and the Department of Commerce in export licenses, and the Department of the Interior in natural resources, and the Department of State. The thing that occurs to some of us is that if you were to set up one department and call it the Department of Civilian Defense, you would duplicate the whole Government. Of course, we cannot afford that. We cannot have a duplicate Department of the Treasury to deal with matters of civilian defense, so that is why it has been determined that the best way to handle it is to have a coordinating agency.

Now, I regret that when you tried to get some information from them they did not come forward, because they should have.

This committee has held several executive hearings, executive because there were matters which we wanted to discuss which it was not practical to discuss openly, that is, in an open hearing. I do not want to speak for the committee, but I will speak for myself in saying that the amount of planning and the amount of study that has been done rather surprised me, and I did not know that they had done as much as they had.

However, that is the purpose of these meetings, to see to it that the planning that can be brought to the attention of the public should be brought to the attention of the public, and perhaps the American Legion will feel when the job is done in part by this committee, that they have not been as much asleep as both you and I thought that they were, at least before I started to investigate it.

Representative HOLIFIELD. Mr. Chairman, may I ask a question of the witness?

Your original resolution was passed in March of 1948, you say?

Mr. ALLEN. No, sir. The resolution I just read was adopted by the national executive committee in November of 1949. The resolution preceding, that had been referred to, had first been adopted at the New York national convention in 1947. That was reaffirmed at Miami in 1948.

Representative HOLIFIELD. The reason I asked was that the President assigned to the National Security Resources Board the leadership in coordinating civil defense in March of 1949.

Mr. ALLEN. We had that action before us at the time of our Philadelphia convention in 1949. This resolution was adopted after that, and it was in view of that fact that the national commander of the Legion made the request of the National Security Resources Board that it, if it could, send one or more representatives to meet with our committees at Philadelphia, to bring them up to date as to what the state of civil defense planning might be, and what the plans were for actually instituting such a system. It was at that time that we were advised that they were not equipped to give us that information. They did not send anybody down.

The CHAIRMAN. What was that date?

Mr. ALLEN. They were not equipped, they said, at that time to give us that information we were requesting. That was in August and September of 1949. That was at the time of the national convention in Philadelphia.

Then Mr. Cocke, as chairman of the National Security Commission, got in touch with the NSRB at Washington by phone to inquire, if one or more of us came to Washington, whether there would be somebody who could meet with us to help us in our thinking, because we were responsible to report back to some 3,000,000 members in over 15,000 posts who were demanding of our organization that it do something to get a civil defense plan in this country.

Representative HOLIFIELD. I think the American Legion is to be commended for its initiative in pushing for some type of civilian defense. However, as this committee has entered into this subject and heard testimony, we find that it is a very complicated field; it is much more complicated than it was in the last war, and we cannot envisage the same type of civil defense such as tin hats and sand buckets, under the circumstances which now exist, and therefore it would be worse than useless to start on a plan that was not well thought out and well integrated into our whole national structure.

I doubt if there is any member of this committee right at this time that would be willing to write down a rigid form of civilian defense. I do not believe there is any organization in the American Legion or anyone else who could prescribe an inflexible plan right at this time to answer the needs of civil defense in America. I think that we are all exploring that, and we are just as anxious as you are that the proper kind of civil defense plan be promulgated. But we do not want to lead the people down a blind alley with the wrong kind or inadequate kind of civil defense program.

Mr. ALLEN. Did my response to the Senator's question give you the idea that I thought that either we or somebody else could provide such a plan right now? I did not so intend.

Representative HOLIFIELD. No; I did not understand that.

Mr. ALLEN. All we wanted to say was that somebody ought to get busy now, not merely thinking and not merely philosophizing and

not merely planning and not merely writing magazine articles, but somebody ought to get busy. And we set about trying to say who we thought should do it. And we are saying that here. We think it is Congress.

I would like to finish, if I may, on that same subject.

The CHAIRMAN. Yes. I have some questions here which raise some problems, which I will be glad to refer to after you finish.

Mr. ALLEN. I may cover some of the points, because we were trying not to go too far afield, and therefore a lot of these things are short-cut.

Then, in January of 1950, the national security commission of the American Legion, meeting in Washington, D. C.—and at that time there were members of the NSRB meeting with our commission, for the first time—adopted a report to the national executive committee reciting that—

the totality of modern war and the complete vulnerability of our homes and our industries have brought new emphasis for the necessity for a practical plan of civil defense.

It further reported that although the Hopley report—Civil Defense for National Security reports to the Secretary of Defense through the Office of Civil Defense Planning, dated October 1, 1948—had laid down a blueprint that is proving useful as a guide for communities all over the Nation, nevertheless that plan had not been adopted or approved by the Federal Government, and that on March 3, 1949, the President in a letter to the National Security Resources Board asked for a plan of civil defense and that the Board in turn had reassigned the project to other agencies. The Legion's national-security commission thereupon observed that—

progress has been slow and at times difficult, because of lack of leadership and the fixing of responsibility on a definite Nation-wide plan.

The national security commission did, however, comment upon one bright spot in the picture. It noted that—

In the operation of the present auxiliary tests, control has been vested in the Civil Defense Section, Department of Defense.

Noting that in these regards progress has been made, it was further noted that, as proposed in the Hopley report, civilian participation in existing community structure has been followed; that civilians will be charged with responsibilities in auxiliary units that have to do with every phase of civil defense. It was further noted that trials have been run on limited scales in some phases of these auxiliary services and that more extensive tests are now being planned. These are the tests which are being carried out under the Department of Defense, and it is in that Department where progress is being made.

At this point it should be reiterated that the American Legion repeatedly has called for the placement of the responsibility for development and implementation of civil defense in the Department of Defense through a civilian agency.

It has been the confirmed conviction of the American Legion that responsibility for positive action will have to be placed under one head in order to provide an acceptable and workable plan of civil defense for the entire Nation.

In that regard, let me digress to say that the Legion is not endeavoring to say to the Congress where the one head should be or how it should be or what the correlation of those things should be. I would

like to say that we met this morning with the new Director of Civil Defense, and we were likewise surprised to find some of the scope and extent to which their planning has gone, but we are still unsatisfied as to the steps being taken for progress in the future. We find that their planning is merely being recommended to the States and communities. We believe that the Congress must soon act with legislation to implement the continuity of a common plan down through the communities and down through the States, with a Federal head.

The CHAIRMAN. We had the mayor of Los Angeles here the other day, and he made a strong plea for the cities and the States being permitted to handle this problem. This was Mayor Bowron. I do not quote him, but I give the sense of what he said, and he said that he was somewhat alarmed at the growing militarization of the United States, and he wanted to make certain that the military did not come into control of the program until there was an absolute necessity for it.

Do I quote him correctly in that, or do I convey his thoughts?

Representative HOLIFIELD. I believe so.

The CHAIRMAN. He, too, complained that he had not received definite word as to what he should do, although the Governors of the States have in the past, I believe it is, 30 or 40 days gotten some rather definite information.

The point that I want to make or sum up is that at least we have had one witness before us who does not see eye to eye with the Legion in the matter.

Representative HOLIFIELD. May I ask, Mr. Chairman—

Mr. ALLEN. I wish to respond to this extent: that, in the next development that I come to here, the Legion insists upon the recognition of local autonomy, the sovereignty of the States. We are merely calling for a common plan, evolved somewhere in one place, whereby the 48 States will have one plan instead of 48 different plans, and the communities will all be on a common basis. If a man moves from New York to Los Angeles, he knows what to do if he is assigned to a given unit, instead of having as many different types of organizations as there are cities, so that the articulation of that plan in the event of attack can be as easily accomplished as the federalization of the National Guard, so far as chain of command is concerned, or so far as the flow of common action.

Representative DURHAM. Is that not where you run into difficulty, Mr. Allen, because you get into a different situation in Chicago rather than Chapel Hill, and to work out an over-all plan for each State on the same basis, to me, it faces a great many difficulties.

Mr. ALLEN. Of course, we are getting into a discussion of something that the Legion has not undertaken to do. We are not undertaking to set up a plan; we are saying to the Congress, "We think that you should evolve a plan." We are saying to you that, when you do, we think there should be a continuity of the principle involved so that the application of that in the different States will have a common basis.

Representative DURHAM. I understood you to say it should be an over-all plan.

Mr. ALLEN. It is an over-all plan, but there is a plan for cities of 10,000, and 50,000, and 1,000,000; and the things that do exist in common in those kinds of places. Those are the details that we have not endeavored to say to you anything about. The experts are there for that purpose.

Representative HOLIFIELD. The thing that you are looking for is expert Federal guidance on a uniform plan in the different communities, of solving a common problem which might be common to them?

Mr. ALLEN. That is right.

Representative HOLIFIELD. I am glad to hear you say that you are asking for autonomy to be held on the State level, because I think most of us feel that, in a civil defense program of the magnitude that will be necessary, it will have to be run with volunteer help, and when you have volunteer help the Federal Government cannot step down and direct them as to how it must ask them to cooperate along the lines of a common plan.

Mr. ALLEN. My next paragraph covers that, Mr. Holifield.

Representative HOLIFIELD. Also, the point I wish to speak on is on your military or civilian control. I think, if we have been informed correctly, the military part of our Government does not want to have the responsibility of actually directing civilian defense. I think they want to work in the sphere of military action rather than in civil action; and, while there is a necessary coordination there, yet they realize that they cannot be burdened with the tremendous job of civilian defense if they are going to defend the Nation in a military way.

Mr. ALLEN. I think that you will see from our own development we do not expect the Department of the Army or the Navy or Air Force to have anything to do with it. The Secretary of Defense is, of course, a civilian. There are civilians under him. There are other civilians or civilian agencies, of course, that might be possible. That is the question we leave to Congress. We are not trying to say to you how to do it. We are saying to you that something must be done, and now, and more than has been done.

I think the next paragraph is directly on the point that you had, of autonomy, and shows the thinking of the Legion and its continuity of thought since 1947.

The CHAIRMAN. I just want to make a comment on that. It is true that the Legion in 1947 and 1948 and 1949 made reference to this problem, but it is significant that your executive committee met in between conventions and brought up this thing in November of 1949; and as Mr. Kennedy, I believe, said, in the interval between your convention and the executive committee meeting came the atomic explosion.

Mr. COCKE. We adjourned on September 1, and on September 23 President Truman talked about the explosion of the atomic bomb in Russia.

The CHAIRMAN. The reaction on you fellows was not a lot different from the reaction on Government, Congress, and on the people generally. It is pretty difficult—and I am not trying, because I had nothing to do with it, I am not making any alibis for what they did or they have not done—but I think it is only fair to say that the impetus for civilian defense was not present until the existence was proved of the Russian atomic bomb; do you not agree?

Mr. COCKE. Right, and therefore more important now.

The CHAIRMAN. I agree. But what I am trying to point out is simply to be fair to all concerned. Your Government is a reflection of your people, in large part, and the impetus was not there.

Then, again, I am one of those who did not depreciate the importance of what happened last August, announced in September. To my way of thinking, some of our national leaders made statements with an effort to play down the importance of it, which I do not believe was wise. I personally did not take that attitude, and I think it had tremendous implications. I think that that is becoming more and more apparent to the people of the United States with every day that goes by.

I just make those comments showing that you do not get things done until you have a reason to get them done that you can see. It is theoretical up to that time; and then we know that they are in prospect of having a stock pile of atomic weapons, and that is the impetus to get busy, the Legion just as well as those responsible here.

Mr. ALLEN. In defense of the Legion itself——

The CHAIRMAN. You do not need to.

Mr. ALLEN. I am saying it this way; that it had, perhaps, keener apprehension of some of these things earlier than the mass of the people. We were advised at New York in 1947 that there would be an atomic explosion under control in another country at some time. The timetable was shortened, to be sure, but it did not in any degree lessen the interest and lessen the apprehension of those who were working on this. And so I would like to go ahead into the next paragraph, and as I read it, please remember that it was written in August of 1947 in New York City.

Representative DURHAM. This is a continuation of the policy that we have always had, because of the fact that in the twenties we were always apprehensive then of what was going to happen as far as our defense was concerned.

Mr. ALLEN. If they had not thought we were ill-advisedly apprehensive, we might have kept out of at least one of those wars.

The CHAIRMAN. How many of those 3,000,000 members of the Legion have signed petitions asking that the budget be balanced and that all expenditures be cut?

Mr. ALLEN. I would not know anything about that.

The CHAIRMAN. I will bet you a lot of them have.

Mr. ALLEN. Yes; no doubt.

The CHAIRMAN. They sign petitions for defense of the country on the one hand, and giving h-e-l-l to anybody who cuts the appropriation; and then a week later you will get a letter saying, "Why don't you balance the budget, and why are you spending so much money?"

Mr. ALLEN. In Oregon, we like them not to spend money in Connecticut, but not to cut us off.

The CHAIRMAN. And in Connecticut, Oregon is a long ways away. Of course, I might add that the balance is against us.

Mr. ALLEN. This has been the position of the American Legion since its 1947 national convention at New York, where it declared:

It is clear that organized and disciplined local civil-defense agencies, with adequately trained personnel, under wartime military jurisdiction, must be immediately available in every community if the Nation is to survive the totality of any future war.

While the development and preparation of any over-all plan for civil defense is basically the responsibility of the several sovereign States and the local communities, the problem in its entirety transcends State bounds, and requires some form of articulated Nation-wide control, and accordingly belongs in the Office of the Secretary of Defense——

and that was our 1947 statement—

for leadership, policy, unified national plans and over-all supervision, and for Federal control upon actual activation in case of attack.

That was from page 92, Summary of Proceedings, Twenty-ninth Annual National Convention of the American Legion, New York, N. Y., August 28 to 31, 1947.

The 1947 position of the American Legion was further amplified in the resolutions appearing in full on pages 92 and 93 of the Summary of Proceedings above mentioned. This included the outline of a basic plan of civil defense and copies of the Summary of Proceedings of the New York Convention, so far as available, will be made a part of this statement. The basic plan so outlined in Resolution No. 845, appearing in full on page 93 of said Summary of Proceedings is incorporated, in its main essentials, in the aforesaid Hopley report, which of course amplifies and details the functions therein set forth. That has been set out as a plan of civil defense and expanded in the Hopley report, and which the Legion has approved, with certain recommendations.

The Hopley Report aforesaid sets forth on pages 280 to 285, both inclusive, a model state civil defense act. Although the Hopley Report has not officially been approved, nevertheless various bar associations in the States and the American Bar Association at its St. Louis convention favorably considered the model act as a proper basis for uniform State legislation upon the subject of civil defense.

Accordingly, the American Legion has proceeded to urge the adoption of the model act throughout the States and this has been accomplished in some moderate degree.

It becomes obvious from all the foregoing, of course, that there must be created some central motivating force in order to accomplish a satisfactory Nation-wide application and organization of a sound and acceptable civil defense plan.

With this in mind the national security commission of the American Legion on January 28, 1950, meeting in Washington, D. C., originated and approved its resolution No. 1 calling for an official plan of civil defense.

This resolution by the national security commission recited that there has in fact existed since October 1, 1948, an adequate and comprehensive plan for civil defense, that offers an integrated plan for national, State and municipal governments.

The commission then proceeded to state that—

There is practically no leadership from the Federal Government to coordinate, counsel or assist in the training of State and municipal civil defense organizations—

let me stop there to say that the NSRB expressly, as I understand it, disclaims any authority to go out and aid in the training on these things. They are merely a planning agency so far, merely considering what ought to be done, and perhaps making some suggestions. But we are saying somebody should go from that point on now to phase (2) and proceed upon a training program that will answer the questions of the mayor of Los Angeles and say, "We are leaving this to you and your local autonomy, but here is what we think is a good thing for you to do; and if you do it, it will be in the general pattern of all of the other communities."

The CHAIRMAN. You were told that that was in the works?

Mr. ALLEN. He was saying that they are exceeding the planning authorized, perhaps, to the extent of recommending that their planning be adopted. We say that the Congress should not leave it to any such body to merely recommend its plan, but should give statutory authority for such a group, the same one, perhaps, to have the authority to give such aid as may be necessary to the States and to the communities in carrying it out and doing it expeditiously. As it is going now, maybe in 10 or 15 years we might have it, and it might be 9 or 14 years too late; and we think that we need something pretty soon.

Representative HOLIFIELD. You are advocating the passage of a civil defense act something like the British have?

Mr. ALLEN. Something along that nature.

Representative HOLIFIELD. But how would you provide for the degree of financial aid which could be extended from the Federal Government to the local agencies before we find out just exactly what kind of a plan is the best suited?

Mr. ALLEN. I think we would deem that any suggestions from us to the Congress on that score would be presumptuous. That, as we conceive it as citizens, is the duty of our Congress to figure out.

Representative HOLIFIELD. That is one of the things that we are trying to figure out.

Mr. ALLEN. We do not want you to spend too much of our money, of course.

The Commission thereupon resolved:

That the President of the United States immediately declare an official plan for civil defense that will permit the establishment of a practical civil defense organization.

The foregoing expression of the national security commission must, of course, be interpreted in the light of the official convention action of September 1949, at Philadelphia as hereinabove quoted, and the November 1949, action of the national executive committee calling upon the Congress to take the matter of civil defense into its own hands and to base it upon the enactment of a law which will provide—

a sound and acceptable plan of Nation-wide civil defense training designed to give all the States a common basis of civil defense.

While realizing that this presentation has intruded upon your time and your patience, it has gone to this length only to indicate the growing impatience of the American Legion as the world's greatest veterans' organization, over the inaction and lack of leadership displayed upon the Federal level with respect to promulgation and development of a sound and acceptable plan of civil defense. It has been deemed worth while to indicate to you in some detail the tolerance and patience of the American Legion in putting up with the snail-like progress made by the Federal Government, since World War II, in the direction of an adequate civil defense program.

In addition, however, it has been given you with some detailed reference to official action in order to indicate that the American Legion fully realizes the dangers inherent and implicit in any ill-advised or hastily put together Nation-wide plan of civil defense, even though an efficient one.

Your attention is respectfully invited to the fact that the American Legion has stated and restated in every official declaration, that any

plan of civil defense to which it will give its support, must be a "sound and acceptable plan of civil defense."

I would like to interpolate into the mimeographed copy that you have there, something that has occurred since we had discussed these matters, to make it clear what the Legion thinking has been. It is appropriate to remark at this point that any such plan must be created and administered under civilian control to meet Legion requirements.

Preservation of local autonomy and sovereignty of the States was declared for in the 1947 New York resolution as hereinabove quoted.

The national executive committee, in interpreting and carrying forward the declarations of the American Legion in its various national conventions since World War II calls attention to—

the Legion's insistence upon preservation of local autonomy in peacetime, and maximum protection of those human rights and liberties which we deem fundamental to our concept of a free America.

That is from page 101, digest of minutes, national executive committee meeting, national headquarters, the American Legion, Indianapolis, Ind., November 18, 19, and 20, 1948.

Upon the same page in the same document, and referring to the Hopley Report which it said appeared to embrace and implement the principles of civil defense as outlined and declared by the American Legion at its 1947 New York convention, it states nevertheless—

but the national security commission and the civil defense committee will have to subject this entire proposal to the most searching scrutiny before we shall be able to give you a final approval upon which to base official Legion action. It is self-evident that the impact of full regimentation, under civil defense, could be devastating to the American concept of freedom.

In the next paragraph it proceeds further to state that any such Nation-wide plan offered for approval must be—

based upon basic principles previously declared by the Legion to be essential to an acceptable civil defense establishment.

Again upon the same page the national executive committee reaffirms the declarations of every national convention since World War II—

that the American Legion stands ready to furnish direct and immediate support through cooperation, coordination and education, in the event the plan meets with final approval.

Throughout its planning the American Legion has been keenly aware of the fact that it would be quite futile in the end result if the creation of an efficient centrally controlled and regimented system of civil defense should mean the loss of those fundamental human rights and liberties for the attainment of which, and in the defense of which, the American people have struggled from the inception of our Nation.

It was with this in mind that the national executive committee said on page 100 of the digest of minutes of the November 1948 meeting above mentioned, that—

the relationship of the American Legion to civil defense has now taken a new turn. New duties lie before us, and our responsibility has become great \* \* \*.

and then closed on page 101 with the following:

We would not have intruded upon your time to this extent, but for a keen realization of the far-reaching impact upon our whole people of any permanent plan of civil defense. It must be acceptable according to the concepts of the American Legion.

It was with this in mind that the American Legion has called upon the Congress to assume the controls—civil defense must remain with the people, both as to when they go into it, and when and how they come out. That is the responsibility of the Congress.

Upon behalf of the American Legion we wish to thank you again for the opportunity to bring into your record the full weight of the American Legion's 4-year position with respect to civil defense:

First, as to the necessity for a sound and acceptable over-all Nation-wide plan; and

Second, the equally imperative requirement of any such plan that it be not the instrumentality of losing those fundamental human rights and liberties guaranteed to us by our Constitution; and

Third, the American Legion's belief that this safeguard must be accomplished by the exertion of effective control over civil defense in its inception, in its operation, and in its termination, by the Congress of the United States.

The CHAIRMAN. Are there any questions, gentlemen?

Representative HOLIFIELD. I would like to make this comment, if I may, Mr. Chairman.

I think your presentation is very good, and you have certainly outlined to us the problem that we have before us, which has been outlined to us before. You have put, and rightly so, certain prohibitions against putting a plan into effect which increases the seriousness of the problem, because we are going to have to go at it in the American way, which we want to do, and that is the way we want to go at it; and that means that we are going to have to develop it on the basis of cooperation rather than coercion. And, of course, we must have the support of the people throughout the Nation or we cannot do that.

The Chairman's remarks on timing, in my opinion, are very important, because at the present time if you go into a community and try to sell them a plan which may be the necessary type of plan to save that community or to partially save it, the attitude with which those people meet that plan is going to be very important. If they say, "What are you trying to do, scare us? We are not going to give up enough of our time to take this training, and we do not believe we are going to have a war right away and we see no necessity of going into this thing as seriously as you seem to think it is necessary," at that point, unless we do have real grass-roots support for the type of a plan that may be necessary, our whole structure will break down.

Mr. ALLEN. Congressman, I am very grateful for your bringing that subject up, for this reason: As I said a few minutes ago, we in the American Legion make no pretense of being experts on how to do this civil defense thing. We do pride ourselves to some extent that by lifelong application to the principles of the Legion and of our country, we can see what the problems are that the experts ought to go to work on.

Now, we can perform a function on the very angle you mentioned. That can be, as was said in here, new duties and responsibilities of the Legion. Our relationship now takes a new turn.

First we propose to safeguard those fundamental human rights and liberties to the bitter end, whether we ever get civil defense or not. We are not going to give up what we have in the Constitution. That is, just for something that might do us a job.

The next thing is this: When the Congress delivers back to us what we are asking for from you now, which is a sound and acceptable plan of civil defense guaranteeing the human rights and liberties and protecting those things to the fullest extent consistent with the necessities of the situation, then we can offer to you the greatest veterans' selling organization in the world, of three million members with over 15,000 posts, in every State and community of the United States, where our men can go in there and say, not "we are going to do the job," but "as citizens we are here to help to do the job."

Representative DURHAM. The application of it is what is worrying me, because it is not very difficult to get people enthused over something if you are in war. In peace it is a selling job, as you have pointed out.

Now, as I understand your recommendations or your thinking, of course it coincides with mine, to keep it on a local level and in the hands of the Governors and the mayors and the people. I think that that is the right procedure. I understand you to say that something should be done in the way of statutory authority; is that correct?

Mr. ALLEN. That is right.

Representative DURHAM. Have you gone so far since you more or less volunteered your services, could the veterans' organization be put into the statutory authority as something along that line?

Mr. ALLEN. I am glad you raised that question. The American Legion does not ask to be recognized as an organization at any point.

Representative DURHAM. I am talking about all veterans' organizations.

Mr. ALLEN. Or any veterans' organization. We are simply saying that as good American citizens, give us something which as citizens we can do to fit into the civil defense program. What we are saying to you beyond that is that as the American Legion, give us a selling job to do to the citizens of whom we are a part.

Representative DURHAM. And you do it on a voluntary basis?

Mr. ALLEN. Absolutely; and we do not ask to be mentioned in any statute.

Representative DURHAM. As I say, somebody has got to administer this thing, and, as you know, sometimes our elected officials get a little careless.

Mr. ALLEN. You give it to our Governor—and he is a good Legionnaire—and we will say to him, "What do you want us to do?" He will say what he wants done. It is a duty of citizenship, and the offer of the Legion here is only as a function of citizenship.

Mr. COCKE. I think in the interest of time, we can excuse Niel Allen, of Oregon, and I want to present the second witness here.

Besides being a Catholic priest, well known and admired in his State of Colorado, the next witness is Father Paul C. Potter, who is a consultant to the National Security Commission of the American Legion, and his military record, which is certainly a brilliant piece of service, between 1940 and 1946 in World War II, he was a colonel in the United States Army Air Force at the time. Although he is a chaplain, Father Potter was officially admitted and recognized throughout the War Department as the chief instructor of the Air Force's training command, at which time they had probably the largest school or university in the world, and under his direction as the chief instructor, which numbered 1,450,000 at the peak time.

So you might say he has operated the biggest classroom instruction that the world has ever seen. He certainly has been recognized in many fields, and understands the aspects of training that affect the cross-section of the Nation's youth.

So we feel that we have, and I will present him to you today, the foremost internationally known authority in the field of panic research and survival training.

It is a pleasure to present to you as an expert witness, and one that I feel will be very entertaining and beneficial to this committee, Father Potter, from Colorado.

**STATEMENT OF FATHER PAUL C. POTTER, OF COLORADO  
CONSULTANT TO THE NATIONAL SECURITY TRAINING  
COMMITTEE OF THE AMERICAN LEGION**

Father POTTER. Mr. Chairman and gentlemen of the committee: As a member of the American Legion and technical consultant to its national security training committee, I appreciate the privilege of coming before your group today to testify concerning the immediate and urgent need for a systematic training designed to prepare the youth of the Nation for potentialities of the future by no means uncertain.

Mainly because civilian populations of the larger cities of America will be not only the shock troops of any next world war but also constitute the mobilized manpower for purposes of counterattack and mop-up, one of the major problems now confronting the youth of the Nation is the problem of survival. And because the means of survival in an age of technological warfare do not come as an inborn or intuitive or instinctive knowledge, the provision of a correlated form of survival training has quite inadvertently become one of the pressing duties of National Government. No longer can it be viewed as a matter of choice or privilege; it is an obligation—not merely an "ought" or an "if," but a "must."

Recognition of that fact is, of course, back of any inquiry into the necessity for some sound plan of civil defense.

You have already heard the Legion's statement that civil defense is "the organization of the people to minimize the effect of enemy action against life, production, and property."

In the light of my present discussion, may I say more specifically, civil defense training is now survival training.

In further support of this statement I invite your attention away from generalities and to something definite and specific—to a fact which is not a matter of hearsay or opinion or ideology.

It is this: Anyone who could this day penetrate the Soviet iron curtain far enough to audit classes now in progress in the Soviet Air Academy at Monino near Moscow or at the Soviet Command and Staff School in Moscow, could observe for himself how literal translations of two American publications are distributed to Soviet students of military tactics and strategy.

One of these is a verbatim translation of a book entitled "Invasion From Mars" written by Prof. Hadley Cantril of Princeton University and giving a play-by-play account of what happened on the night of October 30, 1938, when a fictitious news broadcast by Orson

Welles channeled over a Nation-wide system, plunged civilians in all parts of the Nation into a state of panic so interesting and amazing that the psychology department of one of the Nation's leading universities made it the subject of detailed study and research.

The CHAIRMAN. You know, Father, I remember it took about 3 days to get some of those people back from the hills of Oregon, and I remember that very well.

Father POTTER. That is correct. In fact, people of one New England city wrapped their faces in wet towels and besought gas masks from the courthouse. At Pensacola, Fla., a father murdered his two children so that they would not be molested by inhabitants from Mars; and a Memphis newspaper published the accounts of the destruction of St. Louis and Chicago.

The other translation is an account of the very revealing psychiatric experiences of one of the numbered Air Forces in World War II. It is entitled "Men Under Stress," written by Colonel Grinker and Major Spiegel.

The fact that these and similar publications are made a subject of detailed analysis in military classrooms in Soviet schools of advanced military science does not indicate a mere hobby or avocation or pastime on the part of military specialists in Soviet Russia. There can be but one logical conclusion: namely, that the Kremlin planners know the weakest point of the world's strongest Nation—its susceptibility to panic.

By "panic" the psychologist means any sudden, extreme, and unreasoning reaction to fear. Whether it is individual or group or mass panic does not alter its basic utility to an enemy who aims to break a Nation's will to resist. Consequently, any modern system of national defense which does not give specific attention to the panic-proofing of personnel, civilian as well as military, is as useless as a gun with a cardboard barrel. And the security which it affords is a misnomer.

This is mainly because the interrelations of warfare and weaponry have been changing more rapidly than the common concepts of military science. Best sellers are still speaking of an Absolute Weapon. Vannevar Bush, for example, defines it as that weapon which renders all other weapons obsolete.

Actually, in this age of technological warfare, there is little use talking—except from the engineering viewpoint—about the absolute weapon; for it is purely an imaginary thing. It cannot long exist outside the mind of its inventor. It can never be photographed with a camera nor weighed on a scale nor calibrated with a meter; simply because it is obsolescent before its fabrication is completed. If obsolescent, it is not absolute. And although it will always be necessary to stock pile supplies of so-called absolute weapons in order to back up the Nation's threat to counterattack in kind, the only concept common to the changing techniques of modern warfare is the ultimate weapon, namely "panic."

The capacity to create individual or mass panic is the only objective of warfare which has remained unchanged from the era of caveman combat, through the wars of the Philistines and Genghis Khan, down to the reciprocal mass destruction of modern times. This is because the threat of panic is the basic thing which can cause an armed enemy to abandon opposition. And such is the aim of all warfare.

Because reasonable fear is a natural emotional pattern developed in humans as a normal and necessary protective device, immunity to panic or fright or tension is not a common heritage of all men. It is something which can and must be developed. Lack of such immunity is what basically caused most casualties which in World War I were commonly known as shell shock and in World War II were dignified with the name war neuroses or combat fatigue. Regardless of what such casualties are called, psychological research has given us not only the ways to prevent them in both military and civilian personnel but also the advanced methods for screening and classifying persons so as to make such training most effective. One of the objectives of the national security training program which the American Legion advocates is to process the youth of the Nation in such a way as to send them back home again to their respective communities with the know-how, the know-why, and the wherewithal which constitutes immunity to needless fear, useless tension, and suicidal panic.

In this Nation of relative plenty where big-city youth has been softened by the comforts of modern indoor living, it is being utterly unmindful of the Nation's future to let youth continue on with a sense of security adapted from the Buck Rogers or Flash Gordon school of survival.

The significance of this thought becomes more pertinent when it is recalled how, in the attempted mobilization of manpower for World War II, three-quarters of a million of the Nation's youth had to be rejected by draft boards due to psychological unfitness for combat. Regardless of this precaution, psychiatric casualties numbered nearly 2,000,000. This significance became doubly emphasized just 4 months ago when the Acting Federal Security Administrator testified before Congress that not less than 3,000,000 of the youth now in the Nation's schools will at some future time have to be committed to mental hospitals for observation or treatment.

It is consequently apparent that a system of national-security training involves not so much the issue of the Nation's youth sacrificing a brief portion of their time for group training as it does the Nation giving its youth one last opportunity for survival. From the standpoint of youth, national-security training is therefore not a Plea but a Privilege.

With very few and minor exceptions, the youth of America are brought up to believe in rugged individualism. In times of peace this is perhaps a tremendous asset to both youth and to the Nation, but it can become a national and individual liability in wartime manpower mobilization, and for two reasons:

(1) It opposes development of capabilities for essential teamwork, without which any kind of group combat action is not only useless but suicidal.

(2) It begets a feeling of frustration which breeds neuroses. Such conflicting habit patterns create further mental kinks which curtail the man's usefulness to himself and to the Nation.

Even apart, therefore, from the way in which national-security training would aid far-flung communities in stabilizing and correlating their fulfillment of civil defense, apart from the screening, classification, and psychological processing procedures available for the first time on a national scale, there will be afforded to youth a solidarity of national viewpoint and a confidence in the American way of life.

In summary, therefore, may I point to the following facts:

(1) The possibility of harassment by nerve poisons, or biological warfare, which are by themselves perhaps more of a threat than atomic attack, is not a remote potentiality but a pressing and immediate threat, to prevent which the Nation is presently spending two-thirds of the national income. The Kremlin has repeatedly declared that conflict between communistic and capitalistic ideologies is certain.

(2) Russia now has a workable A-bomb and the means of delivering it to any portion of the United States.

(3) This Nation is repeatedly informed that the air defense of America is inadequate and, even if it were the best which could be devised, 50 percent or more of hostile aircraft might penetrate the Nation's air defenses.

(4) Since the national policy commits us not to strike the first blow without warning, a second and more devastating Pearl Harbor will be our first indication of state of war.

(5) The very nature of such an attack and the devastating results will provide the precise requirements for national panic as previously explained. People under stress lose ability to think logically and are momentarily deprived of their ability to protect themselves from destruction, excepting in cases where strong leadership is involved, either available or utilized.

(6) The Nation must look particularly to the civilian youth of America and not to the regular military forces for instant action to counteract the effects of hysteria and panic.

(7) Despite the drastic threat to our security, no method of long-range control exists except to train and otherwise prepare the civil population for such an eventuality.

(8) Leaders are useless unless they are trained and their correlated efforts are supplemented by a trained manpower so organized as to be promptly susceptible to leadership.

Thus it would appear to be self-evident that, unless we decide this Nation is in no danger of being attacked within its borders, there must be some preplanned, widely known and understood civil defense system.

It follows that this cannot be accomplished without training. I call it Survival Training, and it necessarily assumes two phases:

First, present training of the entire civilian population, adult as well as youth; and

Second, long-range youth training such as the national security training program provides, to implement civil defense until the long-awaited dawn of universal peace.

Meanwhile, the Nation's security can be no more dependable than the mass security of the manpower mobilized to defend it.

The CHAIRMAN. Do you have any questions?

I think that that is a very fine statement.

Representative DURHAM. It is a very fine statement.

Mr. COCKE. Mr. Chairman and gentlemen of the committee, our final witness will be an attorney from Murfreesboro, Tenn., Mr. Granville S. Ridley, a veteran of World War I, and who has been extremely active in Legion circles as well as being an authority in the field of national security training. He is going to close our argument at this time.

**STATEMENT OF GRANVILLE S. RIDLEY, CHAIRMAN OF THE  
AMERICAN LEGION NATIONAL SECURITY TRAINING COM-  
MITTEE, MURFREESBORO, TENN.**

Mr. RIDLEY. Mr. Chairman and members of the committee, the American Legion comes before you in the comforting knowledge that you sincerely seek a solution that will insure security and peace for our Nation. The Legion appears to say to you how it believes this can best be insured.

We have no ax to grind. Our sole objective is the security and peace of our Nation. The American Legion believes that only in actual real strength is there any insurance of security and peace. In this, your objective and that of the Legion is the same.

The shock troops of the next world war will be the civilian populations of such centers of importance as Washington; Detroit; New York; the Tennessee Valley; Oak Ridge, Tenn.; Hanford, Wash.; San Francisco; Los Angeles; and other population and industrial centers. In a sense the Reserve components and even the Regular armed forces will be only the counterattack or mop-up troops.

Our democratic system of government forbids us to precipitate an armed conflict without a declaration of war by using our Reserve or Regular forces for an offensive prior to such a declaration.

Undoubtedly the dictator nation which appears to be our only enemy in the foreseeable future will begin hostilities with a "Port Arthur" or a "Pearl Harbor." The consensus of our military, diplomatic, and lay thinking seems to be that this "Port Arthur" or "Pearl Harbor" will be aimed at our vital civilian centers.

It seems to the American Legion that the best and only way to withstand the initial shock to these vital civilian centers is by having the strongest segment of the population of these vital areas, the male youth, uniformly trained and organized.

The Legion has prepared a plan to initiate this training and organization which is embodied in a bill introduced in the Senate as S. 66 and in the House as H. R. 1305 which has already been referred to the Senate Armed Services Committee, but which, because of the changed situation confronting us, would probably more properly be a part of our national civil defense system.

The President of the United States in a speech to Congress on March 17, 1948, recommended the permanent enactment of universal-training legislation and the temporary enactment of selective-service legislation. He recommended selective service as a temporary solution of an emergency arising because of the rapidly dwindling strength of our armed forces.

Following the leadership of its President and upholding his hand in time of what then appeared to be a pressing emergency, the American Legion abandoned its historical opposition to compulsory military service in peacetime, and as a temporary expedient, and only as a temporary expedient, advocated selective service. The Selective Service Act of 1948 will expire on June 24 next, leaving our Nation with no Selective Service System and with no plan of universal training.

Then again, in his budget message to Congress on January 10, 1949, the President of the United States, himself a most distinguished

Legionnaire, said, and I quote from page 143 of the Congressional Record of January 10, 1949, as follows:

Before the Congress could complete action on that budget (fiscal year 1949), the uncertainty of world conditions made it necessary to consider steps to develop additional military strength which would give evidence of continuing firmness in world affairs. Therefore, in an address to the Congress on March 17, 1948, I recommended the prompt enactment of universal-training legislation and the temporary enactment of selective-service legislation. Shortly thereafter, I recommended additional authorizations for national defense, bringing my total recommendations for fiscal year 1949 to more than 14.7 billion dollars.

Since then I have given continued study to our national security requirements for the present and the future. For the time being it is essential to continue the selective-service process. However, this is not the solution to the Nation's long-range military manpower and training problem. Permanent legislation providing for universal training is essential if we are to achieve an acceptable degree of national security.

During this same session of Congress the President included in his budget the sum of \$800,000,000 for the expressed purpose of inaugurating a permanent program of universal training. The Congress of the United States saw fit not to inaugurate such a program and the money was otherwise used.

On January 9, 1950, the President of the United States in his budget message to Congress again said:

The extension of selective service authority will provide a temporary solution to the military manpower problem of the active forces, but will leave unsolved the problem of trained manpower for our Reserve forces. I point out again the necessity of a program of universal training, if we are to provide on a continuing basis sufficient numbers of men for the Reserve forces, adequately trained to use effectively the increasingly complex machines of war.

That is from page 176, Congressional Record of January 9, 1950.

He has repeatedly urged the establishment of universal training as the one proper permanent solution.

As emphatically as it is possible to speak, let me state that the American Legion believes that strength is the only insurance of security and peace; strength and ever more potential strength. By this the Legion means strength of every component of the Regular armed forces and every component of the National Guard and Reserves, with the emphasis always upon the provision of this strength through a trained civilian population.

The time has come to abandon bluffing and make-believe—to quit improvising expedients for every emergency. The time will never come when there is no potential crisis. Now is the moment to adopt a permanent plan of training to provide real permanent strength, the strength of a trained citizenry. To provide this strength, to provide a nucleus of trained and organized citizens about which the shattered and panic-stricken segments of any devastated vital area may rally from an initial shock, the American Legion has offered the plan of universal training as outlined in S. 66 and H. R. 1305. This plan is known as the American Legion's plan of national security training, and we believe it will accomplish the following results:

- (1) Provide a permanent and democratic induction system;
- (2) Provide a storehouse of trained personnel in time of emergency;
- (3) Help unify the services by a system of basic training;
- (4) Insure the maintenance at authorized strength of the National Guard and Reserves;
- (5) Restrain our enemies and reassure our friends;

(6) Even in time of peace give to our youth physical and mental profiling, moral and occupational guidance, and appreciation of America;

(7) Prepare the Nation to survive by withstanding the initial shock.

To summarize, let me emphatically state that the American Legion believes that only in strength does there lie security and peace, that the potential strength of the American Nation can best be organized through national security training, that this training is an integral part of the civilian defense program already outlined by other witnesses preceding me or of any worth while civilian defense program.

Therefore, gentlemen, the American Legion urges this committee to adopt a civilian defense program that will enable our Nation to survive by withstanding the initial shock, to take a courageous stand by advocating the adoption of national security training as an imperative part of such a program, and as a permanent solution of the Nation's peacetime training problem.

Thank you, gentlemen, for your indulgence. I realize that I have departed somewhat from the subject, but we do think that this training is an indispensable part of any adequate civil defense program.

Representative HOLIFIELD. As a matter of fact, is it not true that within the next 10 or 15 years, young men trained as you suggest would be inducted into the military service rather than into the home civil defense program?

Mr. RIDLEY. I do not think for that long that they would be inducted. The Training Act only provides that they shall be in the Reserve for as long as 5 years.

Representative HOLIFIELD. I realize that, but in time of a national emergency, their age, assuming they were 18 at the point of induction into training, and up to the age of 45, is generally considered the military age. So that that particular group that could pass the physical tests would go into military service rather than into home civil defense service.

Mr. RIDLEY. Still, that is true to a certain extent, but I do not think that it would ever be profitable to induct them at the age you mentioned, up to 45. I think, however, they would be very valuable in this training. It would be only a few short years before our entire male population had this training, just as a matter of course; if they were trained every year, in a few years our entire male population would be trained, and as part of that training they would be panic-resistant, panic-proof, or perhaps impervious to panic.

Representative HOLIFIELD. I can see, certainly, value to a trained citizen rather than an untrained one, but I think for the immediate problem we are going to have to rely on the people who are either physically disqualified for military service or over the age limit, or of the sex that does not go to war.

Mr. COCKE. We are always going to rely on those to look after the home defenses.

Representative HOLIFIELD. I am thinking of the condition of England. I was in England during the recent war, and I know that their civilian defense corps was almost completely composed of elderly people, both sexes. Every other younger person had a job to do, either in production or in the military forces, in England.

In view of the fact that any civil defense program that we go into must have several million people involved in it, I believe we are go-

ing to have to concentrate on training a different class of people than you speak of in your program, and for different duties than you would train those that you speak of in your universal training program.

Mr. RIDLEY. I think to a certain extent that is true, but I also think that it would have great value, the special training that this segment of the population would get would be of great value.

Representative HOLIFIELD. That is all.

Mr. COCKE. Mr. Chairman, we certainly appreciate the time you have given us, and we are delighted that we could come as a group of individual citizens and under the auspices of the American Legion from different sections of our great country, to present this program to you.

Thank you.

The CHAIRMAN. Thank you very much, indeed.

Now we will hear from Mr. Anthony, the chairman of the Civilian Protection Group of New York City.

#### **STATEMENT OF S. A. ANTHONY, JR., CHAIRMAN OF THE CIVILIAN PROTECTION GROUP, NEW YORK, N. Y.**

Mr. ANTHONY. Mr. Chairman and gentlemen, the Civilian Protection Group welcomes this opportunity to express its views on civil defense, and extends thanks to the joint congressional committee.

I am S. A. Anthony, Jr., of New York City, chairman of the Civilian Protection Group. With me are two members who have also prepared statements reflecting their points of view. They are Dr. Walter S. Cronin, disaster coordinator for Cambridge, Mass., and Murray S. Levine, of New York City, and formerly selective service officer for the Manhattan district. I shall endeavor to speak broadly for the group as a whole, leaving to Dr. Cronin and Mr. Levine some of the more controversial angles.

The Civilian Protection Group had its beginning during World War II, as a result of the War Department civilian protection schools, which had been set up by the Army and the OCD. There were some 2,500 graduates of these schools along the eastern seaboard, many of whom met in conferences to exchange ideas from time to time. This WDCPS alumni group functioned up to the cessation of civil defense of World War II.

There remained, however, a small group who sustained an active interest in problems of civilian and disaster needs. In 1947 active discussions were resumed to consider possible needs for civil defense in view of the international situation. This resulted in the reorganization of the WDCPS alumni as the Civilian Protection Group, with a protection seminar set up early in 1949. Many facets of civilian and industrial protection have been and are being thoroughly explored in this continuing seminar.

Our group represents a composite of the citizens of an average community. It brings together individuals from various areas along the eastern seaboard. For example, officially participating are the disaster coordinator for Cambridge, Mass., and the civil defense coordinator for Westchester County, N. Y. Industry, business, profession, organizations, clergy, educators take part. All are thinking

in terms of what can be done to utilize, to the best advantage, the individual in the community.

Ours is an organization of individuals. Each of us is prompted by an earnest desire to see an adequate program of preparedness in this country, preparedness for civilians and industry as well as preparedness for the military. Failure to realize this may spell the difference between an absolute catastrophe and a successfully resisted enemy attack.

We are conscious of the fact that civil defense will bring many of the old responsibilities and problems anticipated in World War II, but on a far greater scale than ever before. New situations and complications call for more extensive planning, thorough preparation, and training. The time element in World War III, in all probability, will not afford the community nor the individual much opportunity to anticipate these problems. For that reason we are anxious to have enabling legislation right now.

There are five points that I wish to stress at this time. Each could be the subject of a lengthy study, and should be. I will merely touch on high spots.

1. Federal civil defense legislation.
2. Federal civil defense training schools.
3. Psychological problems.
4. Public information.
5. Selection of personnel.

1. Federal civil defense legislation should be enacted at the earliest possible moment. It becomes more urgent each day with mounting international tensions. An effective program at State and local levels cannot be initiated and carried on without a Federal Office of Civil Defense. States are looking to Washington for authoritative policy guidance and technical assistance. At present we have only a "planning organization." It is not reasonable to expect States or municipalities to enact legislation and to take action in a field in which the Federal Government itself does not feel constrained to assume its proper position. The over-all safety of the country is primarily a Federal responsibility, not one of local government alone.

Failure to immediately provide for a Federal Office of Civilian Defense, with sufficient authority and funds, can result in nothing but confusion at a time when coordinated action will be most needed. There must be one responsible authority. It must be administered by a man of proven administrative ability, and one understanding the needs of and for civil defense.

Actually, if it is important to consider the need for a Military Establishment at this time, to stockpile critical materials, and to provide atomic weapons, it is equally important to develop defense for civilians. In fact, it deserves status comparable to that of our military. It should not be considered in any sense a political issue.

2. Federal civil defense training schools should be initiated at once. Our experience in World War II and England's current training program should be studied carefully and a comprehensive curriculum developed. Courses should be intensive and of such a nature as to adequately prepare local leaders for eventualities. Classes should be composed of equal numbers of civilian volunteers and civil employees. They will both arrive at a better understanding as a result of such joint training.

The National Security Resources Board specialists schools and classes recently initiated are an excellent start in the right direction.

Training must be thorough if our civil defense is to really protect lives. Training must begin in the top ranks of civil employees and continue right down through the volunteer group. Gradually expanding through each echelon, this will result in a well-trained corps of civil defense workers. Such activity in itself should create an air of confidence in the community which would be an asset at the time of any disaster.

All such training, at the leadership levels, should be carried on with the civil servant learning along with the volunteer leader. Solving problems together will mean better relationships, and more effective teamwork. Actually, civil defense is going to be everybody's job, but there won't be time at the last minute to prepare. We must work fast right now and get our advance training under way.

3. Psychological problems will become more obvious as we get into civil defense, and most troublesome in another war. There must be more research into psychological areas, and we urge that any Federal civil defense program give serious consideration to this.

The CHAIRMAN. Apparently you agree with Father Potter.

Mr. ANTHONY. All of the way.

The matter of relationships will be an important one, and they will fall into several areas. They are as follows:

- (a) Military-civil authority.
- (b) Federal-State.
- (c) Local authority, volunteer leader.
- (d) Civil employee, volunteer.
- (e) Civil defense, public.

One of our most important areas for work at this time will be (c), relationships between the local volunteer leader and the local authorities. Many strains developed during World War II in this area, and a majority of them can be ironed out in advance. The civilian must understand the local authority's point of view and his problems, and vice versa. This can make a material difference in emergency operations.

During any emergency there will be problems of panic, mass hysteria, and the like. The lack of suitable training here will materially handicap local leadership and volunteers. On the other hand, proper training may alleviate some of the hazards incident to any disaster.

4. Public information is one of the most important areas in civil defense, and should be started at this time. An approach has been made to this problem by the release of some information. And might I interject my thanks and congratulations to the committee for their preliminary release. Everybody who has seen it agrees that it is a most excellent job.

The CHAIRMAN. You mean the pamphlet that we got up, that compendium of information?

Mr. ANTHONY. Yes.

The CHAIRMAN. Thank you.

Mr. ANTHONY. But there is still such public confusion that the only way this problem will be solved is through adequate dissemination of information. Public education must be a part of an OCD program. A program of public information started now will inform the civilian

as to some of the situations he may have to face, and will prepare him for cooperation with civil defense when it becomes necessary. The civilian should at least be provided with an intelligent understanding of such matters as do not fall into the category of military secrets. For example, the average high-school science student is acquainted with the principles of a Geiger counter, and because of that he has less fear of the future.

At the same time we must consider the matter of technical and semi-technical information for the civil defense workers. It must be authoritative and accurate. There should never be any question of providing him with what is necessary for intelligent and effective action, consistent with security. However, civil defense should at all times be viewed as an arm of our defense and entitled to such information as will facilitate its work.

5. Selection of personnel is important on two counts; finding the best civil employees and the best volunteer worker for the job in hand. Selection of civilian volunteers is especially important. Anyone involved in our World War II civil defense at the local level was painfully conscious of the fact that many well-meaning volunteers should never have been accepted. There should be no mass recruiting. It is far better to have a small corps of well trained, intelligent personnel than a large group incapable of functioning in an emergency. However, any recruiting should be done now, while there is time to train properly.

In conclusion, the first thing that we need is legislation. The communities and States are looking to the Federal Government for adequate enabling legislation to initiate and support a vigorous program of civil defense. And our citizens are also looking to the Federal Government for proper defense of the country.

We must have the very best possible man to head civil defense at the Federal level. His executive ability and understanding of civil defense needs and problems are obvious requirements. No matter who is chosen, he should be given a clear-cut job to do, defined so that he can go right ahead without worries of conflicting interpretations. The responsibility rests with Congress to define what is to be done in unmistakable terms, and to see that it is done.

This should result in the establishment of Federal civil-defense training schools to provide our States and municipalities with civil employees and volunteers who can work together effectively in time of an emergency.

In turn these schools will provide the means for extensive research in psychological and technical areas.

An equally urgent need is for a comprehensive program of public information, which will tend to reduce fear of the unknown.

Finally, we cannot stress too strongly that quality and not quantity must be paramount in the selection of civil defense personnel.

This, gentlemen, winds up my statement.

Let us get civil defense on the books at once, and select the best men we can find to head this program.

Let us do both of these vital things immediately, and let us keep them out of politics.

Thank you.

Mr. Levine has a statement which he would like to introduce.

The CHAIRMAN. All right, Mr. Levine.

Representative HOLIFIELD. Before the witness leaves the stand, I notice that he has several other pieces of literature here appended to his statement. Do you wish to comment on what they are, and your reason for attaching them?

Mr. ANTHONY. For your edification. I attached the minutes of our annual meeting which gives the background of what we have been doing during the last year or so and a session we had on Federal civil defense legislation.

Representative DURHAM. Do you know of any other group which has been organized in the United States?

Mr. ANTHONY. I do not know of any other group that is functioning as we are; no, sir.

Representative DURHAM. What is your number of people in your organization?

Mr. ANTHONY. That is a movable thing. It is pretty much an invitation affair. We have an active membership, I would say, of about 50, but over 200 take part from time to time.

Representative DURHAM. It kind of interests me how you got started, because it seems to me you have got something started here which is worth while for the whole country. If we could get interested groups like yours in different sections of the country, we would have another arm of support. How did you organize it or did you just go at it voluntarily?

Mr. ANTHONY. It is strictly a volunteer proposition, a group of people who are very keenly interested in this sort of thing. We have gradually expanded. Our first sessions amounted to about six or eight people, and then we would find somebody else who we thought had something to contribute to our thinking.

Representative DURHAM. Do you hold regular meetings?

Mr. ANTHONY. Every month, regularly. It is interesting you make the comment about other areas, because there are two other areas where similar groups are being set up shortly.

Representative HOLIFIELD. I notice in glancing through this appendix here that you have made some pretty definite proposals in the way of civil defense legislation, and I would like to ask at this time if you thought of drawing up a model bill, taking into consideration the type of legislation that has been enacted in England and other countries that were under actual war conditions. Has your organization drawn up a model?

Mr. ANTHONY. We had not done that, sir.

Representative HOLIFIELD. I think that it might be something you might put your talents to as long as you are interested in this, and Congress is looking for some specific recommendations. I think many of the people who testify before us testify in a general way, and leave it up to Congress. We realize and accept the responsibility of taking the final action, but at the same time this is a matter that concerns the whole country and it seems likely to me we need the best minds in the country working on the type of legislation that is necessary.

Representative HINSHAW. Perhaps I should not ask this question here, Mr. Chairman, but in listening to this testimony, and glancing through ahead of the testimony that may be given in the rest of the afternoon, I was curious to know what it was contemplated that such legislation might emanate from this committee.

If that is not a proper question, I will drop it.

The CHAIRMAN. Well, only this, Mr. Hinshaw: That I have regarded these sessions as preliminary in nature, so we could get educated in the problem. If it becomes apparent to us, either individually or as a committee, that legislation should be introduced, I assume if it came within our field that we would introduce it. I have no particular bill in mind personally at the moment.

Representative HINSHAW. My reason for asking the question is that customarily in the past such legislation has emanated from the Committee on the Armed Services, and I was just wondering whether we had in mind doing something of that sort, or whether it would come from the Armed Services Committee.

The CHAIRMAN. Well, I have not thought about any jurisdictional difficulty. Of course, it all depends upon what you are talking about. If it is established by mobilization legislation, the Armed Services would have a very small proportion of it within its jurisdiction. You have transportation mobilization, which would be before the Interstate and Foreign Commerce Committee, and allocation of price control and allocation of materials perhaps would be Banking and Currency Committee. Certainly defense from atomic attack would be in this committee. Allocation of manpower, I do not know where it would come.

The thing I want to emphasize is that this business of preparing for total defense against a total war that might be waged is in some part within the jurisdiction of every committee of the Congress. The Armed Services, to my way of thinking, would have a part, but only a part.

Representative HOLIFIELD. My questions were not predicated upon this particular committee assuming jurisdiction over this whole field. It was predicated more upon my awareness as a member of this committee of what a serious problem is presented to the Nation, and my individual responsibility as a Congressman to do something about it.

#### **STATEMENT OF MURRAY S. LEVINE, CHAIRMAN OF THE NEW YORK COMMITTEE ON ATOMIC INFORMATION, NEW YORK CITY, N. Y.**

Mr. LEVINE. I speak here this afternoon as a private citizen. I will present my qualifications and my limitations in a little while.

In my opinion, we can lose the next war through our failure to defend our cities. That is what brings me here today. It seems alarming to many of us that we are spending billions for defense, but it is really going into offense. It is time, and long past time, to spend some effort and money on preparation for true defense, measures to save the lives of Americans in their own cities and towns. I do not mean that I believe we should necessarily curtail the other expenditures, but without preparation at home we have a gaping hole in our defense structure.

Every expert tells us there will be no perfect military defense against atomic attack. In the next war America will be hit and hurt. How we will meet that attack and recover and fight on will be determined not by military action alone, but by how well prepared we

are in our own backyards. We cannot hope to be immune to attack, but we must prepare to be resilient to attack. Whether or not we have that resilience may decide the fate of the Western World.

America has devoted many months to questions concerning how vulnerable the B-36 is to attack. At Bikini I saw how we spent millions to learn how to improve battleships and other vessels against attack in future wars. We have spent money on the defense of the battleship *New York* but we have neglected the city of New York, and all the other cities in the country.

The recent statements that if we are attacked we shall retaliate "within the hour" make good reading; they make us sound strong. I believe that until we devote some time to preparation for what happens "within the hour" to our own cities we are actually weak. In America today we are sitting ducks for any possible enemy. The enemy knows it. I believe we should face it, we should do something about it, and we should do something now. I do not think preparation to save our lives if attacked is a warlike gesture. I believe it is less warlike than talk of the damage and injury we can inflict upon the enemy. It seems to me merely prudent. We live in a perilous age.

Before outlining some of the things which I think you might consider for action, a word about my qualifications and limitations.

I saw Bikini. Since then, I have been interested in civilian protection.

Bikini changed the rules of war. In my opinion it made absolutely certain something which was already becoming the prime military axiom of the atomic age. The offense has overtaken the defense. In other words, all scientific developments to protect people are many years behind our scientific development in the laboratories to kill people.

I went to Bikini as an assistant to the Chief of the Radiological Division. I was a military observer, and saw both blasts, Test Able and Test Baker, at short range. My duties required me to board most of the target ships immediately after the explosions. This experience gave me personal contact with radioactive contamination of all intensities, and I helped write some of the secret reports on the Bikini findings.

Previously I had been at Oak Ridge. I am a lawyer by profession, and have only a modicum of scientific training. My job for General Groves was selective service. My office had the peculiar task of securing the proper personnel for the Manhattan District project, and keeping them on the job as long as they were vital to the achievement of an atomic bomb. We kept many a single man out of the service, because he had the special intelligence and training we needed to make the bomb which would, we thought, end the war. Altogether I signed draft deferments for 52,000 men, and we could not tell the local draft boards what work these men were needed for. It was secret.

What I saw at Oak Ridge gave me profound convictions on the basic principles of mobilizing the strength of America. What I saw at Bikini made me resolve that I would do what little I could to warn my fellow citizens, and help them, so far as I was able, to an understanding of the new age in which we must live. Similar beliefs led others to join with me in forming the New York Committee on Atomic Informa-

tion, and the Civilian Protection Group. These are both study groups; they are nonpartisan and not political in any way, and of course I am speaking merely for myself, and not for the organizations.

The main thing which motivates most students of civil defense today, I think you will find, is this conclusion which came to me so forcefully at Bikini. The offense has overtaken the defense. We cannot guarantee that enemy action will not plant such a bomb upon one or several of our cities. As Secretary Johnson recently said, in a speech little noticed by the press, no amount of money can guarantee we will not be struck, and struck at home.

On the other hand, medical and radiation experts with the Atomic Energy Commission will tell you that 30 percent of the casualties in the Japanese cities could have been saved if they had been properly prepared. It is perfectly obvious that France would have stayed longer in the war if she had won the battle of the farmyards. Her peasants had placed their faith, not in knowledge and teamwork, but in the Maginot line. England, of course, won the battle of the rooftops. She started her preparations 4 years before the Luftwaffe came over London. She has started them again, and so, of course, has France and Sweden and Belgium and little Luxembourg. We are a lot bigger target than Luxembourg, but our official attitude has been that we are not worried.

The average American today knows less about the realities of the war which may come than Frenchmen knew of World War II. His officials have, not through conspiracy, but through inertia, let him believe the atomic age has made us strong, when in fact it has made us relatively more weak. In fact there are no strong and secure nations in the world, and cannot be again until all countries stop making the bombs.

But meanwhile we must cease to think we can sleep while radar keeps us safe. Radar and the B-36 and the push-button wars that move so smoothly in the Sunday supplements—these are the emplacements of America's mental Maginot line—a line that will be pierced all the more easily because it exists only in the supplements and in the rosy optimistic statements of certain so-called experts.

President Truman intimated in a statement the other day that we are fully prepared in a military sense. It made headlines, "Defense at peak." Yet the basic military revolution of our time is that modern war is war upon population and production; atomic bombs are not made for people but for cities. We have not begun to mobilize the million and a half persons who will be needed, according to the Hopley report, to render the aid that could save those not killed outright. And our potential enemy has a fifth column such as Hitler only wished he had, and new devices make sabotage perhaps a major offensive weapon of war.

It does not seem to me that arms or mechanisms or gadgets or even appropriations for civil defense will forge for us what the Hopley report said in its opening sentence was "a missing link" in our defense structure.

The real strength of America, as it was seen in the Manhattan project, was not its scientific brains, and you know that many of them were borrowed from other countries. It was not even our matchless industrial strength and versatility. It was mobilization, the fact that we had the people who could learn for themselves, make decisions,

improvise, take a bold chance, work with other people, and above all, learn new things. If we undertake to teach them how to defend themselves, they will be able to learn.

Take my own humble example. Between the time that our ship left Hawaii and the time we arrived at Bikini, I was given my first real instruction in handling Geiger counters, ionization chambers, and dosimeters. Many others likewise learned to defend themselves. They are not as complicated to handle as a camera. This is our real strength. Americans who know how to handle cameras can easily learn to handle Geiger counters. They have the resourcefulness and the can-do spirit which can handle a new idea. If they are given something to do about it, I do not think you will find that any idea is too frightening for them to absorb. This is a perilous world, but in all history it has never really been safe.

But to come back to civil defense.

Perhaps some of you at Bikini heard the Geiger counters sing. Bikini veterans pray God the Geigers may never sing so loud upon the streets of Washington. But it could happen, and if it does, let us be certain that we have the Geigermen and a population which knows enough to take their advice. This is up to you. If we do not, it will not be because Americans were too slow or too frightened to learn but because they were never asked to learn.

Americans have a native intelligence to learn, particularly in an emergency, and when the incentive and interest are there. More important, they have faith in themselves and their Government.

I found that out when I worked for General Groves in dealing with 6,000 draft boards and tens of thousands of selective service personnel. We wanted men deferred for work which could not be described. They granted deferments for keen young scientists in thousands, not because General Groves wanted them deferred or because my name was on the application, but because they trusted their Government. They trusted their neighbors on the draft board. A single board could have tipped over the entire appplecart of secrecy, and they would have been within their legal rights. They did not, and the real secret of the Manhattan project, the secret weapon no other country can ever steal from us, is contained right there. Through the Selective Service System we had gotten down to the grass roots of America, we had mobilized the native intelligence, judgment, fair play, and spirit of sacrifice of the average American. If we can mobilize this spirit in peacetime, and we must, we will be well on our way to the only true defense we can know against atomic weapons.

We have a long way to go. We may not have much time.

Some think the cold war will last for a generation or longer, but it could become hot as atomic bombs within a few hours.

Not long ago I called upon police department officials of New York City, inquiring about the city's defense plans. One official told me not to worry. "Why," he said, "we have a complete list of air raid wardens of the last war."

A list of air raid wardens is not an answer to an age in which New York could be destroyed by seven atomic bombs. And if New York is to be H-bombed, what of the problems of the surrounding cities? It seems to me we must never forget that we have to prepare not only for atomic war, but for a war in which atomic bombs may never be

used, but in any case we would be foolish to assume that American soil will not be the scene of enemy action. It will.

Then I heard a high official of civilian defense in an eastern State making a speech. He was asked about assistance to the New York metropolitan area. He said, "Well, of course, we have come to think of New York City as expendable."

Many of us would rather see planning for the appalling task of evacuating New York than to see us abandon the helpless and unorganized population, said to be expendable. The second law of civil defense in the future will be mutual aid. Our cities must band together to help each other and help themselves. The problems of large-scale attack are hopelessly beyond the individual city.

As for expendability, let us stop counting the dead of the next war, and prepare to help the living.

We are a proud nation, and we have already forgotten the dark days of Corregidor when we had to write off thousands of brave men as expendable. We had to sneak away from "The Rock," in the dead of night, by submarine, the man whose person represented to the whole of Asia the greatness of the United States.

Those of you who were not at Bikini may think it farfetched for me to suggest that if we ever have to abandon the "rock" of Manhattan, we may have to take off Mayor O'Dwyer by helicopter because the waters of the harbor would be too radioactive. Perhaps you think this is a sensational statement. What is the point I want to dramatize?

My point is that once before America failed, was surprised, and suffered temporary but appalling defeat. We lacked persons of responsibility who could believe what they knew. We lacked leaders who could face cold facts, in the days when selective service was passed by one vote. Through being surprised at Pearl Harbor we came to Corregidor, the lowest point of our national history.

Unpreparedness now is flirting with national disaster on a much larger scale.

I spoke recently to a high-ranking officer with the Secretary of Defense. He is one of the planners of civil defense. I asked, "In view of the inadequacies of the New York disaster plans, what would happen if an atomic bomb did go off in the harbor next week?" He replied with a question, "Have you got a crystal ball?"

So the crystal ball goes along with the list of air raid wardens as our preparation for the future. Gentlemen, the handwriting has been on the wall for 5 years in letters 5 miles high. Surely it is time to read it, believe in it, and act upon it.

Here are some specific suggestions.

1. Civilian defense is as important as any other arm of defense. It should be placed under the Secretary for Defense, on a parity with Army, Navy, and Air.

Its importance others can convey better than I. But here are some figures: in all the bombing of England, home front deaths were 60,000. In Hamburg, in the country where Hitler told his people the bad news far too late, they lost 60,000 persons in 1 month, July 1943. I might add that in Hamburg they made the mistake they are making in New York—at present they plan to center control in the police department, a department which will be busy with its own work if disaster strikes.

Representative HOLIFIELD. Is that not true about the Army, too; the military forces will be too busy with their job to take over civilian defense?

Mr. LEVINE. Definitely, I think so.

My second point, and this is one that I think I may find some disagreement here, is that I think it is absolutely necessary that the Selective Service Act be extended, and I think it should be kept on our books for at least the duration of the cold war. I think it should be amended to include provisions for civilian defense mobilization. Not that I doubt that thousands of patriotic Americans will flock to serve once the organization starts rolling. But civil defense requires selectivity as well as quantity.

Representative DURHAM. You will not find any objection from me on that.

Mr. LEVINE. I am glad to hear that. Our watchmaker, our television or radio repairman will be of more value than a score of housewives who are ready to do their bit.

Civilian defense should be our fourth arm, with training schools, lectures, drills, and so forth. It will require the young as well as the old. Those called to service should be paid and possibly placed in uniform. Civil defense should be given an emphasis to command respect in the communities. It must be divorced from politics. Only through selective service can this be accomplished. Atomic war is grim business and calls for a total effort or none at all.

3. Total mobilization must be planned now. Your business is organization, both official and unofficial, and I am sure I do not need to labor this point. This time we cannot wait as America in the past has always waited to try at 10 minutes to midnight to get ready. Americans should learn that they must prepare in peacetime to be able to win a war if it is thrust upon them.

4. While planning goes on, action must begin now. We all have sympathy for officials who deal with the thorny problem of civil defense. The cities have waited on the States, the States upon the Federal Government. Washington may be forgiven today for waiting upon the people. History may not forgive. There are times when leaders must be ahead of their people, and this is certainly true when the people may not know the full story. When the story is known, the people may have a long memory. Many who remember Pearl Harbor forget how they asked their Senators to vote against selective service. But they remember that their Senator did vote against it, and some of those Senators are not with us today. The people rightly believe their leaders should have known.

5. We need a program of atomic education, our Government must tell the people what they need to know. No other group can do it. It has taken 4½ years for the Government to tell us, in the recent report from the AEC and NSRB, about the blast damage of atomic bombs. We must not wait 4½ years for the next chapter on radiological injury and what to do about it. Americans are becoming aware that every secret kept from the Russians is also kept from Americans. In fact, they are coming to realize that ever since the President told Mr. Stalin about the bomb at Potsdam, before he told the American people, others have been making decisions without the advice or consent of the voters. Certainly they know that far more dangerous things have become known to the Kremlin but not to city

hall. A knowledge of the facts of life in the atomic age will help you, and this country, to sound decisions in many fields besides home front defense. I do not mean it should be done for this reason; it should be done to save lives in the next war. But there will be extra dividends if we readopt the policy which made this country great, the theory that no group of people, scientists, bureaucrats, brass hats or Congressmen—no special group can have the wisdom which we hold resides in the consensus of opinion of a well informed people.

6. We should take action now.

People will say it is a poor time to add to our budget. What we need is not appropriations so much as organization of people.

Others will say it is warmongering, it will promote a nervousness that will lead to war. Any psychologist will tell you that fear of the unknown is what produces panic, not respect for known dangers. It is not as warlike to prepare to help yourself if attacked, as it is to announce every other day that our bombers could massacre thousands in the twinkling of an eye.

It will be said the public is not ready.

My observation in my own organizations and neighborhood is that the people would welcome a chance to do something specific about the awesome mushroom cloud which today shadows all of our affairs.

The American people have been bombarded with misinformation about atomic energy and the next war. Any tomfool with pretensions can orate at length about the H-bomb, while the people who know about it find their lips are sealed. If we end this ridiculous situation I do think you will find America would rather listen to facts than to fools.

They instinctively know that the whistle-blowing tin hat boy scout civil defense of the last war will be useless in the next.

You will not scare people by telling them in the next war it will not be up to Washington; it will be up to them.

Our defense leaders put our trust in what we can do to the enemy, but the Federal Government will make the biggest mistake since Pearl Harbor if it does not prepare us now for what the enemy might do to us.

All the people ask for is a little information. "Help us to help ourselves. What can we do? How do we do it?"

You must give them the answer, gentlemen, for we may win or lose the next war on how we defend our cities.

I hope these suggestions will help you gentlemen find the answer.

We have confidence in your committee and in our Congress.

I thank you.

The CHAIRMAN. I appreciate very much your statement, and I was particularly impressed with your emphasis on the analysis of letting people know, because I agree with you that the proper antidote to panic is fact and not rumor and not hearsay.

Mr. LEVINE. Thank you.

The CHAIRMAN. Dr. Walter L. Cronin.

## **STATEMENT OF DR. WALTER L. CRONIN, DISASTER RELIEF COORDINATOR FOR THE CITY OF CAMBRIDGE, MASS.**

Dr. CRONIN. My name is Dr. Walter L. Cronin. I am here in my official capacity as disaster relief coordinator for the city of Cambridge, Mass. During World War II, I was chief air raid warden and director

of the protection division in Cambridge. I also served as a consultant for the Massachusetts Committee on Public Safety.

My duties were to organize, train, and direct 12,000 civil defense workers.

During this period we were cited by Army and civilian defense authorities as the model civilian defense city on the eastern seaboard.

While our population numbers only 120,000 persons, Cambridge is the largest of the 43 cities and towns in metropolitan Boston. This area has a total population of 2,066,000.

We were designated as a target area in World War II, not only because of our proximity to the port of Boston, nor because of our defense industries, but principally because of its vital research installations.

Today, Cambridge is again the center of vital research. Massachusetts Institute of Technology, Harvard University, the United States Air Force research laboratory, the United States Navy supersonic wind tunnel, the proposed location of the new Quartermaster consolidated laboratory, and several nationally known private research laboratories, are not only contributing now directly or indirectly to the program of defense, but these facilities would be considerably enlarged in time of hostilities.

We therefore find ourselves in the unenviable position of probably again being designated as a target area in the event of future hostilities.

Two years ago, the city manager of Cambridge, Col. John B. Atkinson, directed me to make a study of civil defense and to formulate tentative plans for disaster relief.

I appealed for help and assistance from Washington authorities without much success. With the exception of the Bull and Hopley Reports and a limited amount of information from other Washington sources, the usual reply was "we are in the planning stage."

Permit me to digress at this time, to state that in my opinion the Hopley Report was an excellent study of civil defense. While I differ strongly with one phase of the report, that covering local organization and duties, it is 90 percent sound and it should, with some changes, be immediately adopted. My points of difference have been enumerated in a critique which I have written and which has attained some attention.

To resume—the story of civil defense in the last few years has been one of confusion and inaction. There appears to be no question in the minds of the military and of those who have been students of the subject, that a strong civil defense program is a must if we are to survive a future war.

Yet as of today we cannot look to anyone for definite leadership, no one to say with authority this is the proper course to pursue, no one to say these are the dangers, and these are the methods to combat them, no one with a definite program to adhere to.

Federal authorities generally point out, that the States have been requested to take the initiative, and State officials reply that they could not act until Washington adopted a program.

We find in responsible government positions a deplorable lack of knowledge of the tremendous scope of future plans for civil defense. Most are thinking of the horse and buggy type of civilian defense of the last war, when only token raids were expected. Many have not given it a thought and are unaware that there has been any action at the Washington level.

Recently we have witnessed some action by the States, but in many instances there has not been uniform legislation, and some have been inadequate or unworkable.

State legislative committees have heard witnesses who had not the least conception of the needs of the fundamentals of civilian defense.

I could cite one major State on the eastern seaboard that has a civil defense act under consideration by its legislature that is unsound, unworkable, and even contains some ridiculous sections. If passed, this legislation will not properly prepare this State for future hostilities.

At the Federal level we have the situation where civil defense by Executive order is placed under the National Security Resources Board. According to the United Press on March 11, the Civilian Mobilization Director is "charged with the perfecting of civil defense plans."

Note particularly that his powers are limited to "perfecting civil defense plans." No authority to carry them out, no authority to say "this is the way to do it." Just plans, plans, plans.

The Office of Coordinator of Civil Defense Planning under the NSRB is in the same category—no power, no duties except to plan.

The Hopley committee was created exactly 2 years ago; in exactly 6 months they had a report covering over 300 pages. Whether you agree with it or not, they did their job expeditiously and thoroughly. We got action.

Eighteen months have elapsed since then. The Department of Defense no longer has the responsibility and we find ourselves back to March 1948, with 2 years of effort wasted.

In the meantime, information which the public is entitled to has been suppressed. A wall of censorship has been erected around material which is known to, or would not be of value to an enemy. A childish system of "classification" exists. And the American public, who pays the bills, and will be the ones to die if attacks reach our communities, are denied the means and the knowledge of survival.

Books have been written; newspaper and magazine articles have been published, many by pseudo experts who on one hand hysterically convince their readers that there is no hope, that we all are going to be destroyed, and the other group who placidly assert that there is nothing to fear, we are well protected, and these modern weapons are not the lethal weapons that they are cracked up to be.

Confusion and inaction, suppression of information and lassitude, that has been the contribution at the Federal level.

The CHAIRMAN. Some of those two viewpoints have come out of the Defense Establishment.

Dr. CRONIN. What is that?

The CHAIRMAN. Some representations on those two viewpoints you have just given have come out of the Pentagon.

Dr. CRONIN. That is right.

The CHAIRMAN. Depending upon which service they were in.

Dr. CRONIN. That is right. For the first time, Mr. Chairman, a bright star has appeared on the horizon, one of the most important committees in Congress, the Joint Committee on Atomic Energy, says, "Here is something that merits our attention."

And your committee is doing something about it. And Mr. Chairman, if my community is typical of the "grass roots" of this Nation, then you have the thanks and the approbation of the American people.

The people want the truth. They are willing to make sacrifices when they know the truth. The greatest fear that they have now is one of confusion. Today if war should strike we would have hysteria, panic, and a disorganized people. Give them the facts and the training and you will have a united nation. History has always proved this.

It therefore is an honor for me to plead the cause of the Nation's communities before a committee of Congress, so well qualified to act on this matter.

Based upon my experience in civilian defense in World War II, plus an exhaustive study of the present situation, I respectfully make certain recommendations to this committee.

1. By an act of Congress, place the Office of Civil Defense under the Secretary of Defense.

My reasons for this recommendation are as follows:

(a) This is the only agency of the Government so far that has shown a knowledge of the problem and the will to do the job promptly.

(b) They have the know-how in training large masses of people.

(c) They have the knowledge of modern weapons and the means to combat them.

(d) They have ready access to all information in every branch of the Government, on all matters affecting our national safety, secret or otherwise.

(e) It would minimize the probability of political job seekers filling jobs which they would be incapable of administering.

(f) It being the responsibility of the Department of Defense, the States and communities would fare better in obtaining necessary matériel and equipment than they did in World War II.

(g) It would eliminate the confusing and conflicting directives experienced in World War II from the Army and OCD.

(h) And, most important, it is the responsibility of the Department of Defense to protect our land and our people during time of war. It is their sole and primary responsibility. They cannot shirk this duty. If we should be visited by large-scale attacks, the Department of Defense will take over in whole or in part irrespective of any other agency.

2. In the act of Congress a director should be created with broad powers in the event of emergency. Proper safeguards can be set up restricting his powers to take effect only in the event that the President declares this emergency.

3. Prior to that state of emergency, he should be directed by Congress to organize a department of civil defense. He should have on his staff qualified experts on all matters pertaining to civil defense. He should be directed to consult with all branches of the Government possessing pertinent information.

He should be directed to establish a uniform civil defense organization, and aid and assist the States and communities to act similarly.

He should prepare and distribute civil defense training and organization manuals for civil defense authorities.

He should prepare and disseminate civil defense information to the public.

4. A director should be chosen of proved executive ability, preferably with some knowledge of civil defense matters.

5. Congress should appropriate sufficient funds to carry out all provisions necessary for an adequate civil defense organization.

6. Congress should appropriate sufficient funds to furnish communities in vulnerable areas extraordinary equipment and matériel necessary to properly safeguard the population.

Immediate action is imperative. The time that will be required to organize, train and equip the skeleton forces necessary in local organizations is great. It will be at least 1 year from the time that legislation is passed before our communities can demonstrate an adequate skeleton organization.

Again, Mr. Chairman, may I, in the name of the communities of America, thank you and your committee for their timely and forthright consideration of the problem.

I submit these two books. One is a newspaper clipping of the test that we had on March 5th, and, secondly, a critique of the Hopley report, which I have made.

Representative DURHAM. Then you definitely believe, Doctor, that this fear thing that has permeated the whole country is all wrong?

Dr. CRONIN. That is right. The individual citizen right now is fearful of this. They read the scare headlines and they read the illustrations that an atomic bomb will do this damage to you; and a great many people have a fatalistic attitude. They say to me, as the chairman of the disaster relief for the city of Cambridge, "What is the sense of you doing anything. We will all be wiped out, and we won't know anything about it." They do not realize there is a fringe group that are going to be injured, and that are going to need care.

True, within the immediate area of the atomic bomb, everybody is done for, but they do not know anything of the problem. They are looking at it from a fear standpoint. The fear is there now, gentlemen. You are not going to frighten the people of America by putting in a sensible civil defense skeleton program now. You are going to reassure them. You are going to say to them that the American Government, our Government, is doing something for them. They do not look to the Governor of the State or to me in a community; they look to Congress for their help. If Congress says, "Here is something we are doing for you," they say, "God bless you; you are doing something for us." Washington is the all-powerful group. They are the ones that say here is an atomic bomb, and they say here is an H-bomb we are working on, and Washington says: "We are appropriating money for Army and Navy and the Air Corps and all of that." Now what is Washington doing for us? What are they doing to protect us? The people know the fear part of it, and they have already got it in them, and now it is up to Washington to say, "This is the way to protect yourself; this is the way to survive in an atomic age." They are looking for it.

Representative DURHAM. You have made a good statement, Doctor.

The CHAIRMAN. Thank you very much, indeed.

Mr. ANTHONY. May I say that we feel very strongly as to the civil defense. A few people in each community who know what the answers are partially are going to help alleviate a lot of that fear.

The CHAIRMAN. Thank you very much.

The meeting of the committee will be on the call of the Chair.

(Thereupon, at 5:15 p. m., the committee recessed subject to call of the Chair.)



# CIVIL DEFENSE AGAINST ATOMIC ATTACK

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## HEARING

BEFORE THE

JOINT COMMITTEE ON ATOMIC ENERGY

CONGRESS OF THE UNITED STATES

EIGHTY-FIRST CONGRESS

SECOND SESSION

ON

CIVIL DEFENSE AGAINST ATOMIC ATTACK

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PART 5

APRIL 3, 1950

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III

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# CIVIL DEFENSE AGAINST ATOMIC ATTACK

MONDAY, APRIL 3, 1950

CONGRESS OF THE UNITED STATES,  
JOINT COMMITTEE ON ATOMIC ENERGY,  
*Washington, D. C.*

The joint committee met at 10:30 a. m., pursuant to call, in the caucus room of the Senate Office Building, Senator Brien McMahon (chairman), presiding.

Present: Senator McMahon (chairman), Representative Durham (vice chairman), Senator Knowland, Representatives Holifield, Price, and Hinshaw.

Also present: William L. Borden, executive director.

The CHAIRMAN. All right, gentlemen, we will come to order.

Our first witness today is Capt. C. A. Parkinson, Deputy Director of the Civil Defense and Disaster Committee, Milwaukee, Wis.

Captain Parkinson?

## STATEMENT OF CAPT. C. A. PARKINSON, USNR, COORDINATOR, CIVIL DISASTER RELIEF COMMITTEE, MILWAUKEE, WIS.

Captain PARKINSON. Mr. Chairman, and gentlemen of the committee, I should like to divide my remarks this morning into three parts. The first will consist of a brief discussion of the basic principles upon which the Milwaukee civil defense and disaster organization was formed.

In the second part, I should like to raise certain questions which perhaps can be answered by this committee and which are of vital interest, not only to the Milwaukee metropolitan area, but to all of the large metropolitan areas in the United States.

Third, I should like to have the privilege of submitting to you one or two suggestions which have stemmed from our experience in Milwaukee.

The Milwaukee civil defense organization had its inception in a meeting called by Mayor Frank P. Zeidler in June 1948. Mayor Zeidler felt that it was important for a large metropolitan community to be organized so that it could take care of its property and people in the most effective way in the event of any major disaster either natural or man-made.

At the time the committee first met, there had been received no guidance from the higher echelons of government as to how a defense and disaster plan should be devised. Since this was the case, one of the first tasks of the committee was to agree upon certain basic principles. These are as follows:

1. Any civil defense and disaster plan must provide maximum protection to the lives and properties of the citizens of the community.

2. Any such plan must be sufficiently flexible that it can be adapted quickly and effectively to meet various possible situations.

3. Any such plan shall disrupt the normal functions and the activities of the civil government to the least possible extent.

4. In any such plan the normal divisions of the civil government shall be utilized to the fullest extent rather than to have them replaced by some separate or extraneous agency.

5. A community must plan to depend as much as possible on its own resources both as to personnel, material, and basic community organization. Self-help shall be emphasized in all phases of this plan.

6. A community must be prepared to give assistance to a stricken neighboring community promptly and effectively.

7. A community plan must necessarily fit into the national and State plans of civil defense.

There was unanimous agreement that probably no two communities will need or find effective exactly the same pattern of civil defense organization. Hence, a thorough analysis of community resources and the development of a plan to meet the special needs of our community were basic to the entire development.

Subsequent to the development of the original organization in Milwaukee, we received the Hopley report, and it was indeed most gratifying to find that in the main, the Milwaukee plan fit into the recommendations of this report. We felt that certain minor differences were necessary if our plan was to meet the needs of our community.

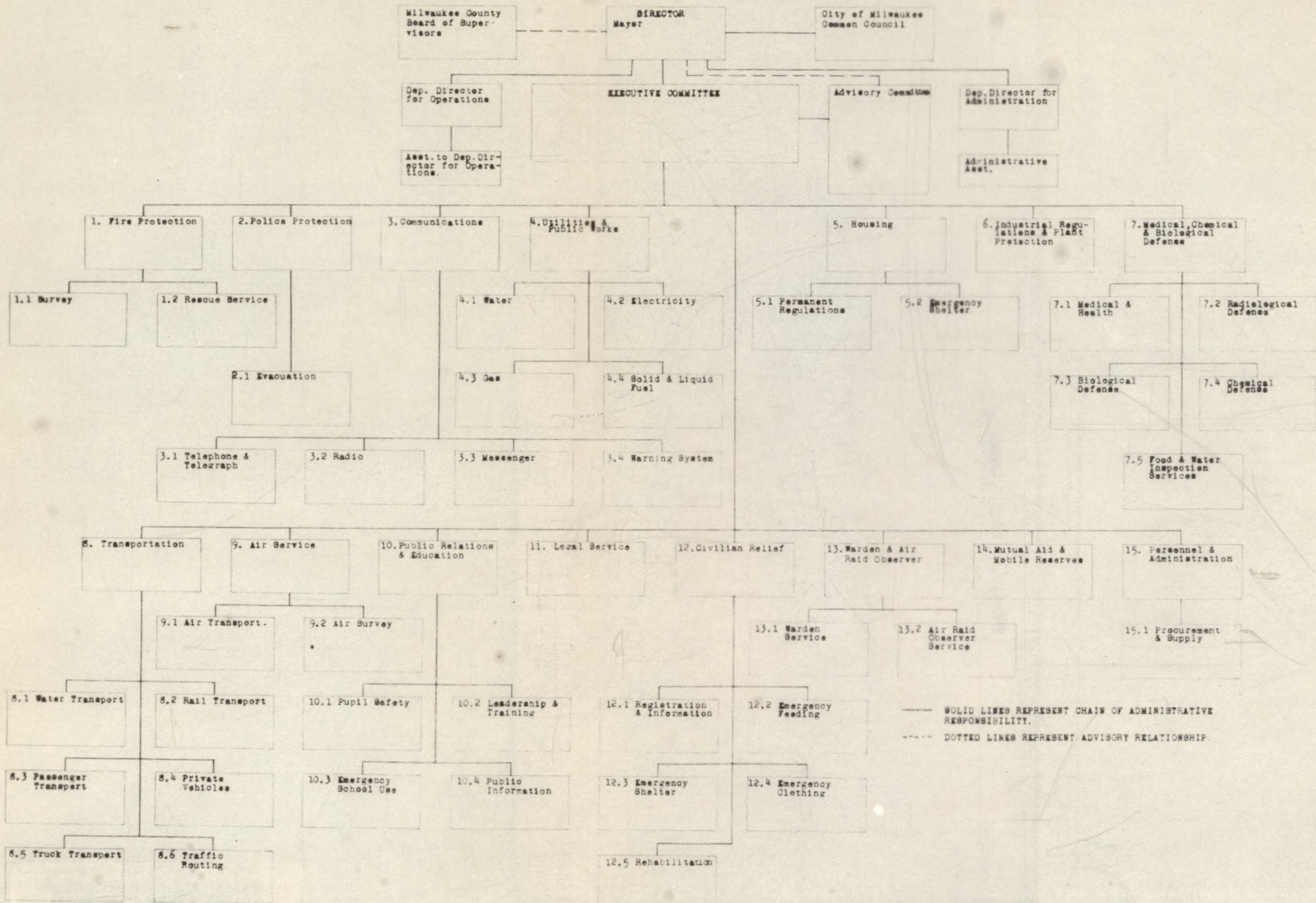
In the beginning, our organizational thinking was largely directed toward civil disasters of the type experienced in the Texas City fire and others of this sort. In the last few months we are frank to admit that our thinking and planning have been directed toward the problems which would eventuate from an all-out strategic bombing or an atom-bomb attack. This change in our point of view has necessitated a reorientation of our thinking and has made necessary some major shifts in emphasis in the development of our plans of operation. It has not, however, made necessary any basic structural changes in our organizational pattern.

Annexed to this report is a chart which presents diagrammatically a picture of the Milwaukee civil defense organization with its various divisional units and subunits. This organization exists today. All of the divisions, except No. 14, mutual aid and mobile reserves, have been activated and most of them are sufficiently far advanced in their development that they can, and in some cases have, engaged in extensive operations.

On July 27, 1949, the Riverside pumping station of Milwaukee was put out of commission by a flash flood. Six main pumps were taken out of service. Through the efforts of division No. 10, public relations and education, industrial users of large quantities of water were contacted and through their voluntary self-imposed restrictions a water crisis in Milwaukee was avoided and many thousands of citizens did not even know that the situation was critical.

On March 4, 1950, a civil air patrol plane returning to Milwaukee from Washington, D. C., crashed into Lake Michigan off the Milwaukee County Airport. There were no county facilities for air-sea rescue service. However, Chief Edward E. Wischer of the Milwaukee Fire Department left the dock with his new fire tug, the *Deluge*, within 14 minutes after word of the crash had been received by him.

MILWAUKEE  
CIVIL DEFENSE AND DISASTER COMMITTEE  
ORGANIZATION CHART



# RESEARCH REPORT ON THE EFFECTS OF THE RECENT RECENT RECENT

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Chief Wischer conducted a search for the survivors and was later assisted by the Coast Guard from the Racine, Wis., station.

This event brought to the fore the problem of city responsibility and opportunity for service even beyond the confines of the city limits. It also showed members of the Milwaukee Civil Defense and Disaster Committee that the close relationship which has been developed among our many community agencies could result, and does result, in effective operations.

Last Sunday morning, March 24, 1950, there was a large fire in a rooming house in our sixth ward. Some 90 persons were rendered homeless, many were hurt, and 3 were killed. The Milwaukee chapter of the American Red Cross, which is one of our coordinated agencies, was on the job within one-half hour after the Milwaukee Fire Department had arrived and proceeded to provide registration and identification services, emergency shelter, food, and emergency clothing. The Red Cross is notified by the fire department on every second alarm fire. This custom has been followed for many years before the existence of the Milwaukee Civil Defense and Disaster Committee.

I have mentioned this incident here simply to give an indication of the types of coordinated community activities which have been incorporated into the Milwaukee civil defense and disaster plan.

Again may I reemphasize the fact that each of the divisional organizations is closely integrated with those public or private community groups who are engaged in, or whose activities are directed toward, similar functions under what might be termed normal disaster conditions.

Further, to illustrate my point, the Milwaukee Naval Reserve has a disaster bill. This unit is composed of some 3,000 officers and men, most of whom have been trained in the service. These officers and men are divided into task units, such as fire fighting, police, electronics, communications, transportation, and so forth. Each task unit is headed by an officer properly trained in that particular type of duty and that officer in turn is a member of the executive committee of the appropriate division of the civil defense and disaster committee.

Another example is the way in which the Milwaukee County chapter of the American Red Cross referred to above is tied into the organization. You will notice that division 12 is the division of civilian relief, under which we have subdivisions of registration and information, emergency feeding, emergency clothing, emergency shelter, and rehabilitation. Each of the committee chairmen of the appropriate committee of the American Red Cross is chairman of, or vice chairman of, the appropriate subcommittee of the civil defense organization, and the vice director of the division itself is the representative of the head of the Milwaukee County chapter of the American Red Cross.

Other organizations which are tied into this plan are the Wisconsin National Guard, the Wisconsin Air National Guard, the Civil Air Patrol, Milwaukee County Medical Society, Milwaukee County Funeral Directors Association, taxicab companies, trucking companies, public utilities, and others. It is possible to show this type of community integration throughout the entire organization.

May I now raise certain questions which we feel merit serious consideration, and which have stemmed from our experience in the development of this organization?

It appears that many of the States, including our own, have little or no State organization at the present time. In Wisconsin last year we attempted to get appropriate enabling legislation through the State legislature. We were not successful, due largely to the lack of understanding of the urgency of the problem on the part of many of the legislators.

It is probably true that people living in less densely populated rural areas are not as apprehensive regarding the need for civil defense as are inhabitants of the densely populated urban areas. We feel very strongly that this lack of appreciation of the problem on the part of the inhabitants of the rural areas should not and cannot prevent the inhabitants of the urban areas from taking such steps as are necessary for the adequate protection of their own lives and property. Hence, we are asking the following questions:

1. We are asking whether the Federal Government is going to take a firm position in developing National and State patterns of civil defense which will make it possible for the cities and large industrial areas to do the job which must be done in their own communities.

The CHAIRMAN. Of course, you realize that there has been a great deal of information that has gone to the State organizations. I do not know whether in your particular State they have turned it over to the cities. Have you received any of that material?

Captain PARKINSON. We have gotten the information, sir. But the point is that the impact of that information has not reached the lower level. Take, for example, the Hopley report. It has never been adopted as an official pattern. It has been recommended as a very desirable one; but we feel that a little stronger position on the part of the top echelon of government would provide impetus to the local development, which is very essential at this time.

The CHAIRMAN. Of course, you realize that the NSRB is set up to deal with State governments rather than with the municipalities. The idea is that any contact from the Washington organization will be with your State capital.

Now, whether the States are going to do the job or not, after they get it, we do not know, but they should do it.

Captain PARKINSON. Yes, Mr. Chairman; we quite appreciate that. But we feel that perhaps a little more vigorous position here will in a measure overcome some of the inertia at the State level. May we put it that way?

The CHAIRMAN. Will you talk about the directions in which you wish that vigorous position to be manifested? That is part of your statement.

Captain PARKINSON. Yes; that is part of the statement, sir.

The CHAIRMAN. I would just like to say, further, that we hear a great deal here about States' rights, you know.

Captain PARKINSON. Yes, sir.

The CHAIRMAN. Rights also mean responsibilities and duties; and too often, it seems to me, the States forget the responsibilities and the duties, and all they talk about are their rights.

Now, they have some duties and responsibilities in this field, particularly in this field, because it has to be set up on a local basis, for the reason that we would be struck locally.

Captain PARKINSON. I hope you appreciate, sir, that we are not being critical.

The CHAIRMAN. I want you to be critical.

Captain PARKINSON. We are just hoping that there will be, shall we say, a little more voltage coming down the line, which will seep down to the local levels.

The CHAIRMAN. Do not misunderstand me. That is what we are here for: to get criticism and to see where this crowd here have not been doing the right thing; to get recommendations for further and greater action on their part. We are not here to resent any criticism. I am simply pointing out an obvious truth, that there is a job to be done at home. And I am sure that you know it, because your outfit seems to have done very well with it.

Captain PARKINSON. Thank you, sir.

2. We are asking that we be advised as to whether top-echelon thinking here in Washington feels that the large urban areas in this country can or cannot be defended against high concentrations of strategic bombing or atom-bomb attacks.

3. We are asking to be advised of the type of warfare and type of weapons against which we should plan to protect our communities.

Senator KNOWLAND. Of course, right at that point, those two questions you have just raised are questions which obviously no Governor, or no State administration, could answer. They are ones that would have to be answered on the Federal level by those charged with the defense of the Nation. And until they pass that type of information along, you cannot expect the administration at any statehouse to find, in their sources of information, the answers to the questions you have just raised.

Captain PARKINSON. And we realize, too, that these questions are rather basic. They will involve basic research and fundamental research on the part of this top echelon of Government. But we are hoping that in the relatively near future we will have some indication of the answers to these questions. We need them.

4. We are asking to be advised as to how best we can proceed in the development of our organization without inciting mass hysteria in light of the current publicity being given to A- and H-bombs. Perhaps if the right amount of appropriate publicity is promulgated, many excellent ideas will come from the people themselves as to how best to meet these dangers. This has always been true in America in the past. It is reasonable to expect that it will continue to be true in the future.

The CHAIRMAN. All right, now, let us stop and examine that for a moment. You, in that paragraph 4, very definitely state the delicate question that must be determined; namely, how to get out enough information to enable the people to meet a reasonable standard of preparedness and yet not produce a worry psychosis throughout the whole United States. I saw where Admiral Nimitz the other day made a remark to the effect—I do not think he used this phrase, but I believe it is what he meant—that we were getting into a worry psychosis. The admiral did not, however, add, as I wish he would, what the defense was against ships coming into your harbors loaded with atomic bombs.

And I am not advocating that we go into any worry psychosis. I believe, too, that, if we tell the people the truth, the facts, that is the best way of handling a disagreeable situation.

Now, let us assume, just for hypothetical purposes, that in answer to your second question you are advised that some large urban area in this country probably cannot be defended against some hits. Let us put it that way, hypothetically.

Now let us assume they came to that determination. Do you think that would be a good thing to turn loose to the American people?

Captain PARKINSON. If I may suggest a possible method of approach to this, and it is perhaps one of our most critical problems, as I think we all realize: The people of this country are apprehensive at the present time. They do have a worry psychosis, if you want to put it that way, to a certain extent. And I think that if they are fully advised as to the steps which are being taken by the Federal Government, by the States, and by the local communities to protect them and their property, it will develop a feeling of confidence rather than the contrary.

And I think, if I may suggest it, that that might be a method of approach.

In other words, we are planning mass evacuation, for example. Suppose we just say that in the case of an atom attack we cannot protect the central core of a city or industrial area. All right. We are going to plan to move out. The fact that such a plan is in existence, that people are working on it, that all of the agencies of Government are concerned with the individual protection of the life and property of each individual householder, I think will engender confidence and I think will do much to allay this present hysteria, which I think is an important factor.

Senator KNOWLAND. Might I ask this question: A week or two ago, the mayor of Los Angeles, Fletcher Bowron, was testifying before the committee. He pointed out, among other things, that possibly we would want a little different type of civil defense organization than we had in World War II; that at that time almost every community in the country was organized, equipment was requested, and so forth, whereas in the type of warfare we may face it is quite likely that the primary targets will be larger industrial centers, communications centers, and so forth; and that rather than dissipate the ability to get certain types of equipment, you should set up what might be called a system of priorities.

Take our own State of California as an example. Probably San Francisco, Oakland, Los Angeles, San Diego, might be primary targets. There is grave doubt whether an attempt would be made to put an atom bomb on Vacaville or Merced.

You probably do not know our State, but I am just mentioning those as an example.

On the other hand, it is quite possible that, taking a community like Palo Alto, which is reasonably close to San Francisco and yet is far enough out where it perhaps would not suffer damage in the event of an atomic attack on San Francisco, they perhaps would have a contribution they could make in sending fire-fighting equipment or hospital assistance, and otherwise, into the city of San Francisco in case it should be the victim of an attack.

So that there are area problems that perhaps could be worked out, which would be very helpful in a situation of this kind.

Have you given thought to that phase of it?

Captain PARKINSON. Yes, sir. I have a statement on that as part of this presentation, sir. And I think that you have put your finger on one of the most crucial problems of civil defense right there.

5. We have one further request to make, and that is that some sort of National and State pattern of organization be set up so that a large urban area will be treated as such, with due regard for the technical skill, equipment, and facilities which are available in the city itself and which in many cases are not available to the surrounding governmental units. It is well known that some of the governmental units schematically superior to the cities, as, for example, the county governments, can and even might stifle the development of an appropriate regional civil defense organization. We are asking how this problem can best be handled in order that full use may be made of the resources of the city as the central core of the region.

That is, I think, exactly your problem, and it is exactly our problem. Actually, the cities are the central core of what I call high-disaster potential, and this drops off as you go away from this central core. All of the region, however, is involved in the problem.

But the center of gravity of the technical ability and the facilities rests within the city. Now how can that be integrated with the surrounding area in the most effective way?

As a result of our continued thinking during the past 2 years, we should like respectfully to make certain suggestions to you for your consideration:

1. We suggest that the Hopley report should be promulgated as the basic standard pattern for the development of the civil defense organization, at least until such time as a better plan has been prepared.

May I insert a comment there? You have recommended the Hopley report as a very desirable general guide. We feel that something a little more concrete should be recommended. This, we feel, is the best pattern that has been developed up to this time. We are quite sure that there will stem from the National Security Resources Board, Mr. Larson's office, in the next 6 or 9 months, a better plan than the Hopley report; but, until that is promulgated, we feel that the Hopley report will provide a very satisfactory guide and should be given official support.

Representative HOLIFIELD. May I stop the witness there, for a question, Mr. Chairman?

The CHAIRMAN. Mr. Holifield.

Representative HOLIFIELD. As I remember, the Hopley report made two recommendations as far as administrative authority was concerned. One was that this independent organization which they advocated should report to the Secretary of Defense; and the alternate proposal, I believe, was that it should be completely independent of the military and should report directly to the President.

Now, do you, or your group, have any comment to make on the preferability of either one of those recommendations?

Captain PARKINSON. We have no comment to make on that. We simply are interested in having the basic pattern and having it given official support, so that the people will know the direction in which to plan.

We feel that that question that you raised should be handled at this end.

Representative HOLIFIELD. I see.

Captain PARKINSON. 2. We suggest that there should be set up a central office of information which would constitute a clearing house for ideas in the development of the various civil defense patterns throughout the country. We feel that no single community can develop the best civil defense pattern within itself. No one city will have all of the best ideas. Each community can and must tailor its program to meet its own local needs but should be advised of the very excellent ideas and developments which are taking place in other communities.

3. We should like to suggest that a study be made toward the standardization of procedures and equipment of various municipal organizations, such as fire departments, departments of public works, and public health departments, so that the communities could interchange services and activities, and so that even vital materials and equipment could be transported from one community to another by air or other rapid transport and be immediately useful in that community.

4. The last suggestion which we would like to make has many important ramifications, both political and financial, and that is the question of decentralization of governmental functions, industrial activity, and housing facilities. We believe that there should be a study on the national level which will give local communities some of the answers to some of the problems in this area.

To what extent should a city plan to decentralize its governmental activities; to what extent should its utilities be put underground or decentralized; to what extent should private industry be urged to decentralize its activities and factories; and what should be the guiding principles which should govern the construction of public and private housing? Attached to all of this is the basic problem, who is going to pay how much for what.

The CHAIRMAN. And, of course, if there is very much of that, there is not money enough to pay for it, either federally or on the State or local level.

Captain PARKINSON. That is quite correct, sir. There is not money enough to do a complete job. But we do feel that we should have national guidance in the directions in which we ought to work and the extent to which we should try to accomplish the solution of these problems.

The CHAIRMAN. I have come to the conclusion that any effective digging in, that is, any measure of it that would do you a very great amount of good, is just out of the question. You just cannot put America underground. And, furthermore, we are not going to go underground for anybody.

If I am correct as to the disposition of the American people, I do not think we are going to make moles out of ourselves.

Captain PARKINSON. Perhaps the implication of the question I raised was a little strong. Are there any critical facilities that should be put underground, or should we put nothing under there? Should you put a water-pumping station underground so that it would be relatively invulnerable to attack? Should your communication cables be put underground?

The CHAIRMAN. Well, suppose you put a water-pumping station or half a dozen of them in the city underground; and then let us assume that in the future you have hydrogen bombs developed and they go to

a depth of  $x$  feet. Let us assume that your pumping stations are deeper than that. Certainly your pipe lines will not be. And what good will your pumping stations be if your pipe lines are all blown apart?

Captain PARKINSON. The answer is "No good," if that is the case.

Representative HOLIFIELD. As a matter of fact, Mr. Chairman, is it not true that the pipe lines in Hiroshima were broken all over the city, and the pressure dropped immediately to zero? Possibly it was because some of those lines followed our usual American procedure of crossing above ground on bridges across certain waterways, there. Some of that might be corrected by putting those particular links underground, but any place where an exposed fire plug, or anything like that, is connected to a water line, or the water lines in buildings, for instance, they would be destroyed.

You see what you are up against when you go to trying to maintain utilities in even the obsolete type of bomb used at Hiroshima.

Captain PARKINSON. You see, Mr. Chairman, this is what we are asking. There is a good deal of, shall I say, confused thinking at the local level at the present time. We are asking for leadership in this thinking.

In other words, what is your thinking? What shall we do? And we feel that you gentlemen are certainly in position to come closest to the answer, of anybody in the country.

Senator KNOWLAND. That is what you were pointing out earlier, the need for some advice and direction from above; because some of these questions you cannot possibly answer on the local level unless you have the facts.

Captain PARKINSON. Mr. Chairman, we are asking for national guidance and advice on these most important matters, which we feel are basic to the development of any effective civil defense program in this country.

Thank you very much.

The CHAIRMAN. Thank you very much. I think that was an excellent presentation.

Captain PARKINSON. Thank you, sir.

The CHAIRMAN. And I want to congratulate you on all the sensible planning work that you people have done in Milwaukee. It is really, I think, quite exceptional.

Captain PARKINSON. We hope we have not gone completely off on a tangent.

The CHAIRMAN. No; I do not think you have.

Captain PARKINSON. Thank you.

The CHAIRMAN. The next witness will be Mayor Elmer E. Robinson of San Francisco.

Mayor, you have some of your California people here on this committee, as you can see.

#### STATEMENT OF HON. ELMER E. ROBINSON, MAYOR OF SAN FRANCISCO, CALIF.

Mr. ROBINSON. Yes, Mr. Chairman, I recognize them.

Senator KNOWLAND. I might say we are glad to have the mayor here with us, from 3,000 miles across the continent.

Mr. ROBINSON. Thank you very much, Senator.

Mr. Chairman and members of the committee, it is a privilege to appear before you today to present my views on civil defense. My remarks are based on my observations as a volunteer in civil defense during World War II, as well as on information gathered during my term as mayor of San Francisco, and as a member of the civil defense policy committee of the American Municipal Association.

When I became mayor of San Francisco, our World War II civil defense organization had been deactivated, being replaced by the San Francisco Disaster Council and Corps, established by action of the board of supervisors on September 16, 1946.

The ordinance establishing this corps was patterned after legislation suggested by the California State Disaster Council. The purpose of the San Francisco Disaster Council and Corps is twofold:

1. To coordinate the various city departments concerned with handling a local disaster; and
2. To serve as a nucleus for the reestablishment of a civil defense organization when needed.

Provision is made in the ordinance for the recruitment of volunteers, but the San Francisco Chapter of the American National Red Cross is the only volunteer agency which at present is a member of the corps.

In January of 1948, because of the renewed public interest in civil defense, I instructed the executive officer of the disaster council and corps to obtain all current information available in the field of civil defense, and to keep abreast of all developments on that subject. The executive officer is the public service director attached to my office with civil-service status.

Pursuant to my instructions, he has consulted with numerous persons interested in civil defense and attended many conferences at which it was the prime consideration. He has kept me fully informed on the activity of the Federal Government in civil defense.

This activity began, as you know, with the Bull report, which was released 2 years ago. That report, in turn, led to the establishment of the office of civil defense planning, which issued the highly controversial Hopley report.

Then, on March 3, 1949, President Truman delegated to the National Security Resources Board the responsibility for leadership and coordination in civil defense planning.

Finally, effective March 1, 1950, Mr. Paul J. Larsen was appointed director of the office of civilian defense mobilization.

The legally constituted city departments of San Francisco which are already organized and staffed for doing special work in all types of emergencies, are the backbone of any local civil defense organization. Since the devastating fire of 1906 we in San Francisco have been fully aware of the possibility of another sudden and widespread catastrophe. Consequently, our protective services are always on the alert for any contingency.

The police, fire, medical, welfare, and other protective services can be mobilized quickly to cope with the destruction of a normal disaster. These departments operate with the most modern equipment available and boast of a highly trained personnel.

Furthermore, there is full cooperation and liaison between the San Francisco Chapter of the American National Red Cross and our city departments. The disaster section of the Red Cross maintains an active interest in disaster relief. At frequent intervals it presents

a disaster relief problem for discussion and possible solution. Present at all of these meetings are representatives of the fire, police, medical, and welfare departments who participate in solving the hypothetical problem.

It should be evident, therefore, that San Francisco is well prepared to cope with any natural disaster.

But, gentlemen, I have not traveled 3,000 miles to report to you our ability to deal with natural disasters. I am here to tell you point blank that we are not prepared to, nor can we, protect ourselves against the results of an atomic attack.

We are not prepared because, as of this date, the civil defense of our people from atomic attack seems to be nothing more than a buck-passing operation of the first magnitude between top Federal agencies.

Many responsible citizens of San Francisco, aware that our city is a primary target, are sincerely concerned over the destruction and horror which would result from the explosion of an atomic bomb. Their concern is absolutely justified.

San Francisco is a primary military target, as is well known by the military establishment, because it is the industrial, shipping, rail, and financial center of the entire west coast. Our city of 800,000 people is the most important atomic bomb target west of the Mississippi River. Mine is the only major city in the United States which is extremely vulnerable to an underwater bomb burst.

The CHAIRMAN. I do not know that you are accurate about that, Mayor.

Mr. ROBINSON. I think I can demonstrate it to you.

The CHAIRMAN. How about New York and Philadelphia?

Mr. ROBINSON. They are not on a peninsula as we are, Senator. We are surrounded on three sides by water, located on just the tip of a peninsula. And we would have but one possible land exit if a submarine should fire a bomb, an atomic bomb, on San Francisco.

And I might call to your attention that twice within the past 10 days unidentified submarines have been observed off the California coast. About 10 days ago, or less, one appeared some 8 miles off shore. And I read in the morning press in Washington that another has now been sighted offshore in the vicinity of southern California about the area of Santa Barbara.

But San Francisco is peculiarly situated, and I still say and maintain that we are probably more vulnerable to an underwater bomb burst than any other city in the Nation. We have a very dense population crowded together upon a peninsula from which the routes of exit and entrance are sharply limited. We have but 42 square miles in our city on this peninsula; being what I have often referred to as the thumbnail of the thumb of that peninsular, a very compact area.

San Francisco is about 2,700 miles from the Russian mainland, less distance than from San Francisco to Washington, or from Washington to San Francisco.

I might call to your attention that an ordinary commercial passenger plane brings us from San Francisco to Washington in 12 to 14 hours. Last night an executive officer of a passenger plane corporation, a commercial aviation corporation, told me that, in his opinion, a high-speed plane of an enemy could travel that same distance in 6 to 8 hours.

San Francisco, as I again call to your attention, is but 2,700 miles from the Russian mainland, easily reached by air or water over the Great Circle route. An atomic attack upon San Francisco would not only result in heavy loss of life, but it could convert the city into the world's largest ghost town from which the entire population would have to be excluded for 4 years or more.

During this time the best harbor in the West, the Navy's largest base, the headquarters of the United States Sixth Army, and other important military facilities, would be blacked out.

And at this point, I would like to depart from my prepared statement to point this out to you, or call it again to your attention: Civil defense, to my mind, does not mean nursing the injured and burying the dead. It means something to prevent injury and death. In addition to that, I might call to your attention that cities, counties, and States are not armed militarily to defend anything, so that at the most, when we talk of civilian defense we are properly talking of licking our wounds, nursing our injured, and burying our dead. And I would like to say that that seems to be the defense definition that we appear to be getting out of Washington today.

It is natural to presume that the military will, therefore, be concerned primarily with the defense of its installations.

It is no wonder, then, that my people are greatly concerned with their own safety in the event of an atomic attack on San Francisco.

And there is another thing that has been discussed here, and I again depart from my script. You know, it is not so much evacuation with which we should be concerned as it is dispersal of our population in advance of attack, after sufficient warning that an attack is about to occur. Because as I understand the effect of an atomic attack, after it has occurred, the radiation remains in the area, and you are not permitted to depart that area; and neither are those who would come to your relief permitted to enter that area.

So you become isolated in your suffering and in your wounds and in your death. You must be prepared to take care of yourself. And it is on this point that we are looking for light and guidance from our Federal Government.

The CHAIRMAN. Have you received any material from the Governor's office in California?

Mr. ROBINSON. I would like to answer that later in my statement, and then I will refer specifically to the question, if I may reserve my answer, Senator.

Representative HOLIFIELD. If you had 6 hours' warning, Mayor, of an atomic attack, could you evacuate the city of San Francisco over its bridges?

Mr. ROBINSON. In part. We could save some lives. The extent of the evacuation would depend upon many factors, but we could save some lives in the matter of 6 hours.

At no time have I had any indication that the military has given consideration to the protection of the civilian population as well as to its own establishments.

Across the bay from San Francisco, at the University of California, a school for atomic defense has been in operation for some time. Military personnel have been trained in the science of atomic defense. Presumably, some persons have been graduated from that school, and yet, not once has one of these trained experts been directed by

his superiors to drive 8 miles and instruct me, as the chief executive officer of a primary target city charged with the responsibility of planning the welfare and safety of 800,000 people, on what he has learned in that school about atomic defense.

The CHAIRMAN. They are keeping it a secret?

Mr. ROBINSON. Yes. I am afraid they might keep it a secret too long.

Nor has anyone connected with that school given me any indication of a realistic basis upon which I could proceed to plan for the protection of my people in the event of an atomic attack. I can only conclude, therefore, that the military is training its technical experts in the defense of military installations and establishments, and consequently, the civilian authorities, like myself, must shift for themselves in this matter.

The CHAIRMAN. Mayor, have you communicated with any of the Army personnel around your town on this subject and asked them for aid or assistance?

Mr. ROBINSON. I might say to you, sir, that in preparing this paper I was advised by high military advisers, capable people in the military field, whose names I shall not disclose.

The CHAIRMAN. I wondered if you had asked these people over at this school if they could send anybody over to see you and help you out.

Mr. ROBINSON. No, Senator, we had figured that the Federal Government had the situation in hand and was going to tell us. I will come to that very presently. You will see my point, I am sure.

But in modern war, gentlemen, the citizen in the street is a target of attack as much as the soldier or sailor. That civilian is paying the Army and Navy to protect him, and he expects a job to be done, not merely passing the buck to civilian committees. The citizen in the street is the person who provides the skills and techniques which the production of modern instruments of war and the maintenance of fully supplied military establishments require. Neglect measures for protecting him from the results of an atomic bomb burst and you have shut off the flow of materials and weapons to the armed forces.

The citizens of industrial cities provide the sinews of war. And the citizens must be accorded the same place in realistic planning to meet an atomic attack as that given to the military or the establishments of the military.

I am aware that there are civilian committees which have been shuffling defense plans around on their desks here in Washington for the past 3 years, but no realistic and comprehensive plan has yet reached the authorities in my city, and I doubt one has reached authorities of any other prime target city.

The military have all the know-how about atomic defense; yet, at the same time, they impose ridiculous rules of secrecy which prevent the rest of us from finding out enough to enable us to plan realistically for our protection. As a result, we must turn to other sources for guidance.

And what are these other sources? We have been informed that by sending 10 or 15 cents to the Superintendent of Documents, we may receive certain pamphlets which deal with civilian defense.

I submit, gentlemen, that inviting a mayor of a city of 800,000 people to send 10 or 15 cents to Washington for a pamphlet on civilian

defense is reducing the critically important question of protecting the lives and the economy of the city of San Francisco to the same status and category as that of a youngster sending the same amount to the same address to learn how to raise white rats. The thing is utterly ridiculous.

But even sending along my 15 cents has not produced results. On January 27, 1950, in response to a publicity release, my office ordered 25 copies of a publication entitled "The Medical Aspects of Atomic Weapons" from the Superintendent of Documents, Government Printing Office in Washington. By return mail I was informed that temporarily the Superintendent of Documents did not have a stock of the publication and that our order had been placed on file. To date we still have not received these documents. That was in January.

Gentlemen, I emphatically urge in behalf of my people that a policy of total defense be inaugurated immediately by the Federal Government. And I would like to repeat, total defense. That policy of total defense should integrate both military and civilian defense measures.

I urge that henceforward the safety and welfare of the civilian population be considered as of equal priority and importance with the protection of military establishments and installations.

Certainly San Francisco is not only ready and willing, but is eager to cooperate with the Federal Government in any way and in every way for the protection of our people.

But you must understand, gentlemen, that, because San Francisco is a primary target, our people are vitally concerned about the lack of specific and substantial information upon which we can base our plans to mitigate the effects of an atomic attack. Our people, like everyone else, have read about a radar screen that someone says is to be built around the country, but at a cost of more money than we have. They have been told of the need for high speed interceptors.

But if there is a single informed person in the United States today who believes it possible for interceptors to completely prevent enemy bombers from reaching their targets in this country, I have yet to meet him.

The truth is that passive defense is an impossibility, and you know it, and I know it, and every airman knows it, and even a high school boy can figure it out. An attack, therefore, apparently cannot be prevented.

I am most anxious to be helpful and cooperative in the national defense effort. But it has been 5 years since Hiroshima and more than 3 years since Bikini, and during this period, so far as I can determine, the National Government has been fumbling the ball of civilian defense.

As mayor of San Francisco, I am responsible to the people for their welfare, and I believe that their welfare is being seriously threatened by the present lack of preparation to meet an atomic attack.

Now let me tell you what I am faced with. I have the police department, the fire department, public utilities department, public health department, and others, prepared to coordinate their efforts in a plan for civil defense. And yet, I have absolutely no notion of precisely what steps should be taken by them to meet an atomic attack upon San Francisco.

I need not tell my police department how to maintain order. They know that already. I need not tell my fire department how to

put out fires. They know that already. The Public Health Department of San Francisco is, I am happy to say, preparing itself to meet certain of the medical aspects of an atomic attack.

But the over-all picture is simply that we do not have a specific and detailed plan of action for the simple reason that we have not been informed about precisely what to expect as the result of an atomic explosion.

The CHAIRMAN. Well, now, Mayor, you are in a bad way.

Mr. ROBINSON. You are? Or I am?

The CHAIRMAN. We all are, I guess.

Mr. ROBINSON. We know that.

The CHAIRMAN. Now, precisely what to expect as the result of an atomic explosion?

Mr. ROBINSON. That is right.

The CHAIRMAN. Well, you have a pretty fair idea, and so have I.

Mr. ROBINSON. And you and I are not supposed to be military experts, or medical experts.

The CHAIRMAN. Yes, I know. But you have a pretty fair idea of what Hiroshima and Nagasaki were like.

Mr. ROBINSON. We know there was great destruction and disaster and death and injury.

The CHAIRMAN. And there have been yards and yards of stuff written on that.

Mr. ROBINSON. Yes.

The CHAIRMAN. And, of course, it is because you have read it and because you are aware of it that you are here today. So the results of an atomic explosion in San Francisco, in the harbor of San Francisco or overhead, you have pretty well described in the forepart of this statement, it seems to me.

Well, go ahead.

Mr. ROBINSON. I am interested in a realistic training program which will enable my people to meet an attack when it does come in a calm and orderly fashion so that thousands of lives might be saved which would otherwise be lost.

I, therefore, propose a program which I should like to designate "Operation Intelligence," for which I suggest the Congress make the Department of National Defense responsible.

I propose that Operation Intelligence consist of three phases:

1. Immediate establishment of intelligence liaison between the Federal Government, the State government, and primary target cities, through which liaison will flow all the information required to keep officials at those levels cognizant of every latest development in the field of atomic defense.

This phase should be completely informational and I propose that this be accomplished through some military officer or other agency of the Federal Government together with responsible representatives of the governors of the States and the mayors of primary target cities.

2. That educational information be developed and disseminated through "Operation Intelligence" which can be imparted to every man, woman, and child, even down to the children in our schools and youth groups, such as the Boy Scouts and Girl Scouts.

3. That the military commander of each primary target area be instructed to designate one thoroughly trained expert in atomic defense to consult with the municipal and State authorities as an active par-

ticipant in the development of plans for civilian defense. Such an officer would be in a position to keep his commander fully cognizant of those plans being developed by the civilian agencies so that in event of an attack the military command would know precisely and specifically what the civilian organizations were doing.

Furthermore, such an officer would give such civilian defense planning the realism which it must have in general and in its most minute details.

My program calls for full cooperation on the part of the Federal Government, but by no means does it imply that the Federal Government should control the operation of the civilian defense forces in each city. Home rule is the Golden Rule in this matter.

I do not believe that the education of our people through "Operation Intelligence" will create unreasonable fear or mass hysteria. People develop unreasonable fears from the unknown, not from something which they can freely discuss. A person rarely fears entering a dark room if he knows where each piece of furniture is located.

The CHAIRMAN. I agree with you on that.

Mr. ROBINSON. And in that regard, Senator, let me say this to you: During all of my experience in attempting to get information during the past 2 years, I have received nothing but a hush-hush shush-shush attitude from the Federal Government concerning the atomic bomb and civilian defense in connection therewith.

Our newspapers have printed thousands and hundreds of thousands of inches of material with reference to the destruction of an atomic bomb, of a possible hydrogen bomb. Our radios have carried hundreds of thousands of words over the air to the people about the destruction of an atomic bomb. Our people are no longer shocked or excited about the words "atomic bomb," or "hydrogen bomb." Every boy in the street; every man, woman, and child, now knows that such a thing exists.

There is no great excitement or mass hysteria among our people at the moment. And all of that has been going on for years, until it has almost become the story of the wolf.

Now, why not tell our people, in plain and understandable language: If an atomic attack comes, you should go underground. You should go upstairs. You should wrap yourself in a wet blanket. You should bathe yourself with oil. There must be some remedies. There must be something that a man can do to at least alleviate the suffering and pain that are threatened here. Tell our children, tell our men and our women, tell our people, whether they should run to the water or to the mountains; whether they should stand on earth or whether they should stand on metal, or stand on cement. Give them the simple rudiments of self-preservation. That is the thing with which we are concerned.

Let those who claim to know, or think they know, tell us what to do should such an attack come. That will bring comfort to the people. In an emergency, understanding of what to do, how to behave at the time of an attack, can help materially. It can save lives, and it can preserve the courage of the people.

Representative HOLIFIELD. Mr. Mayor, I was a member of the President's Atomic Bomb Evaluation Committee at Bikini, along with one other Member of the House, and two Members of the Senate; and in the conclusion of our report to the President, after that

occurred, I think you will find the sentence which says that "Distance is the only real defense against the atomic bomb."

Mr. ROBINSON. Well, tell us so.

Representative HOLIFIELD. In other words, just do not be there when it happens.

Mr. ROBINSON. That is a delightful idea, if we could all make sure of it. But, as I will say later, the enemy never tells when or where or how he is going to attack. That is one of the incidents of war.

Nevertheless, I believe that our medical people have possibly found some means of alleviating the suffering. Maybe it won't cure; maybe it won't save lives. But perhaps it will at least alleviate the suffering. And at least, if it does nothing else, it could alleviate the worry and the fear.

Representative HOLIFIELD. Well, now, you have been quite critical of the National Government.

Mr. ROBINSON. I have not completed, either. I would like to; and then you can take me on.

Representative HOLIFIELD. I have glanced ahead of you. You have been quite critical. And possibly criticism is due. But, you know, modern science poses a question at some times to which we do not have complete answers.

Mr. ROBINSON. We do not expect complete answers.

Representative HOLIFIELD. And sometimes if an answer is given that is not a completely factual answer, that might give to the people a feeling of security which the National Government would not want to be responsible for.

Mr. ROBINSON. I don't believe I have suggested any factual answer that would not be truthful. I believe what I say is: If you don't know anything about it, tell us so. If you know something about it, tell us the little you know. Give us the benefit of anything that you do know about it at the Federal level, and then we will do our part for the State government and the Federal Government, and for the people we represent in the cities.

But if you have seen the sorry spectacles at the American Municipal Association of persons trying to talk about civilian defense—surely it is the halt leading the blind. Because no one knew anything about it. Even the Hopley report gave us little comfort and much confusion.

Senator KNOWLAND. I think the mayor has also quite ably pointed out here, that there is no final defense against passively sitting and waiting for somebody to make a Pearl Harbor type of attack; that the chances of keeping out all planes that might come over, or all submarines that might cross the seas, are such that it is just too much for a realistic person to expect, and some of them are bound to get through.

Therefore, along with the civil defense phase of it, there must be a more active defense, to prevent, in the mayor's case, the Pacific Coast from becoming the first line of defense of this country. And, therefore, there is a very real interest in the maintenance of adequate defense in Alaska, or in Hawaii, or in Japan, or Okinawa, or in the Philippines.

Because if you move that defense line back to the Pacific coast, the chances of having warning of even 6 hours becomes much less than if our defense perimeter were farther out in the Pacific Ocean.

Mr. ROBINSON. That is right. That is best illustrated, gentlemen, by the fact that an unidentified submarine appeared within 8 miles of the California coast line within the past 10 days. Now, fortunately, we know of nothing that occurred to our detriment or prejudice. But let us assume that that submarine had wanted to project an atom bomb on San Francisco. Where was our Federal defense? Where was our local civilian defense? What were we going to do about it?

We would be killed like sitting ducks. And that is what concerns us.

What happened to intercept this submarine 8 miles off our shore that was unidentified? Where was our protection? Me sitting at my desk in the city hall? Was I protecting my 800,000 people? Was the Governor of California, up in Sacramento taking care of his business, protecting the 10 or 12 million people of the State of California?]

We must rely for our protection on the military forces of this Nation. And that is why I say, gentlemen: total defense.

My people in San Francisco have the intelligence and courage to face any kind of a threat which they are allowed to understand. My people are getting restless because of the unknown factors involved in an atomic attack. To give the people information will certainly not cause panic or hysteria. Every newspaper, and I suppose every radio, has already given the widest possible coverage to the terrible potentialities of atomic bombs and of hydrogen bombs.

If any mass hysteria were going to take place, gentlemen, it would have taken place at the height of those disclosures. So I feel that undertaking a program of public enlightenment will in no wise contribute to panic or hysteria on the part of the people.

We are ready to do what we are asked to do, but we must know what direction our efforts should take. Some of the people may suppose that secret measures are being taken to meet the problem of civilian defense. But most of them know that any program which requires the intelligent cooperation of every citizen must, of necessity be common knowledge. They will not tolerate negligence or the present division of irresponsibility for realistic training for civil defense.

I firmly believe that Operation Intelligence will mean the inauguration of a comprehensive program of public instruction and indoctrination which will reach from the governor of my State down to every school child.

From Operation Intelligence I can well visualize the establishment of special emergency task assignments for every civilian group in accordance with its speciality and ability. Through Operation Intelligence every doctor, nurse, pharmacist, bus driver, fireman, and motorman may and should receive detailed instructions regarding the task he will be expected to perform in an emergency.

I believe we must have Operation Intelligence in order to plan in advance how to solve the problems of medical care, transportation, and the feeding of thousands of homeless people.

I do not propose the setting up at this time of a full blown, active and heavily manned civilian defense organization in our municipalities. But I do believe that the authorities charged with the formation of such organizations should and must be fully prepared to react immediately and effectively in event of atomic attack.

Apart from the foregoing, there is another factor which may be peculiar to San Francisco, but which merits the consideration of this committee. I believe that the key municipal employees needed to operate a civilian defense plan which protects a highly industrialized community should be exempt from military service.

For example, the San Francisco Police Department has estimated that if the same selective service policy should apply again which was in effect during World War II, probably 41 percent of the force could be called into military service, either through reserve affiliation or by the military draft. This would have a crippling effect upon the civilian defense operations in San Francisco.

In my opinion, the exemption or deferment of key personnel in primary target areas should be a matter of law or national policy, and not left to the sole discretion of draft boards.

One further point, I believe, must be presented to this committee by the mayor of San Francisco. I should like to remind this committee that San Francisco is situated at the tip of a peninsula. In order to evacuate our people eastward, we would have to use the San Francisco Bay Bridge. It has been proposed that a second crossing of San Francisco Bay be erected parallel with and adjacent to the present bridge. The Department of National Defense of the United States has taken the position that, from a military standpoint, a southerly crossing of the bay is preferable to a parallel bridge.

Incidentally, I might interject as an aside, that Senator Knowland and I are not thoroughly in accord on this subject.

I submit that the dispersal of transportation routes in and out of San Francisco and its neighboring communities is essential to the civil defense requirements of the entire area.

Senator KNOWLAND. I might say to the mayor that it seems to me the important factor is getting another crossing, so that within 6 hours the people will be able to get out. Because I believe I betray no secrets when I say that if a hydrogen bomb should be dropped both bridges, whether they be southern crossings or otherwise, will probably be unusable.

Mr. ROBINSON. It might happen. But I therefore respectfully request that this committee and the Office of Civilian Mobilization issue a forthright statement declaring their opposition to a parallel or twin bridge spanning San Francisco Bay.

Local civil defense is an essential component of national defense and it must be so treated by the Federal Government.

A future war will be fought on three levels—by the fighting men who will be called upon to repulse the attack and later carry the war to the enemy; by the security forces who will try to suppress the fifth-column activity, and, finally, by the civil defense forces in the cities which will reduce the effect of enemy attack that reaches the cities. Defeat at any level would well mean national disaster.

In conclusion, gentlemen, let me remind you that the city of San Francisco suffered one of the greatest catastrophies in modern American history. But our people rebuilt the city brick by brick and stone by stone until today San Francisco stands proudly as a monument to the courage and determination of our people.

I want to assure you again that whatever information may be given to the people of San Francisco will not be received in the spirit of panicky hysteria, but will be received as information given them for their own protection and self-preservation.

All they ask, and all I ask in their name, is that we be permitted to cooperate with the Federal Government in realistic planning for our welfare. Cooperation is absolutely essential to the success of a civilian defense program.

Surely it is indicated by the threat which hangs over our country today, and I, therefore, urge you to see to it that the Federal Government does its part in extending the practical and realistic cooperation to municipal authorities which those authorities must have if they and their people are to react as they should to an atomic attack.

May such an attack never come. But if it does come, may any enemy find in us a people whose resolute courage is matched by the thoroughness of their preparation to meet that attack.

After arriving here, gentlemen, and studying my hurriedly prepared statement, because I had very limited notice of this meeting, which caught me in the middle of municipal budget sessions, I prepared about a page and a half of supplement which I should like to read into the record. I will make it as rapid as I possibly can.

In my preceding remarks I have endeavored to make constructive criticisms of civilian defense planning to date and to offer a definite solution by way of a workable program which I hope will be adopted by your committee.

Although I have spoken for the most part about atomic defense, what I have said also applies in part to defense against bacteriological and chemical warfare.

In connection with the necessity for adequate bridges across San Francisco Bay properly separated, not only are they necessary to insure the maximum opportunity for ingress and egress to evacuate the population following an attack, but they are also necessary to permit satisfactory dispersal of the populace prior to an attack.

My program calls for direct liaison between the Federal Government, State governors and the mayors of primary target areas. It is my belief that the Federal Government should concentrate its civilian defense energies at the outset on the primary target areas, instead of wasting valuable time, money, and manpower on less vulnerable areas. It is conceivable that many entire States, and many more cities, are low on the vulnerability list.

The Federal Government should designate the primary target areas and should then confer immediately and as often as necessary thereafter with the governors and mayors of those areas.

Not only have efforts and planning thus far been diffused, confused, and delayed by covering too many States and communities, but it is my guess that too many of the usual interagency conferences have been taking place here in Washington on conjectured facts instead of singling out the primary target cities for on-the-spot surveys and planning conferences in such cities.

We must all recognize that an enemy is not purposely going to divulge to us the pattern of his attack—when, where, or how—but we have the right to assume that our military with its over-all knowledge of such affairs should be able with some accuracy to designate primary target areas so that our Federal Government can proceed to formulate a program of national civilian defense with emphasis and greater particularity with reference to primary targets.

Whether a particular city should have a primary target area type of civilian defense program, or a lesser type, or none at all, should not be left to the chance determination of uninformed local officials, but it is a direct responsibility of the Federal Government to make such decisions and to see to it that adequate programs are established, as adequate protection of primary target areas is vital to our national security.

Now, Senator McMahon, to answer your question with reference to our Governor sending information to the mayors of the cities, I will say to you that Governor Warren, of California, called a meeting at our State capital, Sacramento, very well attended by representatives of municipalities. I was represented there by my representative, to whom I referred earlier in my statement. And the Governor had before him all that the Federal Government had given him, which I have read and which in my opinion amounts to very, very little.

The CHAIRMAN. What date was that?

Mr. ROBINSON. I do not have it before me. It is in my file.

The CHAIRMAN. I mean, is it recent? I am trying to pin it down.

Mr. ROBINSON. It is within the last 2 or 3 weeks, at the most.

But our press carried accounts of Operation Lookout, involving 150,000 people participating in lookouts and radar, at an expense involved that I don't believe the United States Mint is prepared to mint. The Governor imparted all that he had, and all that he had from the Federal Government, I still say, was diffused and confused and not informative or realistic.

The CHAIRMAN. Now, I asked the staff of the committee to get up for me what had gone forward to the States.

Mr. ROBINSON. I can show you what has not gone forward, excepting through the ads stating that you could buy them from Washington for 10 and 15 cents.

The CHAIRMAN. On October 5, 1949, the Acting Chairman of the NSRB sent to the governors a 10-point statement of policies for relationships with State and local governments in civil defense planning. This was sent after discussion with representatives of associations representing State and local government interests.

The following extracts from the statement seem relevant:

1. The Chairman and staff of the National Security Resources Board will deal directly with State governments, or through State governments with political subdivisions within States.

2. Information or advice released by NSRB will be channeled to States; it is assumed that States will relay the same to their political subdivisions when appropriate.

3. Requests for information or advice received from political subdivisions may be answered directly with copies of the correspondence going to the appropriate State government; however, requests of this nature will be referred to State governments for direct reply as State facilities for processing them are developed.

In other words, the NSRB has specifically made it clear that it will not deal directly with municipalities; it has informed the States that it regards this as their responsibility.

The fact seems to be that a good number of States are negligent in passing NSRB information on to cities.

I don't say that is so in your State, because the Governor had the conference up there.

Too frequently documents from Washington are buried in obscure files in the State capitols.

Three civil defense planning advisory bulletins, dated December 1, January 15, and February 3, have been transmitted by NSRB to the States. These bulletins and their enclosures have dealt with such topics as the following:

Federal objectives in civil defense planning, information on Federal activities in civil defense planning, recommendations for State and local civil defense planning groups, information sought from the States, medical aspects of atomic weapons, training courses in radiological monitoring and medical aspects of atomic warfare, and damage from atomic explosion and design on protective structures.

The NSRB has also worked with the Conference of Mayors and the American Municipal Association, and publications of these organizations have carried accounts of Federal civil defense activity.

Now, there appeared recently, and this I think is of some interest to you, in the Saturday Evening Post, on January 7, 1950, an article, *How You Can Survive an A-Bomb Blast*, by a gentleman by the name of Richard Gerstell. The subhead is:

If you think a falling A-bomb means the end of everything, this remarkable report may change your mind. Here are protective measures you can take—and proof that the blast is not always so fatal and frightful as you think.

Mr. Gerstell is now with the staff of the NSRB, and I believe that a rewrite or simplification, or rather, a condensation, of this article is going to go forward by the millions in a very short time. I just give you that for your information.

Mr. ROBINSON. Well, I would like to repeat this:

Whether a particular city should have a primary target area type of civilian defense program, or a lesser type, or none at all, should not be left to the chance determination of uninformed local officials, but it is a direct responsibility of the Federal Government to make such decisions and to see to it that adequate programs are established, as adequate protection of primary target areas is vital to our national security.

Now, with due respect to the individuals concerned, you can take all the literature that has come out of Washington with reference to civilian defense, and when you get through reading it, it tells you nothing specific. They say, "We are pleased to give you advice," and you write for the advice, but you don't get it.

Now, we have had some considerable correspondence with Mr. Washburn, who is the executive officer of Governor Warren's Disaster Council of California, and I was trying to find it hurriedly, through the parcel of material I have here, and I don't have it.

But as late as January of this year he wrote to Mr. John Sullivan, the man to whom I earlier referred as representing me, a letter in which he says:

All we can do is stand by until they tell us something to do.

Now, this literature is all very nice, which is made up here in Washington, but it doesn't come out and tell us factually or realistically how we should provide any civilian defense for our people. The pamphlets are made up in attractive form, and it is nice for you to mail them to the governors. That is all very well, and it is well appreciated.

But it doesn't tell the mayors of large cities, having the direct responsibility to the people, what to do and how to proceed. And I challenge any man to take the literature that has come out there and show us where there is any direct instruction for planning for civilian defense; except to lick your wounds, nurse your injuries, and die.

Representative DURHAM. Mr. Mayor, I would like to ask you one question. I notice in your plan here, your operations plan, you advocate complete cooperation with the Federal Government.

Mr. ROBINSON. Yes, sir.

Representative DURHAM. Now, the question in my mind is: Can you have complete cooperation without the Federal Government pushing you mayors around somewhat at times?

Mr. ROBINSON. Oh, I don't go for being pushed around at all, Senator; not at all. Of course, we have to be realistic.

Let me say this to you: In the event of an atomic attack, this would probably happen: If there is a military installation in your area, you would probably have martial law within an hour. Now, let us put aside all of these well-laid plans of men in Washington, or agencies, I mean, and get right down to brass tacks.

If you have an atomic attack, and there is any military installation there, and it survives at all, you will probably have military law.

Representative DURHAM. That is the point that worries me.

Mr. ROBINSON. Well, it worries all of us.

Representative DURHAM. And that is something that we are deeply concerned about, because we do not want to get into a military state of affairs before we know what we are doing.

Mr. ROBINSON. That is right. But that is why I call for local defense by the military. Let us approach this thing realistically. Let us not fool ourselves.

The most your civilian population can do is to bury their dead, nurse their injured, lick their own wounds, and try to find food and water to sustain themselves until relief can come. And the defense end of it must come from the military.

Representative DURHAM. Of course, when that time comes, I think we are all going to be more or less confused. But in the period of time intervening, I think we should proceed cautiously in that respect.

We start out with a plan of military cooperation. And I know the military pretty well, having been associated with them for 10 or 12 years now, and I am sure my friend Kiesling—he was with them at one time. And I always found that when you give them a little authority, usually they take over.

And the civilian authority, then, has to run here to us in Congress and begin complaining about it. Now, this is a rather delicate thing, this matter of working out cooperation between the mayors and the cities. It is one that, of course, we want to bring about, but in a reasonable and sensible way.

Mr. ROBINSON. I believe my proposal is reasonable and would prove successful. Operation Intelligence, as I have outlined it here, means complete liaison in the matter of civilian defense, the matter of civilian care, planning to take care of our injured and our dead, to take care of our wounds, and to provide ourselves with water and food and clothing.

Those are civilian matters which should remain, up to the time of an attack, completely in the hands of your mayors.

Representative DURHAM. Do you believe that you can write this into statutory law, then, so that it will be workable?

Mr. ROBINSON. I sincerely believe so. All it takes is realistic thinking and planning and cooperation. I don't believe in wasting time, in our communities.

Senator Knowland lives in the city of Oakland just across the bay from San Francisco. I don't believe San Francisco should attempt to set up one kind of civilian defense, Oakland another, or maybe Oakland a defense and San Francisco none, or California one type of defense and Oregon none, or a different type of defense, or Minneapolis one kind and St. Paul none at all, or the reverse.

I don't believe Kansas City, Kans., should have one kind of civilian defense and Kansas City, Mo., maybe none at all. That hopscotch, random way of thinking isn't the way to plan.

Representative DURHAM. I believe that the pattern should be, of course, according to Hoyle.

Mr. ROBINSON. Then, I don't believe that some little town out in the desert, without naming any particular one, needs the same degree of civilian defense as does a primary target city.

Representative DURHAM. Perhaps that mayor is going to raise just as much fuss with his Congressman as you raise with yours.

Mr. ROBINSON. No, if you can assure him that he is not in a primary target area, he doesn't have to have the same kind or the same degree of civilian defense or protection as does the fellow in a primary target area, and he will realize that.

Representative DURHAM. It is going to be very difficult.

Mr. ROBINSON. It will be very difficult, but we have to meet the difficulties. We have to recognize difficulties. This is the survival of the Nation, the survival of the people, and we don't care whose toes are stepped on. You have to tell your supporter, your constituent, in your district, that "you are not in a primary target area, so this is the type of civilian defense for you." If you are in a primary target area, then your mayor must sit in with your governor and your Federal authorities, and you must work out a primary defense.

Representative DURHAM. Did I understand you to say that you believe that the Federal Government should tell you this whole story?

Mr. ROBINSON. No; I did not say that.

Representative DURHAM. I kind of understood it.

Mr. ROBINSON. No, you won't find "the whole story" in my statement. They should tell us enough so that we can guide our people. I say that one liaison officer, military, stationed in an area, could tell one man designated by the governor of a State, and one man designated by the mayor in a primary target city, "You must be alerted."

Representative DURHAM. What you want to be assured of is that you really have a radar screen, or whatever you have to have?

Mr. ROBINSON. We must be assured that we can be alerted; that we can make the added effort; whereas another city that is not in a target area at all should not make the same exhaustive effort that we would have to make in the primary target areas.

The military of this Nation should by now know generally and be able to reasonably tell us where the primary target areas are. And I think our effort and our spending and our planning should be designated as to the primary target areas.

Representative DURHAM. That is pretty good information for the enemy, Mr. Mayor.

Mr. ROBINSON. Well, let us hope that that information is not going to the enemy, but that it is going to those who have to know. You don't make that public.

Representative DURHAM. I hope not.

Mr. ROBINSON. We have all hoped that for a long time, about Washington.

Representative DURHAM. You have made yours quite public here this morning.

Mr. ROBINSON. Well, it shouldn't be made public. I like to think there is at least one man in each State, and one man in each city, who can bear the confidences of the Nation. And when we have reached the point where there no longer remains one such man in the city and one in the State, then I doubt if there is one in the Federal Government who can keep the secret.

The CHAIRMAN. But you have suggested here, Mr. Mayor, that in order to get the support which is necessary to put into effect a suitable plan, you must have an informed citizenry.

Mr. ROBINSON. That is a different thing.

The CHAIRMAN. So having it a secret would not do a great deal of good.

Mr. ROBINSON. Senator, you misconstrue. If you will read my statement, you will see that what I say about informing the Boy Scouts and the Girl Scouts and the boys and girls in the street refers undoubtedly to self-preservation. It refers not at all to the defense of the Nation, which we are paying our money, our taxes, to the military for.

Senator KNOWLAND. I take it the mayor is not suggesting that the local authorities need the formula on how the A-bomb should be made, or the H-bomb should be made.

Mr. ROBINSON. Not at all.

Senator KNOWLAND. Dr. Fuchs apparently has done a pretty good job on getting that information to where it should not be. But what the mayor has in mind is that information which can be released, which will enable the municipal authorities to do the job they will be called upon to do.

The CHAIRMAN. But just a minute, Mr. Mayor. He also, Senator, has indicated that the primary targets should be defined. Now, if you are going to define them, if you are going to tell Mayor Robinson that San Francisco is a primary target and considered as a primary target, then certain civilian defense measures must follow, of quite an extensive character.

In order for him to get the cooperation of his people to organize that civilian defense, he has got to indicate to them that they are living in such an area. If he does not want to use the term "primary target," he might not use it, but at least he would have to tell them that they are living in an area which might be attacked.

Mr. ROBINSON. Senator, I do not have to tell them. They all know it. Every man, woman, and child in the street knows it at this time. You could not read the papers without knowing it.

The CHAIRMAN. What did you think of the Hopley report?

Mr. ROBINSON. I would not like to express myself at the moment, Senator. I thought it was very poorly done.

The CHAIRMAN. Very poorly done?

Mr. ROBINSON. I thought so. It only provided material for more argument and more discussion back here. All of us people out in the communities, the mayors of the cities, the governors of the States, were led to believe that here was the solution. And then Washington

started fighting over it, and I don't know that the quarrel has ever come to an end.

The CHAIRMAN. The Office of Civilian Defense Planning refers to it this way:

Although the report of the Office of Civil Defense Planning, titled "Civil Defense for National Security," known as the Hopley report, has not been officially adopted, and although the NSRB does not agree with all of the recommendations made in this report, the NSRB does believe that the report could be a useful guide to the substantive areas in which planning must be done for Federal, State, and local civil defense.

Now, I have read that Hopley report at some length and studied it. I think there is a great deal of fundamental information in it, which has answered a good many of the questions which you have raised today.

Now, Mr. Mayor, if an attack comes on San Francisco, I think basically the local municipal organization, the local municipal agencies, the local civic agencies, are the ones that are going to have to handle the burden of it. I think that is indicated in this Hopley report.

You have given us much food for thought here today, but I would recommend that you study this Hopley report some more, and then match it against your statement. I think you will find that some of the questions which you have asked have been answered in that report.

Mr. ROBINSON. May I reply, Senator, in this fashion: The Hopley report was given to the people, and those who have the responsibility of civil defense planning. Then official Washington, the Federal Government, proceeds to refuse to adopt it.

Now, are we to be guided by reports that have been discarded and not accepted by the Federal Government, for a guide for our civilian defense? Is that what we are to assume?

The CHAIRMAN. No; I was suggesting that there was much basic information which you as an intelligent man would find very useful in thinking about your problems.

Mr. ROBINSON. But if you recall, Senator, I asked that the Federal Government take the initiative in being sure that primary target areas have adequate civil defense units. And the Hopley report has not been approved by the Federal Government.

Now, are we to go running off on our own with the ball, or are we to stay on the team? If we start adopting reports that have been rejected in Washington, written by anyone, the Hopley or any other report, and if we are to start to go to those for our guidance and our direction, then I would say that we are not giving the cooperation to the Federal Government that we desire to give. Because somebody else might write a report to the contrary next week. And which of the two reports are we to follow?

Mr. CHAIRMAN. Mr. Mayor, I was suggesting that there is much material in the public domain, such as this article I referred to in the Saturday Evening Post, the Hopley report, and the bulletins, the studies that have been put out by the Atomic Energy Commission. I presume you have read their study of the effects of an atomic blast upon the city of Washington, D. C.

Mr. ROBINSON. Yes, I have a copy of that, and I have one prepared similarly for San Francisco, sir, which I intend to release to the people shortly after my return home.

Representative DURHAM. I would like to ask another question, Mr. Mayor, which I think is also important.

When we go out and set up those primary targets and we designate them, what are you going to say to a man who walks into your office who has, say, a million dollars to invest in San Francisco? Are we going to tell him that it is a primary target and established as such by the Federal Government?

Mr. ROBINSON. If the military tells us that, wouldn't it be dishonest not to tell him?

Representative DURHAM. I am just approaching this thing realistically.

Mr. ROBINSON. I think the military are entitled to know the facts. There is not a man, woman, or child in my town, Senator, who today does not know that San Francisco is in a primary target area. They may not use that language, but they know how we are located.

Representative DURHAM. That is a little different from the Federal Government's going out and designating it as a prime target. If we set these things up, establish them officially, it provides a somewhat different emphasis.

Mr. ROBINSON. Of course, the Federal Government should not select just one city. It should tell the Nation where the prime and secondary areas, and so forth, are.

Representative DURHAM. I am just afraid you are going to put your chambers of commerce out of business.

Mr. ROBINSON. I would not mind, if that becomes necessary to save the lives of our people.

Now, I want to make one further comment. I sold the Saturday Evening Post on the streets 45 years ago, peddled them from door to door; but I still don't want to go, Senator McMahon, to the Saturday Evening Post to get my instructions from my Federal Government. And while the article may be interesting reading, and it is probably on my reading table at home, and I may get to see it, nevertheless I want the facts presented realistically from my Government.

► Representative DURHAM. Have you seen the Bull report, which preceded the Hopley report?

Mr. ROBINSON. Yes; we have read that. And the Federal Government has not adopted that.

Senator KNOWLAND. If I might ask this question: On the question which Congressman Durham has raised, as to designating certain areas as potential targets, however you might use the designation, after all, as you point out, there is probably not a person in this country who does not know that certain cities would stand out as potential targets. They may never be attacked.

Mr. ROBINSON. That is right.

Senator KNOWLAND. Only one-tenth of them may ever be attacked.

Mr. ROBINSON. That is right.

Senator KNOWLAND. But the fact remains that every member of the Politburo, or every person in charge of the planning in the Soviet Union, with the access they have to American newspapers, magazines, chambers of commerce reports, Bureau of the Census statistics, could pick out key industrial and communications centers of this area.

Mr. ROBINSON. They undoubtedly have had that information for many years.

Senator KNOWLAND. So since they have the information, there is no reason why the American people should not be acquainted with what the best judgment is of the military defense authorities as to where there might be potential targets in this country. And that is all you are asking, as I understand.

Mr. ROBINSON. That is my point exactly, Senator, and that covers it. And you leave out the other areas.

Representative PRICE. Since everyone knows this, the mayors in these communities already know how they stand in their cities as military targets, or any other kind of targets; so why is there so much concern about designating them?

Senator KNOWLAND. Because what the mayor has been trying to make clear, and I think has made very clear, is that once you have certain areas which are primary targets or possible potential objectives of an enemy who might attack us, then, as I understand it, he feels that the Federal Government should say that in all such areas, whether they be located in North Carolina or Michigan or California, they should have a certain type of defense for that type of an area.

If they are in that area, this is our best judgment as to the type of civil defense they should have. If they are not in this type of an area, they do not need the highly developed type that you would need in that area.

Representative PRICE. The Senator, I think, is correct about that. But from some of these meetings I have attended, it is clear, and I think you will agree, that the Federal Government is working toward that end.

Senator KNOWLAND. I think the mayor agrees that they may be working toward it, but as I understand it his objection is that the definitive word has not come down to those who live in or have responsibility as a mayor of a city of that type.

The CHAIRMAN. That is the purpose of these hearings, Mr. Mayor, to have a review of our situation. And we are very glad that you came today and told us your views on the whole matter.

We have had many hearings in this committee, many executive hearings. There has been a tremendous amount of planning work done that I think you will begin to see the results of very shortly. It has not been easy. It has not been simple.

The questions which have been raised to us have been extremely serious. The questions themselves, to say nothing of the answers, have been considered in executive session, because we believed that at the present time they must be so considered.

As I say, I think this tremendous amount of work that has been done on the planning level will make itself evident in a very short period of time. I just say that to you for your information.

Mr. ROBINSON. Well, I appreciate the opportunity to appear here Senator. We out in the States and in the cities feel that when a Federal agency is not doing a job the place to go is to the Congress of the United States, and there make known our feelings and our wishes and our hopes and ambitions. And when we come to Washington before a committee of either the Senate or of the House, or a joint committee, as this is, we feel we have come to the forum where we may make known our criticisms of the deficiencies of the various agencies of the Federal Government.

The CHAIRMAN. That is the purpose of these hearings.

Mr. ROBINSON. We understand that full well.

And in coming to this committee, we feel that we have the right and the duty to state the facts realistically.

The CHAIRMAN. Thank you.

Mr. ROBINSON. We have in mind, Senator, that it is 5 years since Hiroshima and 3 years since Bikini, and it may be later than the agencies think. For that reason we call on our legislative representatives to take the situation in hand, and we give only the benefit of our thinking.

Thanks very much.

Representative HOLIFIELD. Mr. Mayor, before you leave the stand: Of course, I want to thank you, too, as a fellow Californian, for coming to Washington on this matter. It is a matter of great concern, of course, to every Member of the Congress, and we have been studying this matter for some time.

I want to point out, however, that there is a much greater mass of information available than your statement indicates, and I want to point out that in the Hopley report, which I am looking at now, there is a great deal of information in the way of the organizational set-up which is needed on the local level to effectuate several different things, evacuation, fire protection, police protection, the enlistment of citizens in these types of programs—

Mr. ROBINSON. If you read my statement, you will see that I acknowledge all of that, and that I accept all of that.

Representative HOLIFIELD. And the hospitalization facilities which are going to be necessary. Now, as mayor of a great city, I do not believe that you can escape completely the responsibility which you owe to the people of your city by transferring this complete responsibility to Washington.

Mr. ROBINSON. I have no such desire.

Representative HOLIFIELD. Because 90 percent of your civilian defense is going to have to be done on the local level, and 90 percent of the civilian defense function at the present time is indicated in the Hopley report and the Bull report and the Medical Aspect of Atomic Weapons and the other pamphlets and the other material which has already been designed just for that sort of thing, pointing out the dangers of atomic warfare and pointing out the procedure which is necessary.

Now, I would say to you in return for your many accusations as to this report to the effect that the Federal Government has not stepped fast enough—and it may be true—that neither have the local governments. I am speaking now of State governments particularly, on down; major cities, too. Neither have they stepped fast enough, in relation to the information which they have.

So we all stand guilty. And let us all take the blame together.

Mr. ROBINSON. Congressman, I could only answer you in this way: We have done the one thing we could do to support the Federal Government and the military. We have paid our taxes. We in the municipalities cannot arm. The States cannot arm.

Representative HOLIFIELD. The Hopley report does not call for that type of thing that you are speaking of.

Mr. ROBINSON. I would like to complete my statement, Congressman.

Representative HOLIFIELD. Yes?

Mr. ROBINSON. We cannot arm. We are not organized to defend ourselves militarily. We have not the equipment nor the money nor the means. That is why we pay our taxes to the Federal Government.

Representative HOLIFIELD. That is not indicated at all in any of these reports.

Mr. ROBINSON. I don't say it is in the Hopley report. But, you say we have done nothing. We have lacked guidance.

Representative HOLIFIELD. I am talking about civilian defense, and not military defense.

Mr. ROBINSON. What civilian defense, Congressman, have you in mind, outside of, as I said before, licking our wounds, burying our dead, and nursing our injured? What defense have you in mind?

Representative HOLIFIELD. I will tell you very frankly, and on civilian defense, not military defense.

I realize that the city of San Francisco, or the city of Los Angeles where I live, cannot defend itself militarily.

Mr. ROBINSON. That is what I mean.

Representative HOLIFIELD. But if 90 percent of the civilian defense operation is going to be by participation on the local level, it is a matter for the inhabitants of the city, for the people on the local level.

Mr. ROBINSON. In connection with what?

Representative HOLIFIELD. With civilian defense. I will get to that in a minute. And if the direction of civilian defense is going to be maintained on the local level, which I think it should be, then I say that the job is on the local level, and that there is information available right now for you to start planning your evacuation, planning the treatment for the hospitalization outside of the fringe areas, the preparation of blood banks, the preparation of storehouses of commodities, the distributive functions, the housing function as to a mass of people that have to be taken out of the city, and all the other things that are indicated in the Hopley report.

Now, it is a big job, and the reason you have not attacked it on the local level is the same reason we have not attacked it on the national level. Because we realize it is such a big job that it is going to put a burden of expense upon the local communities, and a burden of expense upon the National Government, which is almost impossible to bear.

Mr. ROBINSON. I do not like to believe that the Congress of the United States is going to say to the communities and to the States, "Base your civilian defense upon a report that we ourselves have not approved or put into effect."

Now, the Hopley report may have what you consider good suggestions in it, but I have heard great differences of opinion.

Representative HOLIFIELD. I do not agree with all of it, either.

Mr. ROBINSON. All right. If the Congress itself has not agreed upon it, has not laid it down as a measure, or a standard for the communities and the States, how can we be guided by it?

And you undoubtedly have not read my statement, because I said, with reference to welfare, with reference to police, with reference to fire, with reference to water, that we have all of those things in readiness and have had them for years.

Representative HOLIFIELD. Let me ask you a question, directly.

Do you have a mass evacuation plan for the city of San Francisco at the present time?

Mr. ROBINSON. No. We are asking for one.

Representative HOLIFIELD. From whom?

Mr. ROBINSON. From the Federal Government. We have our bridge fight on. You must remember that.

Representative HOLIFIELD. Let us not get into that bridge fight.

Mr. ROBINSON. The bridge is one of the important elements.

Representative HOLIFIELD. Yes, I know it. But there are certain means of ingress and egress to and from the peninsula, there. Now, do you have an evacuation program designed to evacuate your people at the present time from the peninsula?

Mr. ROBINSON. No; we have not, for one reason.

Representative HOLIFIELD. Let me ask you another question now. You have answered that.

Mr. ROBINSON. No; I haven't answered it.

Representative HOLIFIELD. That is clearly within the province of a local municipality. You can do that. The Federal Government cannot come in there and tell you how to take those people out over that bridge, Mr. Mayor.

Mr. ROBINSON. No one can, neither the Federal Government nor anyone else.

Representative HOLIFIELD. Let me ask you another question.

Have you made any attempt to prepare a blood bank? You know it has been publicly said by the Atomic Energy Commission that one of the main and only curative things that is known at the present time for anyone that has been exposed to radioactivity is the immediate infusion of new blood. Have you prepared any type of a mass blood bank?

Mr. ROBINSON. No. We have blood banks all about the entire bay area.

Representative HOLIFIELD. Oh, yes; you have them for peacetime, but I am talking now about civilian defense for atomic attack.

Mr. ROBINSON. Nobody has told us that we necessarily have to prepare that.

Representative HOLIFIELD. Now, wait a minute. You have sense enough to know that. You are a smart man, Mayor, and I respect you. You are the mayor of a great city. And those people elected you because you are an intelligent man.

Mr. ROBINSON. If we are to rely on our own judgment, and the Congress of the United States tells us so, and that is as much guidance as we are to get, that would be your answer.

Representative HOLIFIELD. And in the absence of direction from Washington you are going to lay down on your own local responsibilities?

Mr. ROBINSON. No; we are far ahead of what you might think we are.

Representative HOLIFIELD. Now, have you prepared any mass places for evacuation outside of your city, the metropolitan area?

Mr. ROBINSON. Do you know the peninsula very well?

Representative HOLIFIELD. Yes, I do. You have some background country around there.

Mr. ROBINSON. Where is it?

Representative HOLIFIELD. After you cross the bridge to the mainland, what we consider the mainland.

Mr. ROBINSON. If there is war, if an atomic bomb explodes, do you think those bridges are going to be there?

Representative HOLIFIELD. Do you think by appealing to the Federal Government you are going to put up a bridge in a matter of a few days? You are not going to change the geography by appealing to the National Government.

Mr. ROBINSON. I don't think you really mean that question, Congressman. It is so obvious.

Representative HOLIFIELD. And the problem is so obvious that the need for your facing it directly is clear.

Mr. ROBINSON. When the defense end tells us what to do on the civilian question that can help the Federal program, we will be glad to do it.

Representative HOLIFIELD. I think if you will study the information that is available, and if you will fill your own local obligation to the fullest extent—

Mr. ROBINSON. You mean articles written by agencies? Or do you mean something that the Federal Government has adopted and approved as a guide to the communities?

Representative HOLIFIELD. I mean the use of common sense and the information which is presently available.

Mr. ROBINSON. If we are called upon to use our own judgment, we would like the Congress to tell us so.

Representative HINSHAW. Mr. Chairman, I would like to point out to our distinguished friend, the mayor of San Francisco, that a number of cities, and in one case a group of cities, have come to this committee and have come before this committee and presented a plan in being, pending any remarks that may be made by the Federal Government as to possibly a better plan.

But they have presented to us plans in being, completely organized, with heads of departments that are established in a civilian defense plan. And it seems to me that if our mayors of the cities of the United States are going to sit around and wait for somebody to tell them what to do, it is liable to be very much too late, because we are working hard, but we cannot get everything together in order to have it for these mayors.

I would like to say one more thing. The mayor has at his right one of the most capable former officers there is in the United States Army, Col. Francis Kiesling, who knows where he can get all of the information there is. And I doubt not that he has gotten a great deal of it already.

I think that there are probably a great many more men, both retired and reserve, all over the United States, in all of our cities, who are just as competent to make plans for their local areas, and even recommend to the Federal Government what plans should be made. It is not a one-way street, this thing. Everybody has got to join in this plan.

And I do not think that we can sit around and say, "Well, you have not told us what to do." There are a lot of things that can be done, without being told. And we hope that the people of the United States will take that attitude toward it instead of sitting around and saying, "Well, you have not told us."

Mr. ROBINSON. Well, if you will look at our statement, you will see that we have done much. And we are prepared to carry all of our share of the load.

But we want to know where the defense is coming from; not the care, but the defense.

Representative HINSHAW. If you want to know where the military defense is coming from, we are doing our best to supply everything that the taxpayers of the United States can afford, and a little bit more; as you probably know when you go to pay your own tax bill.

Mr. ROBINSON. We feel that.

Representative HINSHAW. And one-third of the budget at the present time is for current military expense, nearly 40 percent of it. We think that is a pretty good load for the people to carry. And part of it is going to the San Francisco Bay area. You have several perfectly good airfields. You have military installations in the vicinity. You have practically everything that San Francisco could ask for.

Seattle is another area that requires defense, because of the Hanford Works. Minneapolis, Chicago, Detroit, Philadelphia, Pittsburgh, New York—all of these places have problems of that sort, and we are trying to spread ourselves and spread our military defenses as thickly as we can around the needed areas for that purpose, and still get by with a budget that the people of the United States can sustain that are paying the taxes.

Mr. ROBINSON. Congressman, would you make that same statement had the submarine that was 8 miles off our coast just within the past 10 days projected an atomic bomb into San Francisco?

Representative HINSHAW. Let me just mention something about submarines. I have been a Member of Congress for 12 years, and curiously enough about every time of year when there is going to be an appropriation bill come before the Congress of the United States, you begin to hear about unknown things of various kinds, either in the water or in the air.

Representative HOLIFIELD. Flying saucers or mysterious submarines.

Representative HINSHAW. It happens that way every year when we do not have a war.

Mr. ROBINSON. It is a sad commentary on our people and on the Congress if that is the way it is played.

Representative HINSHAW. There are all kinds of ways in which pressure is applied, and that may be one of the ways.

Mr. ROBINSON. There are all kinds of ways of bringing pressure on mayors, too, I assure you.

Representative HINSHAW. And he hollers to the Congress to put up more money for military defense. Now, I am in favor of all the military defense we can afford in the United States, as everybody should know. At the same time, I realize that we have these things happen about ever so often, and we just cannot be scared to death every time some vessel sticks its nose out from under water and nobody sees what vessel it is.

Mr. ROBINSON. I recall that you come from southern California.

Representative HINSHAW. Yes, sir.

Mr. ROBINSON. In the Los Angeles area?

Representative HINSHAW. Yes

Mr. ROBINSON. Well, I do not have a certified copy, but I have a copy of what purports to be the statement of Mayor Bowron before this committee, and I think he found himself somewhat at a loss to find guidance for civilian defense also when he appeared before you.

Representative HINSHAW. I agree that the guidance, as such, is not here. But there is a great deal of common sense that can be employed by every head of a subdivision of government of the United States.

Mr. ROBINSON. That is agreed. And all I ask is that we use it together instead of individually. I think it is best that we do it collectively.

Representative HINSHAW. For example, you have a lot of cities around the Bay area around San Francisco, just as there are a lot of cities around the city of Los Angeles. I think there are 43 of them altogether around the city of Los Angeles, and there may be as many in the Bay area. I never counted them.

Mr. ROBINSON. Not quite so many.

Representative HINSHAW. Maybe not, but the area around San Francisco is pretty near as big as Los Angeles County. Have there been any coordinated meetings of persons appointed for civilian defense in the Bay area?

Mr. ROBINSON. Oh, yes; for years. Certainly.

Representative HINSHAW. Well, are they organizing various means for communication, and all that?

Mr. ROBINSON. They are talking, talking, talking; yes. They are consulting each other. They are planning generally to get together the fire departments, the police departments. They are planning to keep communications going between the various cities. They are doing all of the things that local people can do.

But that is not much defense. That is consolation, but not defense.

Representative HINSHAW. Why do you not go back and deliver them very much the same speech that you have made here before our committee and insist that they get together and do something?

Mr. ROBINSON. I have that in mind, sir, and I likewise have in mind calling a conference at a very early date of the mayors of the Pacific coast.

Representative HINSHAW. I think it is a good idea.

Mr. ROBINSON. A conference to discuss the same situation.

Representative HINSHAW. And, perhaps by the time that conference is called, there will be some more publications from the NSRB available for your use.

Mr. ROBINSON. You do not mean at 15 cents a copy.

Representative HINSHAW. Well, now, Mr. Mayor, nearly everyone in the United States knows that all they have to do is write their Congressman or their Senator, and they get them for free.

Mr. ROBINSON. Well, we wanted a quantity of them. We did not want to embarrass our Congressman by asking for something for free when we were willing to pay for the information.

Representative HINSHAW. If you are willing to pay, then go ahead and send your money in.

Mr. ROBINSON. We sent it, and here is the reply. We get a green slip that they are out of print over 2 months ago, and not a word since about any more copies.

Representative HINSHAW. Well, I have some out-of-print documents in my office, too.

Mr. ROBINSON. We appreciate receiving them.

Senator KNOWLAND. Mr. Chairman, just before we adjourn, I think it is important that the record not be left with the implication that the city and county of San Francisco has done nothing. I say that, because I think some may have come in after the mayor had started to talk.

To the contrary, the mayor, I think, made it perfectly clear that there had been work done in the city and county of San Francisco. He was in the closest liaison with the American Red Cross on disaster plans in and for the city and county of San Francisco. He does not want the job passed on to the Federal Government.

To the contrary, he recognizes the primary responsibility that the local community has. But he does want to get some of the latest and presumably official Federal points of view as to what, in areas of this particular type, should be done in the event of the danger of an atomic attack.

And since much of that information has been classified, he has no place to turn but to the Federal Government.

Mr. ROBINSON. It is all in my printed statement, Senator Knowland.

The CHAIRMAN. All right, Mayor Roberts, if we can complete your statement before lunch, we will hear General Dougherty this afternoon.

(The following telegram is incorporated as part of this hearing.)

APRIL 4, 1950.

Mayor ELMER ROBINSON,  
*Statler Hotel, Washington, D. C.:*

I wish to highly commend you on your fine talk before the Joint Congressional Committee on Atomic Energy. I borrowed a copy of the Hopley Report on Civil Defense for National Security from your office and sent to the Superintendent of Documents, Washington, for five copies of it for the use of the members of the committee of civil defense of San Francisco Medical Society. The order was returned marked "Report permanently out of print." This seems in line with your statement about difficulty of obtaining information regarding civilian defense. With many thanks for your efforts on behalf of the citizens of San Francisco, I am

HAROLD A. HILL, M. D.,  
*Member Civil Defense Committee,  
San Francisco County Medical Society,  
San Francisco, Calif.*

### STATEMENT OF HON. DENNIS J. ROBERTS, MAYOR OF PROVIDENCE, R. I.

Mr. ROBERTS. Mr. Chairman and members of the committee, I speak to you today purely in my individual capacity as mayor of the city of Providence.

We are a large industrial community which had considerable experience with civil defense organization during the last war, and it may be that these opinions based on that background will be of interest and assistance to this committee.

I have been asked to tell you three things:

1. What we have done about civil defense in Providence;
2. What the State should do; and
3. What I believe the Federal Government should do.

Although we regard the possibility of bombing as "remote" in Providence, as a matter of prudence sometime ago I requested a committee of citizens to study problems of civil defense and report to me on what we should do.

Chairman of this committee was Dr. Samuel T. Arnold, provost of Brown University. He was assisted by Drs. Robert H. Cole, James

S. Coles, and Donald F. Hornig of the Brown chemistry department; Rev. F. C. Hickey, chairman of the Providence College department of chemistry, and his colleague of the college physics department; Dr. Edwin Gore, and Deputy Chief Lewis A. Marshall and Battalion Chief Leo E. Gorman of the Providence Fire Department.

Mr. William Webster, a citizen of Providence, now Chairman of the Research and Development Board in the Department of Defense, served as consultant to the committee.

In essence, the report recommended creation and training of an emergency service organization centered on the professional personnel of the fire department. Operations would be keyed to a general plan of short-term and long-term preparedness and a postbombing program of relief.

I will not go into the details of the report, but with your permission I should like to offer this copy for insertion in the record.

The CHAIRMAN. We will put it in the record, mayor.

(The report referred to is as follows:)

#### ABSTRACT OF THE REPORT OF THE SPECIAL COMMITTEE APPOINTED AT THE REQUEST OF MAYOR ROBERTS

While probability of an atomic explosion in the city of Providence is remote, it is nevertheless real, since, due to the city's proximity to possible primary targets, its importance as a communications center, and its variegated vulnerability, it would be a logical secondary or alternative target for an attack by enemy aircraft. An air-burst explosion is considered to be more likely than an underwater or ground-burst explosion, which means there is less likelihood of persistent radioactive contamination in the devastated or nearby areas.

The greatest and most immediate problem following such an explosion will be the control of the resulting fire. Reliable emergency communications are essential, together with intelligence concerning the devastated area, and deployment and free rapid movement of emergency vehicles or apparatus. The latter requirement should be considered by the city in its long-range highway plans.

Human casualties will be of two types: those suffering from injuries or burns which need immediate treatment, and those who have been exposed to intense radioactive radiation in which, according to current information, the beginning of treatment may be delayed for several days. The former casualties will require local treatment and hospitalization, while the latter may be sent to medical centers at some distance from Providence.

The committee feels it would be advisable for the fire department to constitute within itself the nucleus of the organization to counteract the disaster of an atomic explosion. (This recommendation is in view of the coincidence of many of this department's existing and planned projects and activities, of the particular nature of its own functions, and of its conceptual attitudes in making long-range advance plans for coping with emergencies.) It should consider it a part of its responsibility to be alert to new developments with respect to this type of disaster, and should call the attention of other groups to the necessity for considering the eventuality of an atomic explosion in any projected plans or construction. It should maintain liaison with any State and Federal agencies established for planning civil-defense measures.

The local medical societies should be alerted to have plans made for the organization and function of medical aid following an atomic explosion.

The city of Providence should also consider plans for the eventuality of a bacterial warfare attack.

#### REPORT OF THE SPECIAL COMMITTEE APPOINTED AT THE REQUEST OF MAYOR ROBERTS

##### I. NATURE OF THE PROBLEM

##### A. *Liability of Providence to such an explosion*

The probability that the city of Providence will sometime be subject to an atomic explosion is remote, even in the event of open hostilities. The strategic importance of the city is less than that of other nearby metropolitan centers (i. e., Boston and New York), so that, considering the availability of atomic

weapons relative to the number of high-priority targets in the United States, it is unlikely that Providence would be a primary target. However, it is possible that Providence might become a secondary target in case of unsuitable conditions for bombing over Boston or New York.

In view of the existence of such a possibility, it is desirable to consider the situation resulting from such an explosion not only in the light of the general problem, but also with regard to conditions which are peculiar to Providence. Included among these are its narrow streets, its high percentage of frame construction, its sectoring by Narragansett Bay, and the close proximity of the city's center, east-west rail, highway-traffic and communications lines, and power plants.

#### *B. General nature of damage or hazard from such an explosion*

An atomic explosion in the city of Providence might be one of three types: (1) air burst, in which the explosion takes place in the air above the city; (2) ground burst, in which the explosion would take place in contact with the ground or some structure on the ground; (3) underwater detonations, in which the explosion would take place below the surface of Narragansett Bay or its tributaries. (Radioactive contamination of the water supply is considered elsewhere.)

An air burst near the city's center would probably result in major destruction over an area of about 1,500 yards in radius, and moderate to severe damage in the area from 1,500 to 3,000 yards from the explosion. At distances greater than 2 miles from the explosion, the physical damage would be light or none. This damage and destruction would be the result of the blast from the bomb itself, and the widespread fires resulting from the explosion. The radioactive emanations from the explosion would be very intense at the instant of explosion, but the residual radiation in the damaged area would probably be negligibly small. Casualties of the radioactive rays of the bomb would not need attention until several days later. Thus, the immediate problems arising from such an explosion would be the same as those from other types of explosions, but multiplied manifold by the greater destruction.

The extent of the areas damaged by an air burst may be obtained by centering the attached green disk over a possible target on the attached map. The ruled inner circle corresponds to the area of major destruction, and the remaining area covered by the green disk to the area suffering damage of diminishing intensity as the distance from the target becomes greater. In the area completely outside the green disk, the damage would be light or negligible. Thus, if the target were city hall, the area of major destruction would include Union Station, the State capitol, Rhode Island College of Education, the library, Central High School, Rhode Island Hospital, Narragansett Electric Co. power plant, Point Street Bridge, the post office, the entire business center of the city, the main portion of the railroad yards, the courthouse, Brown University, and Pembroke College. The following would be on the inner edge of the light-to-negligible damage area: Providence College, Olneyville, Elmwood, Sassafras Point, Metacomet Golf Club, Red Bridge, Aldrich Field, and the Rhode Island Auditorium.

The types and extent of casualties from an air burst may be estimated from the following table:

Distance from center of impact (yards)	Casualties	Cause
Within 500 yards.....	Nearly 100 percent immediate fatalities.	Ionizing radiation, blast, burns, structural collapse, etc.
500 to 1,000 yards.....	Nearly 100 percent fatalities within 3 weeks after explosion.	Ionizing radiation, burns, blast, structural collapse, etc.
1,000 to 1,500 yards.....	50 percent fatalities.....	Burns, blast, structural collapse, ionizing radiation, etc.
1,500 to 2,500 yards.....	15 percent fatalities.....	Burns, blast, structural collapse.
2,500 to 3,000 yards.....	1 to 2 percent fatalities.....	Burns, indirectly from blast.
Beyond 3,000 yards.....	Few, if any, injuries.	

For a ground burst, the area of complete and partial damage would be much smaller, but there would be added the problem of residual radioactivity. This would necessitate the use of existing relatively simple instruments in demarcating the area forbidden to personnel because of radioactivity, and the policing of said area. Later on decontamination procedures to allow reentry to this area would be necessary.

For an underwater explosion, the damage to structures would be still less, but there would probably be residual radioactive contamination by the water spray from the explosion. This would require a thorough hosing down of the con-

taminated area by suitably protected personnel before permitting general reentry. there would also be residual radioactivity in the adjacent waters, the amount of which, and the time for clearing by the tidal and other circulation, would be difficult to estimate from currently available data.

However, judging from published reports of the relative damage to structures from these three types of explosions, it is not likely that there would be an intentional ground or underwater explosion. For that reason this report will be concerned principally with the contingency of an air-burst explosion.

## II. PREPARATIVE AND RESTORATIVE MEASURES

In discussing ways of meeting a disaster, any plans will involve what can be done in advance of the disaster to minimize its effect and to enable the greatest efficiency of action after the disaster and what should be done as a consequence of the disaster. The former would include the planning for the possibility of such a disaster: long range plans of a general nature, such as the location of communications or nerve centers relative to the probable site of such a disaster and short range plans of a rather specific nature outlined in some detail, such as the organization of a civilian defense corps. The latter might be considered as restorative measures—measures taken after the fact to restore as nearly as possible the previous functions of the area. These would include extinguishing fires, making streets passable, removing residual hazards such as unsafe structures or radioactivity, restoring utilities, providing food and shelter for the homeless, treating casualties, etc.

### A. Long-range preparation

The long-range preparations are in general more difficult, more expensive, and are of such nature that continued vigilance on the part of all municipal and State authorities, and any planning groups, must be maintained to ensure that every plan made or undertaken is in accord with the long-range plans to meet the possibility of an atomic explosion. Many measures already inaugurated by the fire department and other authorities have anticipated the considerations here discussed. For example: as new fire stations are located and built, equipment procured, and regular and emergency communications set up, the possibility of an atomic explosion must be considered. Equally important are transport considerations, not only of fire but other emergency equipment or personnel, in planning highway construction. Peripheral highways or a Fields Point Bridge may assume greater desirability when the potential area of devastation is studied with the attached disc and map.

Some nucleus of an organization in which plans for handling such a catastrophe would be centered is essential. Owing to the tenuous and indefinite nature of the event, it would be best if this nucleus could be an existing organization with experience and training in disaster work, and with the attitude of mind and mode of thinking which would enhance the efforts of the community in its plans for an atomic explosion. Such an existing organization is the fire department, which in addition to the above attributes, also has experience in organizing and making use of the help of volunteers. The use of the fire department as a nucleus for this work would also be in accord with the belief that the greatest major job at the time of the emergency would be fighting the resulting fire.

Long-range preparation for medical assistance assumes the continued alertness of the medical profession in the community with respect to new developments in medicine and in the training and recruiting of doctors and nurses for the community. Aside from this, other preparations would be similar to those already discussed: communications, location of new hospitals which may be contemplated, transport (including intercity for rapid transport of outside aid, and rapid removal of casualties), emergency housing, etc.

Communication, as well as power facilities are better below ground where damage from an explosion in the air will be minimized. However, since this will not be the general case, and since there is apt to be damage regardless of location, two-way radio and emergency operating power would be essential. Transport will depend principally upon existing highways, and the ability to have power equipment quickly clear or repair blocked or damaged highways.

Bomb-proof shelters are often discussed, but their construction is expensive, and they offer protection only to a limited number of persons. It is not believed that an extensive construction program for such shelters would be practical to undertake under present circumstances. However, should the city ever contemplate underground parking lots or other similar construction, it should at the same time consider seriously their being convertible to bomb-proof shelters.

*B. Short range preparation*

The items involved in short range preparation would be similar to those employed in World War II, with somewhat different emphasis, and with the dispersal of forces such as would be required by the greater area of bomb damage. A well organized and instructed civilian defense corps would be essential. Fire police and medical forces would have to be properly equipped and integrated. The general public would have to be educated as to what it might expect in such a disaster, as to what measures will be provided for its protection and aid, and as to what it should do and how it should behave in the event of such a disaster. Warning, intelligence, and communications systems which would function not only before, but after, such a disaster would have to be arranged.

The equipment necessary for detecting radioactivity in case of ground or underwater burst must be at hand if the likelihood of an attack becomes appreciable; it would not be necessary to purchase such equipment until that time, however. The operation of this equipment is easily and quickly learned by intelligent lay personnel.

*C. Restorative measures*

In considering restorative measures, one should remember that in general they are not specific for an atomic explosion of the type most likely to occur, but apply equally well in handling any major disaster. Such restorative measures will be concerned with fire, medical aid, utilities and transport, and food and shelter.

For combating a fire of the proportions expected, probably the most critical factors will be intelligence concerning the location, extent, and direction of the fire, the availability of fire-fighting apparatus, and the coordination of effort. This involves observation of the fire as a whole, probably from radio-equipped aircraft, and good communications between fire headquarters, observers, and fighters. Inherent in this is the existence of an alternate fire headquarters completely equipped and located at some distance from the regular headquarters, in the event of the total destruction of the main headquarters. The necessity of two-way radio communication and emergency power for the same is obvious. The availability of fire apparatus involves its dispersal outside of the most likely devastated area, and adequate means of moving it from one place to another. The existence of broad highways not so liable to blocking and capable of carrying heavy traffic loads at high speed, both through and peripheral to the city would make the movement of apparatus easier, and lessen the burden of clearing the streets. Anticipating the need for aid from other communities, similar intercity traffic arteries would be extremely useful.

Immediate medical aid required will be of the same sort as that required after any type of large explosion or series of explosions. In addition, it will be necessary to determine which individuals were exposed to high-intensity radiation at the time of the burst, and to have facilities available for transport to hospitals in some other undevastated community for later treatment. According to the information available to this committee, immediate medical treatment is not necessary for these radiation casualties.

Utilities exposed above the surface of the earth will be liable to great damage in the area of the burst, and would be in need of repair. Crews from other communities should be available on call for this emergency work. Emergency measures would be necessary for food and medicine distribution, and there would have to be facilities for emergency shelter. Transport facilities would have to be restored as quickly as possible.

The effectiveness of all restorative measures will depend upon the preparations for applying them which are made in advance. Such advance preparations fall into two general categories: short-range preparations such as would be made if war were imminent or had been declared, and long-range preparations which must be considered continually until that time when world peace is so assured that all nations can dispense with their military forces.

## III. RECOMMENDATIONS

*A. Scope of this committee's prerogatives*

This committee feels that its function and authority from the mayor is to survey the ability of Providence to withstand an atomic explosion, and to report back to him recommendations only in the most general terms. These recommendations should be to indicate the proper course for the city to follow in view of the best knowledge available concerning the type and extent of damage to be expected, and the probability of occurrence of such an explosion. The committee does not feel that the drawing up of detailed plans for reacting to such a disaster falls within its province.

*B. The organization and maintenance of a nucleus for an emergency service corps*

This committee recommends that the Fire Department of the city of Providence be given the responsibility for maintaining within itself the nucleus of the organization of an emergency service corps to meet with the disaster resulting from an atomic explosion. The proper officials of this department should draw up detailed mobilization and training plans for use should the probability of such a disaster become great, and these officials should maintain liaison with the Federal agency or agencies set up to deal with such problems. Liaison should also be made with representatives of medical, utilities, police, and other groups corresponding to the particular service which will be needed. As other public agencies undertake major projects (e. g., highway construction) it should be the responsibility of this organizational nucleus to consider how these may be harmonized with the over-all long-range plans for meeting the disaster under consideration. The similarity of defensive and rehabilitary measures for an atomic explosion to those appropriate to any disaster cannot be overemphasized.

*C. Measures for control of fire following explosion.*

To control and minimize destruction from the fire following such an explosion, it is recommended that an alternative headquarters be established well outside the area of probable destruction (perhaps in Roger Williams Park or some other equally outlying district), and that two-way emergency-powered radio communication be made extensively available. Some means of obtaining over-all observations of the extent and progress of the fire and of clear routes for the transport of apparatus should be available. This might well be a radio-equipped aircraft. Fire-fighting equipment and heavy construction equipment (bulldozers, cranes, power shovels, etc., owned privately or by the city) should be well dispersed peripherally to the area of possible destruction.

Provisions must be made for the construction and maintenance of highways for transport of fire and other emergency equipment. These highways must be of the type which are not easily blocked by rubble, and should be of sufficient width or so located that when blocked they can be easily cleared by power equipment, such as bulldozers. As the attached map indicates, peripheral highways or a lower river bridge, would be exceedingly valuable for effective transport after such a disaster. Fast through highways should be available to other nearby cities, so that outside aid may be quickly obtained, and casualties quickly evacuated.

*D. Medical assistance*

A committee appointed by the Rhode Island Medical Society should be alerted to keep abreast of the best medical practice in treating radiation casualties and to have plans for mobilizing the medical personnel and facilities of the community for emergency service. The same recommendations regarding communications, deployment, and transport made above apply also to medical assistance.

*E. Protective shelters and other emergency aids*

Considering all aspects of the situation, the committee does not believe it to be advisable to construct on a large scale underground bomb-proof shelters. Should, however, the construction of underground parking lots ever be contemplated, it is recommended that their construction be such that they could be easily converted to use as bomb-proof shelters. New construction of public buildings should also make provision for such shelters below them.

It is recommended that representatives of the utilities serving the community be members of the planning nucleus, and the eventuality of an atomic explosion should be considered whenever contemplating any changes, extensions, or new construction in any utilities system.

It is recommended that only the most general plans be considered at this time with regard to emergency food and housing service, public education as to their responsibilities and duties in the event of an atomic explosion, the organization of a civilian defense corps, and similar activities.

*F. Bacterial warfare and radioactive contamination of the water supply*

In view of the widespread and vicious destruction of World War II, and of current attitudes and amorality of possible attackers, it is doubtful that any so-called humane warfare will be practiced. This committee calls attention to the possibility of bacterial warfare, and recommends that if no officially constituted group within the city is currently taking cognizance of the emergency resulting from a bacterial attack, such a group be established for this purpose. A problem closely connected with this, and which might be considered by the same group, is the contamination of the city's water supply by radioactive material.

Mr. ROBERTS. This report sets forth what we believe Providence should do to prepare itself against bombing. It is a limited program because our resources are limited.

In Providence, we are short of money even for the ordinary operations of city government. We cannot finance out of revenue any such extraordinary expenditures as those for proper civil defense in this atomic age.

Furthermore, there is grave doubt in my mind whether we should burden the city by borrowing money to meet what may be a remote contingency.

Even assuming, however, that we did have the resources to finance a civil defense program, there is the further question of whether or not we, as civilians, would have adequate knowledge of defense requirements so that we could buy equipment and organize it wisely and well.

In all humility, we are no worse off in these respects than any other city in the country. The things I have said about Providence can just as well be said of almost any big city you can name.

The question of what the State governments can and should do depends, of course, on a number of factors.

There is the problem of finance, as always. Most industrial States—the States that are most in danger of bombing—are having heavy weather right now in trying to handle expenditures for schools, highways, and other necessary public improvements, in addition to growing demands for service of all kinds.

Even assuming, however, that the State could finance civilian defense, there is the question of how much and what they should do.

That, in turn, hinges in general on the over-all estimate of the potential situation: Is bombing probable? What are the most likely targets? And so on. It hinges in particular on the question of just how much and what kind of help the Federal Government can and will provide.

The only agency that can make an informed estimate of the situation is the Federal Government. Only the Federal Government can decide what it will do to help us in the States and in the cities.

Right there, as I see it, is the core and crux of the whole problem of civil defense in the atomic age. I would like, therefore, to say a few words about it.

What I shall say is based on the assumption that any future attack on this country will use atomic weapons against our cities, and that our problem is how we can cope most effectively with resulting damage.

I would suggest to you, first of all, that in any approach to the problem of civil defense there are two principal facts that we absolutely must face. From them, cold logic takes us straight to the general program I will outline to you in a moment.

The first fact is that the onset of any future war will probably be an all-out strike, depending on surprise and numbers to overpower the defense and smash the roots of effective moral and physical resistance.

The strike will be a strategic attack on the entire nation, carried out tactically through bombing of industrial centers.

Thus, the moment the first bomb is detonated, the civil defense of each industrial city is an interlocking part of the national defense.

We will not have time after war begins to correct mistakes made beforehand. We will stand or fall on our program in readiness on the day of attack.

The second fact we must face in considering civil defense is this: The individual city is and will be unable to cope effectively with attack by A-bomb or H-bomb on itself.

I have as much pride in the city of Providence as any man can have in his community. My fellow citizens have no lack of fighting hearts or the will to win.

But I say to you, frankly, that in the fire, shock and shattering destruction of an atomic attack we could do but very little for ourselves, and the same thing is true of any city in the country.

Let me give you a few reasons why the individual city cannot be expected to do much for itself after a bomb is dropped:

One: The first objective will be to save essential factories to produce weapons of further defense. This will be hard, dangerous work of absolutely vital importance to the national life. It can be done effectively only by professional men who are hand-picked and highly trained. In fact, postbombing civil defense operations will require the speed, skill, precision, communications, and, above all, the iron discipline of a tactical military operation in the field.

Two: Civilians simply cannot acquire the skill, organization, and discipline for such an operation by studying it on a part-time basis.

Three: Even if they could, it is probable that, after a bombing, too many of the city's inhabitants would be either dead, injured, shocked, or too panicky to do an effective job within their own city, either for the arsenals of defense, or for the population.

Now, let us see what conclusions are to be drawn from these facts, in terms of what kind of civil defense program should be adopted.

The first fact I mentioned was that the defense of each city is interlocked with the over-all defense of the Nation.

The conclusion to be drawn from that is inescapably this: that we should adopt a civil defense program on a national scale and under Federal direction.

Civil defense will be a national and not a local problem as soon as the first bomb is dropped. We should prepare for that emergency on a national basis now.

Adoption of a sound and effective national civil defense program requires, in my opinion, several basic steps. For example:

One: A single civil defense agency or department should be set up here in Washington, so that we in the local communities will have only one outfit with which to deal.

Two: My suggestion is that civil defense be returned to and set up as a major arm of the Department of Defense. Civil defense will be a military matter on the day any bomb is dropped. It should be a military matter in the preparation beforehand.

Three: For the protection of the individual citizen, however, I suggest that veto powers be given in peacetime to the governors and mayors in their respective jurisdictions. In that way, any undue or thoughtless demands made by the military can be headed off or compromised. There will be no lack of cooperation by civilians and government in the States and providing people realize the need for civil defense.

Four: In the initial phase of this program, my suggestion is that professional and highly qualified military men survey the cities they

believe to be most probable targets. Then they should come to us and tell us straight from the shoulder what they want us to do. In turn, we will tell them frankly what we can do—and I can assure you that we will do everything possible within our limited powers and resources.

Five: The gap between what the military wants us to do and what we can do should then be filled by the Federal Government. Through a Civil Defense Department we should be supplied with equipment and professional personnel for training and over-all guidance of the program on the local level. Uniform standards of training are essential.

Six: Whatever program is organized should definitely be on a regional basis, with priority in training and equipment given to the most probable target areas. There is no sense in every community having the same type of organization as every other, as was done in the last war. It is a waste of valuable time, money, and equipment.

The second fact we must face is that the individual city will be able to do little or nothing for itself after a bombing attack. To what conclusion does that lead? It definitely does not mean that we should abandon the idea of organizing citizens in civil defense units. Far from it.

It means, in my opinion, that a Department of Civil Defense should set up its operations plan to bring in aid to each bombed city from outside.

You cannot expect a badly shocked population to do the kind of job that must be done after a bombing. You must bring in fresh men from outside the city. This aid from outside should be provided both by special professional civil defense units from the armed forces and by civilian teams from communities nearby the bombed city.

First, let's take the professional units. My suggestion is that these should be organized as air-borne divisions and based on airfields from which they can move to bombed cities in minimum time. They would fly personnel and equipment into the area, if necessary, sending special emergency units ahead to jump in.

Included in these air-borne divisions would be units of medics and Public Health men, radiation specialists, engineers, demolition experts, firefighters, public-utility technicians, military police to keep order, and experienced city administrators to take over or assist the local government in case regular officials were casualties. All these units would be self-contained and would bring their own equipment and rations with them.

For example, these professional divisions would be specifically charged with immediate protection of factories and other essential installations from further damage by fire and locally generated explosions; with putting the city administration back on its feet so that survivors could function as an orderly community; with restoring water, sanitation, gas and electric services, and with taking immediate measures to protect the public health against epidemic disease and radioactivity.

In short, these professional highly trained men from the regular armed forces would be the spearhead of rescue work. They would have the know-how, the equipment, the organization, and the discipline to do the kind of desperate and dangerous job that must be done immediately as a matter of maintaining our capacity for further defense.

The second type of aid from outside the city should be provided by civilian units from nearby communities.

These units should be organized along military lines with a definite table of organization. Included would be men trained in the various fields I mentioned in discussing composition of the professional divisions. They would have been given as much training as possible. They would be expected to be competent amateurs, but not skilled professionals.

These units would move into a city according to a prearranged operations plan. There they would report to the armed forces' commander for further orders. He would use these civilian units to back up and assist the professionals.

These units, also, would bring in their own equipment and rations. No chance should be taken that equipment in the city may have been rendered useless.

These civilian units would be trained on a scheduled basis by professionals of the armed forces, or by specially instructed officers and men of the present military Reserve formations. They would be organized and uniformed on military lines and have the status of Active Reserves of the armed forces.

The question immediately arises as to how these civilian civil defense units should be recruited. Naturally, I believe that recruitment should be on a voluntary basis. I further believe that those selected should be well qualified physically and by experience for the units to which they would be assigned. Just any patriotic civilian, unfortunately, will not be able to do the kind of job these units may be called on to perform.

It must be remembered that we are in a much better position to organize these units now than before the last war. Today there are millions of veterans in the United States who not only have the needed skills and stamina but also have had the experience and discipline of military organization. In my opinion, these veterans should be the main source from which personnel of the civilian atomic units should be selected.

I am certain that, if they felt the necessity was real, these veterans would volunteer by the hundreds of thousands for these Reserve units. After all, they risked their lives before for the country. They will surely do it again, especially when the stakes are national survival.

The civilian population, however, must understand and feel a real need for civil defense training. There has been so much pro and con talk about war possibilities in the press that we don't know what to think about it. Nobody wants to get into a uniform and train unless he personally feels he is doing the country a useful, and not a needless, service.

Here, again, we come back to the Federal Government. Only the heads of government here in Washington have the knowledge and experience to evaluate the potential danger of an attack by A-bomb or H-bomb.

If they believe that there is even a slight possibility of attack, then they should tell us. It will take time for us to get ready, and ready we must be, or face the greatest disaster ever suffered by any nation in history.

If it is felt that there is even a slight possibility of attack, the Federal Government should now undertake a national program of civil defense along the lines I have mentioned.

The decision is squarely up to the Federal Government. We in the cities cannot make it. And we cannot carry out a civil defense program without Federal help in money, equipment, guidance, and training.

I have made these recommendations to you from a profound sense of duty, as a citizen desirous of the ultimate best for the United States; as mayor of Providence desirous of protecting his fellow citizens, and anxious to enable our community to contribute maximum industrial production to the defense of our country.

During 15 years of active public life, and during the last war, when I had the honor to be an officer in the United States Navy, I have had the opportunity to observe wartime operations in both the civil and military fields.

It seems to me that, in this atomic age of total war, organization and training of civil defense is as much a military matter as is the organization and training of the regular and reserve components of the Army, Navy, and Air Force.

It also seems to me, in all candor, that either we are in danger of atomic attack, or we are not in danger of atomic attack. I realize that the line of decision is cloudy, and that major considerations of foreign and domestic policy are involved, but I suggest to you that the decision must be made, and made soon.

I am deeply conscious of the fact that a civil defense such as I have outlined will cost many billions of dollars we cannot well afford.

But no price can be too great to pay for the safety and security of the Nation. We cannot build effective civil defense except through a serious program on a national basis.

The CHAIRMAN. Do you wish the rest of it to go into the record?

Mr. ROBERTS. Yes, please.

The CHAIRMAN. All right.

Thank you, Mr. Mayor.

Mr. ROBERTS. Thank you, Mr. Chairman.

(The remainder of the statement referred to is as follows:)

If it is believed that there is even remote danger, let's go to work now on a realistic basis. If there is no danger, then let's say so and forget the whole thing.

I pray that no bomb ever will be dropped anywhere in the world again. But if one is dropped here in America—and we are here today with that possibility as a premise—on that day we will have made all the mistakes we will have a chance to make as a sovereign Nation.

On that day we will be faced with the brutal, clean-cut naked problem of survival—survival for the American people as a Nation of free men.

On that day we will stand or fall on the kind of program in effect at that time. We will not be able to correct our mistakes then.

We must not make any mistakes now. We must face up to the facts and act upon them with realism and resolution.

The people of Providence want to do whatever it is necessary to do.

The Federal Government must decide what they want us to do, tell us frankly what they want us to do, show us how to do it, and you can bet your bottom dollar that the American people will do it if the job lies within the courage and capacity of men.

Thank you.

The CHAIRMAN. I am sorry the other members of the committee had to go to the floor.

Mr. ROBERTS. Well, I think the field has been well covered.

The CHAIRMAN. The mayor of San Francisco took more time than we had anticipated.

There is, I think, some disagreement with your concept of turning this over to the military.

Mr. ROBERTS. Yes, sir.

The CHAIRMAN. There is so much to civilian defense that is not military in nature. We have determined about one-third of the total things that have to be done will be connected with the Military Establishment. Of course, in the event of an attack, they will be pretty busy themselves. And there are questions of universal service, allocation of materials, allocation of manpower, taxation, priorities, the mobilization of transportation facilities. All of those things will have to be done by civilians.

I just mention that to you.

Mr. ROBERTS. I realize, Senator, that the establishment of an adequate civil defense program in the United States involves many tremendous decisions and a great expenditure of money.

The CHAIRMAN. Mr. Borden, our chief of staff, just reminded me that there is less than one-third of it. And, of course, that is one-third on the Federal level.

Personally, I am against turning civilian defense over to the Military Establishment for the reasons that I have given you. I just do not think they are going to be able to handle it and handle the military defense and the military attack.

Mr. ROBERTS. I attempted to point out, maybe not adequately enough, Senator, that there are certain phases of civilian defense that will result after an atomic attack that can only be handled by those who are under discipline and organization and trained in particular skills similar to those of military armed forces.

There is the other phase, that was known in World War II as civilian defense, which was to build morale and to try to do what they could to alleviate the suffering and the consequences of ordinary bombing. That will be very inadequate when atomic bombing happens, if it does.

The CHAIRMAN. Thank you very much indeed, Mr. Mayor.

We will reconvene at 2:30 o'clock.

(Thereupon, at 1:05 p. m., the committee recessed, to reconvene at 2:30 p. m., of the same day.)

#### AFTERNOON SESSION

The CHAIRMAN. We will come to order. We will incorporate your complete paper in the record. You may read your abstract.

#### STATEMENT OF CLYDE DOUGHERTY, COORDINATOR OF CIVIL DEFENSE, DETROIT, MICH.

Mr. DOUGHERTY. I appear here not only as coordinator of civil defense for the city of Detroit, appointed by Mayor Albert E. Cobo, but also as a citizen, who, appreciative of the great privileges of his citizenship, recognizes also his responsibilities to his community, State, and Nation. Both before and since my appointment as coordinator of the Detroit program, I have devoted time, thought, and study to the problem of civil defense and have reached some definite conclusions connected with such a program which I submit for your consideration.

The first conclusion reached is that the civil defense is not a purely local problem but definitely national in its scope. A major disaster striking the city of Washington, affecting the seat of our Federal Government, with possible casualties to key personnel in all branches of government, would affect not merely the District of Columbia and the city of Washington, but every citizen of the United States; likewise, in the event of national emergency, a disaster materially upsetting any of our great industrial centers, such as the city of Detroit, and thereby our war potential, affects every citizen of the country and not merely the citizens of the particular community and State. If that premise is conceded, and in all reason it seems that it must be conceded, the onus of any civil defense program should not rest on local government or local citizenry, but must certainly be shared, if not assumed, by the National Government.

Another conclusion which should, it seems to me, be self-evident is the absolute need for complete coordination of all civil defense programs. A major catastrophe striking any community would, in all probability, seriously cripple, if it did not entirely destroy, the local agencies designed to handle disasters. It would follow, therefore, that the surrounding and adjacent communities would have to furnish the facilities needed to supplement and possibly replace purely local facilities. This has been recognized in the suggestion that civil defense planning should be organized on a State level.

No recognition, however, has been given to the fact that disaster might reach such proportions, or strike in such a way, that the only sources of help to a stricken community might have to come from outside of a State. For example, a disaster striking Toledo, Ohio, might well require assistance from adjoining Michigan communities which in point of time could be more effectively rallied from a major city like Detroit, some 60 miles away, than from the major city of Cleveland, more than twice as far from the affected area. Should that planning be left to voluntary coordination between States, or might it not be better done from a central authority which could coordinate State programs as the State is expected to coordinate municipal programs within its own boundaries?

The CHAIRMAN. You raise a very good question there. We have thought about that. You take Newark, N. J., and New York City. Take Gary, Ind., Chicago, big centers of population that are on both sides of a very thin marginal line. We have been giving consideration to that.

Mr. DOUGHERTY. Another conclusion which seems self-evident, if we are to consider the type of disaster which results from a break-down in international relations rather than from natural causes, is that knowledge of the imminence of danger of disaster might well exist on high national levels and not have reached even the State level, to say nothing of the municipal level. Here I would like to digress slightly to point out the difficulties of local planning at this particular moment, in the absence of emphasis upon a civil defense program from the seat of Federal Government. One finds little serious thought on the subject of civil defense planning, with resultant apathy on the part of the public generally on this topic and worse than apathy, an attitude of sometimes almost derision toward those suggesting that there is any need presently for such a program. I personally, in attempting to advise our local program before groups of what would

ordinarily be regarded as well-informed and responsible citizens, have met with an attitude, I might say of amused tolerance, which in effect says, "If Washington is not excited about the urgency of such a program, why should we be too disturbed?" Such an attitude points out the need for information and policies emanating from high level if local efforts are to progress and local programs are to be taken seriously.

Another conclusion is that not only must we look to high levels for authoritative information but that we must, likewise, look to high levels for properly trained personnel to direct and instruct those willing to assume responsibility on the local plane. What is true of the need for trained personnel from topside is doubly true on the very important matter of proper equipment.

This, in turn, has led me to the conclusion, since I am convinced of the correctness of my preceding statements, that a substantial share, if not all, of the expense of the civil defense should and must be borne by the Federal Government. That, gentlemen, is where and when you definitely and positively must enter this picture. Congress cannot permit civil defense planning to suffer from vacillation and lack of decision if we are to avoid apathy and even ridicule in connection with local programs. If we are to have sound civil defense, anything done or contemplated locally must be implemented by forceful and effective legislation and financial support from the Federal Government. You must act and act now, or civil defense will exist only in paper and in the minds of the few who presently recognize the need for it, and will be conspicuous by its absence or failure in the hour of need.

Since October 1, 1948, you have had available the Hopley report submitted by Russell J. Hopley, Director, Civil Defense Planning. The letter of transmittal dated October 1, 1948, of the report is worth your study. I quote from the latter:

It is the purpose of this report to recommend for adoption a permanent peacetime system of civil defense which will round out our defense structure and which, in the event of an emergency, can quickly and easily be expanded to meet the exigencies of a given situation.

From the introduction, *The Need for Civil Defense*, I extract the following quotations:

Page 1, paragraph 3:

But the missing element—the "missing link"—in the defense structure is civil defense. Without a sound and effective system of civil defense, the people and the productive facilities of the country are unprepared to deal effectively with the results of an enemy attack on our country.

Page 10:

Mutual Aid and Mobile Reserves. The devastating attack which a modern war would bring to American shore might be such that no individual, no family, no community or State could count entirely on its own resources to recover or survive.

Under civil defense, therefore, should be organized the means for mutual assistance whereby neighborhoods, communities, or States would come to each other's aid on an organized, planned basis.

Page 13:

These functions of civil defense cannot be made to work effectively unless there is thorough and adequate training—training of the 15,000,000 men and women who would make up the civil-defense organization; training of all the people in things they must know in preparation for emergency.

The entire population will need to know the problems which may confront them, and what each can do in any of a hundred different situations.

Very definitely I realize that I am quoting from a document which is available to all of you. However, recognizing that, in the press of the many problems besetting you, you may not have had an opportunity to consider it in its entirety, I direct which I regard as its particularly pertinent provisions to your attention. I feel that they emphasize the conclusions which I first presented to you, and which I suggest demand your immediate, full, and serious attention with appropriate action. Those of us who are seriously interested, either as private citizens or as appointees to definite tasks in this effort, are not seeking a way to avoid our responsibilities but are rather asking for the help that is essential if our efforts are not to meet with substantial failure. We ask that Congress insure that planning be coordinated and integrated, and that funds for trained personnel and equipment be made available, but most important that the authority of the Federal Government give impetus so that an effective program can be initiated and completed.

With your indulgence I would like to discuss briefly our Detroit situation. We have, we believe, a well integrated disaster plan. It forms a sound framework upon which a civil defense plan can be built and expanded. Frankly, the plan is not complete in all details, but is progressing well in its organization. Our disaster plan provides for the essential factors stressed in the Hopley report; naturally, however, our plan does not, and at this time cannot, include training or equipment for defense against radiological or other special weapons, or the measures to be taken in the event of disaster following the use of any such weapons against us. Our plan does cover coordinated central control, control and use of trained personnel in police, fire, health, and welfare departments, control of equipment, and control of means of communication.

We lack definite and authoritative information about many essential matters. Lacking that information we do not know with certainty what may be our needs for equipment. We do not desire, nor do we believe you would want us, to plan and spend on the basis of a guessing game gleaned from the press and periodicals as to what we may need for sound civil defense. One of the most important immediate needs we have is proper educational material on the subject for the public. Those given positions in the program desperately need information; we desperately need trained instructors and certainly some minimum items of essential equipment not available on the local level. I suggest for your immediate consideration the following items for a sound civil defense program.

The CHAIRMAN. I am very much interested in what you are going to say on this subject, because to me this comes pretty close to being basic as to just what policy we are going to adopt. There are those that the minute you give out information say you are scaremongers.

Mr. DOUGHERTY. That is true. We realize that, too.

The CHAIRMAN. You are worrywarts. This is unpleasant information and people just do not want to receive it. I mean they have a disposition against receiving it. Do you not agree with me?

Mr. DOUGHERTY. I do. I agree, Senator.

The CHAIRMAN. And the very people who greeted you, as you described it, with amused tolerance in Detroit, when they received the

information showing that there was a concern about it from Washington, would be among those, I am afraid, who would condemn it as being unnecessary alarming of the public.

Mr. DOUGHERTY. Well, there is that possibility.

(A) To arouse public interest in the need for civil defense and what it can do, and what it can do for the citizen in time of disaster or national emergency. Community leaders and particularly the professions whose services will be needed must be convinced of the need for a civil defense program and of their obligations as citizens to participate in the program. If it is suggested that we might stir up fears in our people, I say to you that it is far better that they be disturbed in time of peace and normal life than thrown into panic in time of disaster, with such panic and hysteria aggravated by the realization that no one has planned for their succor in disaster; I further suggest that our people have demonstrated their ability, time and again, to meet catastrophe, especially when they were well informed.

(B) Provide technical data about—

1. What the individual citizen can do for his own and his family's protection.

2. What the organized community civilian defense group can do:

(a) Preventive.

(b) Security.

(c) Decontamination.

(d) Treatment, care, and disposition of casualties.

(C) Equipment and facilities:

1. What equipment is necessary to perform the preventive, security, decontamination, and treatment, care, and disposition of casualties required.

2. What are the processes for prompt, orderly, effective evacuation in the event evacuation is necessary?

3. What preliminary planning on a State-wide, region-wide, and Nation-wide basis can be performed to facilitate movement and pooling of equipment and personnel?

This is not an exhaustive survey. I refer again to the Hopley report as being the exhaustive treatment of the subject.

Gentlemen, may I remind you that during World War II the War Damage Corporation was organized for the express purpose of insuring property of individuals in this country against war damage resulting from enemy action. The War Damage Corporation insured and issued about 8,700,000 policies, assuming liabilities in the amount of \$140,000,000,000. When the War Damage Corporation was terminated on January 22, 1947, it had paid to policyholders for damages incurred in the amount of \$20,015,556 and declared a profit of \$221,000,000. The Corporation, at its termination, paid to the United States Treasury for national debt reduction, \$209,808,866 (U. S. Government Manual 1949). The above figures are quoted from the Commercial and Financial Chronicle of August 22, 1946, page 1021. I assume that our Government is not in the insurance business for profit and suggest, for your consideration, that the profit declared in the amount of \$221,000,000 be returned to the people of this country in an appropriation to finance, organize, and equip a sound, efficient, and capable civil defense organization as further insurance against future war damage.

Gentlemen, yours is a heavy responsibility in this matter. It is a national problem requiring an integrated national program. You cannot afford to be penurious when the safety of our people and our country may be at stake. No local, State, or regional action can be effective in an area of national responsibility. An assault on Detroit, Toledo, Topeka, or Dallas is an assault on the Nation. None of these communities has the authority or power to mobilize resources of trained personnel and equipment not under its immediate jurisdiction. I think the one experience in our history of such haphazard planning during our Revolutionary days and prior to the ratification of the Constitution should make you hesitate at seeking escape from the problem by shunting responsibility to the States.

Members of this Joint Atomic Energy Committee, I make this plea on behalf of all the citizens of this country. Give us the means to defend ourselves by providing an integrated civil defense that is adequately financed, effectively directed, and properly trained.

I thank you for this opportunity to appear before you.

The CHAIRMAN. All right, General. Thanks very much. I think that you will see considerably more information coming out, as I indicated to you. Our executive sessions indicate that the planning stage is much further along than most people realize. A great deal of basic work has been done. When that starts to flow, I think it will be coming forward in quite some quantity.

Of course, you raise the big question as to the division of responsibility between the States and the Federal Government. That question certainly is not settled.

Mr. DOUGHERTY. No; I realize that, Senator; and I think in the final analysis the average man on the street comes up with this answer. We all believe in States' rights. We all believe in the constitutionality of the State, and the municipality, but only up to a point, that point being where States' rights interfere with the security of the country as a whole, then I think at that point it should not be considered too seriously. I think generally that is the thinking of the average man and woman.

The CHAIRMAN. Thank you very much.

Mr. DOUGHERTY. Thank you, Senator.

The CHAIRMAN. The hearing is adjourned.

(At 2:50 p. m., the hearing was adjourned.)

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# **CIVIL DEFENSE AGAINST ATOMIC ATTACK**

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## **HEARING**

**BEFORE THE**

**JOINT COMMITTEE ON ATOMIC ENERGY**

**CONGRESS OF THE UNITED STATES**

**EIGHTY-FIRST CONGRESS**

**SECOND SESSION**

**ON**

**CIVIL DEFENSE AGAINST ATOMIC ATTACK**

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**PART 6**

**DECEMBER 4, 1950**

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# CIVIL DEFENSE AGAINST ATOMIC ATTACK

MONDAY, DECEMBER 4, 1950

CONGRESS OF THE UNITED STATES,  
JOINT COMMITTEE ON ATOMIC ENERGY,  
*Washington, D. C.*

The joint committee met at 3:15 p. m., pursuant to call, in room 318, Senate Office Building, Senator Brien McMahon (chairman of the joint committee), presiding.

Present: Senators McMahon (chairman), Millikin, Knowland, Hickenlooper; Representatives Durham (vice chairman), Holifield, Price, Kilday, Jackson, Cole, Elston, and Hinshaw.

The CHAIRMAN. All right, gentlemen. We will proceed.

Mr. Wadsworth, Mr. Symington's deputy in civil defense matters, is here with us today. Mr. Symington informed me about a half hour ago that he had been called into a conference downtown. He asked to be excused and suggested that Mr. Wadsworth, Acting Director of the Office of Civil Defense, would appear.

I think in view of the situation that developed in the Senate this morning in regard to the bills which were introduced on this subject, I should say that this meeting was scheduled before those bills were introduced in the Senate; and the record will show that this joint committee has conducted either 10 or 11 hearings, open and executive, over a period of about a year.

Reference has been made to the Armed Services Committee in the Senate, and I understand it has been made in the House to the Armed Services Committee. I have held some conversations with Senator Russell and Senator Kefauver relative to some kind of combined operations. I am sure that it is the feeling of all of us that what we want to do is to get this matter forward, and there has never been any disposition in any way to have any dispute over jurisdiction. I have advanced the belief, and I do again, that in view of the abdication by the Armed Forces of responsibility in this matter, which has occurred repeatedly, it would seem as though a committee other than that of the Armed Services should be primarily concerned with the problem. However, that is something which we will work out or not, as the case may be, and the matter will not be delayed.

In the meantime we can hear from you, Mr. Wadsworth, on the progress that you have made in your organization since we last met and discussed this matter. And this may be the last meeting of the joint committee, and probably will be, on this subject. In other words, if we are concerned with it at all from here on in, it will be in conjunction with the Armed Services Committee. But I believe that it would be helpful to our record and helpful to the country if now we had a summary of what your Office has done. And give us any other information which you believe to be pertinent, since our last meeting.

**STATEMENT OF JAMES J. WADSWORTH, ACTING DEPUTY ADMINISTRATOR, CIVIL DEFENSE ADMINISTRATION, WASHINGTON, D. C.**

Mr. WADSWORTH. Thank you, Mr. Chairman and members of the committee. Mr. Symington regrets that he cannot be here today; and, with the chairman's permission, I will read a very short statement that he would have given had he been here. [Reading:]

As this committee knows, civil defense has been the responsibility of the National Security Resources Board since March 3, 1949.

This past Friday the President issued an Executive order removing civil defense from the jurisdiction of the Resources Board and establishing it as a separate Civil Defense Administration in the Executive Office of the President.

You are all aware that just prior to issuing the Executive order the President named a distinguished American, one of your former colleagues, the Honorable Millard F. Caldwell, Jr., as the new Civil Defense Administrator. This we consider one of the finest appointments in the long series of fine appointments made by President Truman.

On the record it is obvious that Governor Caldwell is exceptionally well qualified to carry on the difficult duties of Civil Defense Administrator. He was Governor of Florida from 1945 to 1949 and served 8 years as a member of Congress from Florida during the period of 1933-41. He was chairman of the National Governor's Conference in 1946-47 and president of the Council of State Governments for the same period. This background is of particular importance in civil defense, which must be based on harmonious relationships between the Congress and the Civil Defense Administration, as well as between the Federal, State, and local governments.

Governor Caldwell had to return to Florida immediately after his appointment to wind up his personal affairs in order to return to Washington later this week. He has asked me to express his regrets at being unable to appear at this hearing.

The recent grave turn of events in the international situation has, of course, made all of us more conscious of the state of our national security. Certainly a major part of that national security is the civil defense program. It has been referred to as the missing element in our national security.

The greatest pressure of the operating load in civil defense rests squarely on the shoulders of our State and local governments. Accordingly those co-partners with the Federal Government in civil defense have a special interest in wanting to know now, and in substantial detail, what the organizational and financial impact of civil defense will be on their local communities.

That question is of particular interest at this immediate time because 44 State legislatures are meeting in January 1951 for a few weeks only. They will not convene again for 2 years except in emergency session. Naturally, the governors' budgets for the various States require broad civil defense estimates for the next fiscal year in order to allow the States and cities within their borders to function properly in this important field.

That is equally true of cities whose municipal budgets must be prepared for early meetings in 1951. In order that State and municipal officials shall be under no illusions as to the urgency of civil defense and the need for large-scale financial and operational activities at their State and local levels, I would suggest that they study carefully the financial aspects of the civil defense program to be presented later in this hearing. This will alert them to the heavy financial responsibility they face today and tomorrow in the protection of their home communities.

In the 168-page book, United States Civil Defense, which is the national plan for organizing civil defense, and in repeated statements going back over the past 2 years, the Federal Government has emphasized repeatedly the fact that it was shouldering the responsibility for high level of leadership in the planning, organization, and guidance of this part of our national security program.

In addition, the Civil Defense Office has pounded home constantly the theme that our States and cities in turn must meet squarely the problem of heading up the grave and complex program which the international situation has imposed upon every State and almost every city in our country.

Leadership, however, is not the whole answer to civil defense. We must have a practical and realistic program for our local leaders to carry out. Obviously, the fate of the Nation would be in jeopardy if we put our trust in a "broomstick

army" of eager but untrained volunteers which some might believe could be mustered overnight to cope with the crashing impact of atomic warfare.

Without question, the national civil defense program is the greatest challenge ever faced by our State and local governments, and their duly constituted authorities. To meet that challenge, the Federal Government has worked hard over the past several years to produce a sound, practical plan for the protection of our cities and the defense of critical target areas within our States which would realistically meet the needs of national security in this air-atomic age.

Federal planning for civil defense has not been and will not be in the short-range category. The problem is too big and too new and too complex to be tackled in fits and starts at whatever point the pressure of events seems to be temporarily the greatest. Because our national security is at stake we cannot allow ourselves to be stampeded, but must continue to be realistic enough to pace the development of our Federal civil defense planning to meet the long-term situations which we face.

It has often been said that an adequate civil defense program should provide the means by which this country could get up off the floor and fight back in the event of an enemy attack on our homeland. In that same sense our planning and training as civilian fighters in another war must be sound enough to enable us to handle ourselves steadily and well to the end of any bout, no matter how long it should last. We cannot afford to make a good showing only in the first round or two. We must be in condition to follow through to the final bell—and win.

Thereupon Mr. Symington planned to turn the balance of the presentation over to me, as evidenced by the last paragraph.

Now, Mr. Chairman and gentlemen, in the event anybody would like to interrupt the reading of this next part of the presentation, please do not hesitate to do so; for it is a reasonably long document, and it might possibly be of some value to have a break in the event something meets your mind as we go through it concerning which you would like further detail or expansion.

The CHAIRMAN. Mr. Wadsworth, at that point, let me say to you that you will be responsible as far as security is concerned, and if there are questions which you regard as treading upon security matters which come up you will advise us of that and we will take them up in executive session.

Mr. WADSWORTH. Yes, sir. Thank you.

Representative COLE. Mr. Chairman, before Mr. Wadsworth starts with his statement, I should like to inquire as to the statutory authority upon which the President issued the directive or Executive order creating the Civil Defense Administration.

Mr. WADSWORTH. We can give you the answer; yes. Mr. Samuel Sabin of the legal staff of the National Security Resources Board, who was instrumental in drawing the Executive order and also the legislation, is here with me.

Did you get the question from Congressman Cole?

Mr. SABIN. Yes. This is based on the organization within the Executive Office of the President.

Senator MILLIKIN. Mr. Chairman, may we have a repetition of the question, please?

Representative COLE. The question was: What was the statutory authority by which the President undertook to issue the Executive order creating the Civil Defense Administration?

Mr. SABIN. The authority rests in the President, within the authorization of the Executive Office, under which he was given power early in World War II to establish an Office of Emergency Management. That power still remains, and by reason of that, plus his inherent powers as Commander in Chief and executive head of the Government, he was empowered to create this agency.

Senator MILLIKIN. But the specific authority upon which this is based, is that contained in World War II powers given to the President?

Mr. SABIN. Yes, sir.

Mr. WADSWORTH. Today, we would like to report on the major developments in the civil defense program which have taken place since our previous appearances before this committee in March of this year.

The general outlines of responsibility and strategy for development of the civil defense program at all levels was stated broadly in the national plan, United States Civil Defense. Neither the responsibility nor the strategy in this plan has changed or is expected to change substantially.

Primarily, the Federal Government assumes responsibility for leadership and coordination in the national program, as clearly stated in United States Civil Defense. Further, on the financial side, the Federal Government will undertake some limited assistance to the States and cities. The proposed extent of this financial assistance will be discussed later on in this statement.

In closed session later, because of the security involved, we would like to explain to the committee a number of assumptions upon which we have based our strategic and financial planning decisions in civil defense.

As you know, maps indicating the critical target areas and the mutual aid and mobile support systems for each State were sent to each governor of the States and Territories some weeks ago.

As a matter of fact, it was in September, on the 18th. These critical target area maps are and should remain classified documents.

Senator MILLIKIN. Mr. Chairman, I should like to ask the witness whether he has had responses from the governors.

Mr. WADSWORTH. We have had acknowledgment in almost all cases. We have worked more closely with the State civil defense directors than with the governors themselves.

Senator MILLIKIN. Have they been appointed in all States?

Mr. WADSWORTH. Yes, sir. I will describe the progress of the State situation a little bit later. I think it would be of interest.

On national progress: It is gratifying to be able to report to you that in the past 6 months a substantial amount of progress has been made in all branches of civil defense.

On September 18 the National Security Resources Board forwarded to the President, and he to the Congress, the national civil defense program. This 168-page book, entitled "United States Civil Defense," was the result of intensive planning and study by American authorities on all phases of civil defense. In particular, this report rounded out and carried on much of the initial work embraced in the excellent Hopley report, prepared by the late Secretary Forrestal under the direction of the late J. Russell Hopley.

In carrying forward this national plan prepared by the Resources Board, there have been a number of major civil defense developments in recent months:

A. To provide leadership for State and local efforts, the Civil Defense Office of the Resources Board has participated in a rapidly increasing number of meetings and conferences with State and local civil defense directors, as well as with governors, State legislators,

mayors, and other officials who have taken an active interest in civil defense activities.

In particular, reference is made to the very successful conferences, two of them, of eastern and western State civil defense directors held in Washington under the auspices of the National Security Resources Board during October last. That was on the 2d and 3d of October. I should like to introduce a transcript of the discussions of those meetings into the record of this hearing, if I may.

(The material referred to above will be found in the appendix.)

Mr. WADSWORTH. It is of paramount importance to remember that the chain command starts at the State level. The Federal Government in its capacity will and should deal only with State governors and State civil defense directors. It cannot and it has not bypassed them to deal individually with cities or voluntary groups.

B. There are now six active field representatives of the Civil Defense Office. Currently, these advisers are engaged in their third series of field conferences with State civil defense directors, helping to work out local legislative policy and planning problems. Backing this type of Federal assistance is a constant flow of bulletins and other communications between our Civil Defense Office and the State directors who are handling day-to-day problems of organization, financing, and operation.

C. To inform the general public fully on what to do in the event of enemy bombing, we have issued a 32-page booklet, entitled "Survival Under Atomic Attack." This booklet tells in simple language what the individual should do for self-protection in atomic warfare.

The National Security Resources Board has distributed more than a quarter of a million copies of this booklet. It will take the combined resources of the Federal, State, and local civil defense organizations, plus those of many private publishing firms, to make this booklet available to every family in America.

We understand excerpts from this booklet are being widely reprinted in newspapers, magazines, and industrial house organs, and that it is now on sale privately at newsstands for 10 cents a copy. We are, of course, encouraging the widest possible circulation of the information it contains.

Representative JACKSON. Mr. Chairman, might I interrupt?

Mr. Wadsworth, I wondered if you had considered the possibility of taking from the pamphlet entitled "Survival Under Atomic Attack" the six points contained on page 16, entitled "Six Survival Secrets of Atomic Attack," and then the five points on page 18, and putting them on what would be a little bigger than a 1-cent postal card, which you could send out through the Post Office Department. Especially in the critical areas, inasmuch as I come from the Northwest, where we are a little more important targets, possibly, I suggest the possibility of sending that out on a card, so that each householder could hang it up on the door. I am afraid that a lot of people, while this is a very fine pamphlet, will not take the trouble of reading it through. But if it is placed on one card and just sent out through the Post Office Department, you would have complete distribution overnight, in some of the very vital areas of the country, to start with. I mention this because one of our radio stations out home has been doing a real job getting this information out piecemeal, and it occurred to me that that is the heart of this pamphlet, and a real job could be done if that

was placed on one card and mailed out to all of the householders, at least in my area, in which I am interested, the Pacific Northwest.

Mr. WADSWORTH. Yes, sir; there are various plans about distributing the meat of that book in various ways. However, we do feel that as far as possible we should encourage distribution of the entire book because there is so much more meat in it.

Now, there are different plans. For instance, the State director of New Jersey just called this morning. He is going to have a card printed up like that, to have it tacked on the wall, the kitchen, for example.

Representative JACKSON. Yes; but I do not think people should have to pay 10 cents for one of these pamphlets, because the people who probably ought to read it will not get it. And there is quite a bit of criticism on that point. Maybe a person ought to be willing to pay 10 cents to survive, or at least manifest an interest to that extent. But I do think some condensed version that could appear on one card represents a common-sense approach. Because you are going to find very, very few people reading this pamphlet. Maybe the block leader in your civil defense organization will read it through and then explain it to other people. But if you have a simple document that you can tack on the kitchen door or some other suitable place, I think you will be taking a long step forward. And I base that on discussions with some of our people out home during this past week.

Mr. WADSWORTH. I would be inclined to agree definitely.

There is another card coming out from the Armed Services, which is going to be almost the same. It is a card that we have looked over and checked with them. And we have also already approached the Post Office Department on this basis of a wholesale distribution by bulk shipment to each post office, to have them dropped in the boxes and taken around by the carriers. Thank you for the suggestion.

Senator MILLIKIN. Mr. Chairman, I would like to ask the witness, What cities are now, you might say, completely organized?

Mr. WADSWORTH. I don't believe, sir, that we could say that any city is completely organized. Quite a few are well on the way.

Senator MILLIKIN. What cities approximate complete organization?

Mr. WADSWORTH. Mr. Chairman, would that be the kind of question we could answer better in a closed session? It is not that it would be classified "information," exactly, but it would seem to indicate a preference in our minds as between the way one city organizes over another. If it is all right with you, sir, I think we could give you all of that information very easily.

Senator MILLIKIN. It is all right with me, except that I am not interested in avoiding that particular embarrassment as far as you gentlemen are concerned. But if that would give information to a potential enemy, of course we could bring it out in private session.

Mr. WADSWORTH. I would prefer it in private, if that would be all right.

D. Two new manuals for the civil defense program will be issued during December. The Fire Effects of Bombing Attacks will be released December 11. The Civil Defense Health Services Manual, which is a comprehensive document of several hundred pages, will be sent to State civil defense directors immediately before the first of the year. That will be right around Christmas time, I believe.

These new manuals, while only the forerunners of many others to come, will answer in detail many of the questions being asked by State and local civil defense officials.

E. In order to give the States and cities, particularly in the critical target areas, a realistic exercise in the tough, detailed planning of civil defense against atomic attack, the Resources Board has sponsored three initial planning exercises. These have been staged during the past months in Washington, D. C., Seattle, and Chicago. These exercises were attended by representatives of 24 States and approximately 200 cities, as well as by Canadian and British civil defense authorities as observers. Each of these large-scale exercises took months of intensive preparation. The results allowed the test cities to develop workable standard operating procedures by their major municipal activities in civil defense.

These exercises did not solve all civil defense problems for the cities involved nor answer all the questions of those who participated as observers. By going at it the hard way through these test exercises, however, the cities are now well along in the grim job of planning for an attack, and the observers who sat in are better informed as to the actual conditions that might be expected in the event of a bombing of their own communities.

United States Civil Defense strongly recommended that every State director should pick at least one city in his State and undertake a test exercise. Hawaii already has completed its exercise, while Philadelphia and Detroit have set definite plans for theirs. I am also told, just this morning, by the State director from California that he has other plans in mind for several cities in his State. We have repeatedly urged that such an exercise is an absolute "must" for any metropolitan center, but as yet only a few cities have tackled this job of getting first-hand information regarding their civil defense needs.

F. For the individual citizens who have been asking, "What can I do?", the American National Red Cross has mobilized its facilities and chapters in cooperation with the Civil Defense Office to carry out three major activities in which every one can take part. These are—

1. The first-aid program, in which some 20,000,000 people should be trained as rapidly as possible;

2. The national blood program, in which the Red Cross will coordinate the efforts of all interested agencies in developing a realistic program of mass blood procurement; and

3. Nurses' aide and home nursing training, which will be carried out on a large scale.

In addition to this, of course, the American Red Cross will, by offering its help and facilities to the State and local directors, play a very important part in civil defense. They will, however, be integrated into the civil defense organization and will not act in this capacity as a separate entity of the Red Cross.

G. In preparing the national civil defense plan, and in day-to-day operations, we have placed strong emphasis on the matter of active liaison with British and Canadian civil defense officials. Their help in the development of our program has been most valuable, and will continue to be so. I believe we can also say that we are working with them on the same tough problems in civil defense, such as shelter design and construction, to which there is no quick, simple solution.

In recent weeks, a number of our top-staff personnel in civil defense have visited England as a part of the continued exchange which has been going on during the past year. During November, the civil defense staff met with the Canadian civil defense staff and representatives of our State Department, to establish a working group which will seek to solve joint problems including mutual aid with respect to border areas.

H. With respect to shelters, a series of field tests of a number of potential shelter types is planned for the immediate future. When these tests are completed, specifications for more adequate and improved shelter types for individual and community use will be announced.

Surveys of potential existing shelters are now being made.

I. Because mutual aid problems are such a large part of the civil defense program on a State-to-State basis, our Civil Defense Office has just released a suggested model for an interstate civil defense and disaster compact. This was prepared jointly by our staff with the Council of State Governments. The model compact provides the legal answers to many questions which have been troubling the State civil defense authorities who are now in process of making such agreements.

J. In the spring of 1950, the National Security Resources Board sponsored five separate 5-week courses in radiological monitoring for State civil defense authorities. These courses were held throughout the United States under the direction of the Atomic Energy Commission. In that same field, and after months of intensive study of the problems involved, the Civil Defense Office will release, this week, specifications for radiological monitoring instruments. These will be suitable for standard civil defense survey work, and for immediate use in training courses to be carried out by the States and cities.

Senator MILLIKIN. What do you mean by a radiological monitoring instrument?

Mr. WADSWORTH. Perhaps the most commonly understood one, sir, would be the Geiger counter, where the survey worker comes in to test the amount of radiation in the area which has been struck.

K. Crucial to the civil defense system is the air-raid-warning program now being operated as an interim measure by the Department of Defense through the Continental Air Command. It has been estimated that even a few minutes of advance warning, plus a well-organized and well-trained civil defense organization, would cut our casualties in an atomic raid by at least 50 percent. One of the objectives of the civil defense program is the continuous expansion and improvement of the air-raid-warning service, and much progress is being made in that respect.

Representative HINSHAW. Mr. Chairman, in this connection, are we going to have an opportunity to discuss the air-raid-warning set-up in executive session? Or is that something that should be discussed here?

The CHAIRMAN. I would think it would be better in executive session, Mr. Wadsworth; would it not?

Representative HINSHAW. I would like to give notice that I would like to discuss that in executive session.

Mr. WADSWORTH. L. It is recognized that women can and will play a major part in our civil defense program, as they did both in

this country and abroad during World War II. In order that leading American women's organizations might have their due share in the development of the civil defense program, a meeting of women representing these groups was sponsored by the National Security Resources Board in October. Since that time, a special committee formed by these national women's groups has been most active in studying ways in which women can best help the civil defense program.

M. Currently we are sponsoring a series of courses for selected professional nurses in the Nursing Aspects of Atomic Warfare, which is the name of the course. The first of these courses was held in November at Rochester, N. Y. The others will be held in five major cities between now and mid-February 1951. These courses are being conducted by the Public Health Service and the Atomic Energy Commission. An average of five nurses per State will take these training courses for trainers. And then we will go back to their States and fan out the information which they have received.

Under the general heading of "State and municipal progress": When civil defense officials of the National Security Resources Board reported to this committee last spring, they testified that only 16 States had appointed civil defense directors, and that only 17 States had special civil defense legislation. We had no actual local appropriations to report except several States which had emergency funds for this and for other reasons.

There is no better evidence of the progress we are making as a nation in civil defense than the fact that today all States have appointed civil defense directors, with one exception. In addition, there is a civil defense director for the District of Columbia, and one for each of the Territories. Most of these directors are in office on the soundest possible basis. They are full-time, paid, and competent officials, not casual part-time employees, and they have authority to act by legislation or by Executive order.

I can tell you from a number of first-hand meetings, with them that these men are high-caliber executives, worthy of the grave task which confronts each of them. In addition to the States, all of our great metropolitan centers also now have full-time civil defense directors, with active civil defense programs in various States of organization.

Bona fide evidence that a number of our State legislatures are aware of their financial responsibilities in civil defense are these amounts which have been appropriated during the recent months for civil defense purposes:

New York.....	\$600, 000	Louisiana.....	\$50, 000
California.....	475, 000	Minnesota.....	50, 000
Massachusetts.....	150, 000	Colorado.....	20, 000
Connecticut.....	75, 000	North Dakota.....	10, 000

While State leadership and State action is crucial to the development of our civil defense program we must remember that an enemy's bombs would fall on our cities and their people. For the first time since the Indian wars our homes are in the front lines. As in those days, we must realize that our civilians and our soldiers are equals again in danger and in responsibility.

The cities which mean so much to our national security have made progress in civil defense. Some of them have made substantial prog-

ress. Not all the progress that we would like to see made, perhaps, but progress that is worthy of note, nevertheless.

Strong evidence of this is contained in the recent civil defense survey made by the American Municipal Association, which, incidentally, is meeting in Washington this week. Some 139 American cities detailed their civil defense efforts to date through the medium of this survey. Their answers reflected all stages of organization, but, for the most part, were in sharp and gratifying contrast to the situation only 6 months ago.

Under the general heading of "Finances": As a major part of our planning for civil defense, we have given serious thought to the cost of preparing for an enemy attack and to the proportionate share of that cost which should be borne by the Federal Government. The scope of the possible disaster resulting from enemy attack upon this country demands plans which are much more comprehensive and costly than were necessary in World War II.

Our approach to financing has been the same as our approach to planning, namely, that adequate preparation against the loss of life and property is of primary concern to the affected community. Our plan, therefore, requires substantial financial outlays by State and local governments.

The civil defense program, however, is Nation-wide in scope. One of its purposes is to protect the productive resources of the entire country. It is probable that attacks, should they come, would fall with great weight and destructiveness on certain strategic areas in the country, while other areas may escape entirely.

It would be economically unsound to take all possible precautionary measures in all possible target areas at once. Such measures would probably be inadequate to cope with a massive attack upon any one area, and might be entirely wasted in other areas.

However, in some aspects of the program a uniformity of approach throughout the country is not only desirable but necessary if we are to avoid confusion and delay. Therefore, the Federal Government should assume the responsibility for providing regional stockpiles of some types of supplies. It should also share the financial burden imposed by the need for special equipment.

In defining this responsibility we have attempted to avoid, on the one hand, Federal aid which would destroy a sense of local responsibility. On the other hand, we have tried not to make our financial aid so small and restricted in scope as to stunt the growth of the program. In keeping with those aims we have developed the following plan for financing which we recommend to the Congress for its consideration:

A. That the cost of local personnel and administration be the financial responsibility of the States and local communities, together with the cost of supplies and equipment of a personal character needed by volunteer workers. Our preliminary estimate is that such expense over the next 3 years would amount to approximately \$200,000,000.

Senator MILLIKIN. You mean at the Federal or the local level?

Mr. WADSWORTH. That is the local level only, sir, State and local.

B. That the Federal Government share with the States and local communities the cost of procuring such heavy and, I should say, such special equipment as may be necessary for augmented fire services, engineering services, transportation services, communications serv-

ices, and rescue services. It is estimated that over a 3-year period the cost of such equipment to the Federal Government would be about \$100,000,000, and to the State and local governments an equal amount.

C. That the Federal Government match equally the expenditures of the States and cities for the construction of communal-type shelters. To do less, in our opinion, might well result in no shelters, or in shelters completely inadequate to cope with the atom bomb. It is estimated that the Federal share of this program, over the 3-year period, will be \$1,125,000,000, with an equal expenditure by the State and local governments.

Senator MILLIKIN. In that field will you deal directly with the municipalities, or will it all go through the States as such?

Mr. WADSWORTH. It would be planned to have it go through a coordinated State plan, and any moneys advanced by the Federal Government would clear through the States for redistribution to the localities.

Senator HICKENLOOPER. Who would determine the location in the States? The State planning group?

Mr. WADSWORTH. The location of shelters? I believe that it would be a combination of the State and the Federal. Because if the Federal would have to pay 50 percent of the cost, we would have to approve the general program. Naturally, the first pick on where a shelter goes in your city, or a group of shelters, would be up to the city authorities, who would then turn in their program to the State authorities, who would have to get our approval to get their 50 percent matching funds.

D. That the Federal Government provide regional stockpiles of critically needed materials, particularly of those types which would not otherwise be available in the event of an emergency. This program, embracing engineering supplies, blood plasma, medical supplies, and evacuee supplies, would cost an estimated \$400,000,000 over the 3-year period.

E. That the communications and communication-control centers necessary to distribute timely and adequate warning of an enemy attack be provided by the Federal Government. It is estimated that such a system would cost about \$32,000,000.

Following this plan, the estimated total cost over the 3-year period for civil defense would be about \$3,100,000,000. The Federal Government's share of this cost would be approximately \$1,670,000,000, or 54 percent. The States would assume expenditures of approximately \$1,430,000,000, or 46 percent of the total cost.

Senator KNOWLAND. Might I interrupt at that point to ask: In the surveys that you have made of countries like Great Britain, as an example, what have they done in this particular field? Have the construction costs been allocated to the National Government, or is it shared on a national-local basis? Or just how is it handled?

Mr. WADSWORTH. An overwhelming majority of it is paid for by the National Government, somewhere between 85 and 90 percent, Senator.

Senator KNOWLAND. So I suppose to an extent at least the assistance that we have rendered has helped the British Government carry the burden, in a way?

Mr. WADSWORTH. If you have in mind Marshall-plan aid, none of that money has gone for shelter-type outlay.

Senator KNOWLAND. But insofar as, we will say, the arms-implementation aid has released a certain burden from the British budget, it has in turn permitted them to retain a balanced budget, if you please, and also to contribute to this air-raid program; has it not?

Mr. WADSWORTH. No, sir; I am afraid not.

Senator KNOWLAND. Why not?

Mr. WADSWORTH. Because, as far as I know, the British have built no shelters recently.

Senator KNOWLAND. I understood you to say that at least the plan was to have the National Government contribute largely to the building of these shelters.

Mr. WADSWORTH. No, sir. I am sorry. What I meant to say was that during World War II they paid for between 85 and 90 percent.

Senator KNOWLAND. That was not the question I asked.

Mr. WADSWORTH. I am sorry, sir.

Senator KNOWLAND. What is the plan as you understand it on the part of the Government of Great Britain in the meeting of this problem?

Mr. WADSWORTH. I did not have that information ready, sir. I don't know.

I was going to interpolate down at the very bottom of page 11 that I meant State and local governments. It is a generic term including both.

In view of the destructiveness which might result from atomic attack, a vast stock piling of supplies and equipment might conceivably be defended as being necessary to alleviate human suffering and possible loss of production capacity.

Our general principle, however, has been to provide only those special materials which would not otherwise be available in the quantities required. As regards the advance stock piling of such staples as food, clothing, lumber, and other materials, we have a variety of plans under continuous study. Many of these supplies could be requisitioned from other sections of the country and rushed to a disaster area. As soon as these studies have been completed, definite recommendations will be made in respect to such items.

When Mr. Symington said earlier, in his statement which I read, that civil defense is the missing element in our national security, he was emphasizing the role that every citizen must play in the event of enemy attack. When it comes to civil defense, there can be no "take to the hills" mentality or "let George do it" attitude on the part of any person in this country, wherever he may live.

Our cities must be manned and fought just as our Navy's ships are manned and fought. When our ship captains come under fire they do not turn tail and run. They fight their ships as long as they have decks under them—and usually win.

Simply and directly, then, we civilians must have the guts and courage to do all that is expected of us. Each day the headlines hammer home the fact that the time for the maximum civil defense effort by all of us—and on a Nation-wide scale—is now.

We feel confident that the Congress will give immediate and careful attention to civil defense legislation which is now before it. Meanwhile, local officials who pass off this grave responsibility or say that

they cannot or will not move until every "i" is dotted, and every "t" crossed by the Federal Government are losing sight of their responsibility to their own people.

Senator MILLIKIN. Mr. Chairman, I would like to ask the witness:

What is the sponsored bill before the Congress, which your agency is sponsoring?

Mr. WADSWORTH. The House bill introduced by Mr. Durham is H. R. 9798. There are two separate bills in the Senate: one introduced by Senator McMahon and the other jointly by Senators Cain and Kefauver.

Senator MILLIKIN. Which is the sponsored bill?

Mr. WADSWORTH. They are identical, Senator.

The CHAIRMAN. Are there any other questions, gentlemen?

Is there anyone else you wish to present, Mr. Wadsworth?

Mr. WADSWORTH. Not unless there is some question the answer to which may be best presented by some member of the staff here who specializes in such matters.

The CHAIRMAN. I have some questions that I would like to ask, but they will have to be asked in executive session.

If the committee is agreeable, we will now go into executive session.

This closes the open session.

(Thereupon, at 4 p. m., the committee continued in executive session.)

## APPENDIX

### EXECUTIVE OFFICE OF THE PRESIDENT, NATIONAL SECURITY RESOURCES BOARD, CIVIL DEFENSE OFFICE

SUMMARY OF CONFERENCES OF STATE CIVIL DEFENSE DIRECTORS, OCTOBER 2  
AND 3, 1950, EXECUTIVE OFFICE BUILDING, WASHINGTON, D. C.

#### CIVIL DEFENSE REPRESENTATIVES OF THE STATES

##### WESTERN MEETING—OCTOBER 2

###### Arkansas:

Adj. Gen. Earl Ricks  
John B. Morris

###### Arizona:

Gov. Dan E. Garvey  
Fred O. Wilson, attorney general  
Mr. Watkins, Governor's administrative staff  
Mr. Williams, Governor's administrative staff  
Mr. Ruth, Governor's administrative staff

###### California:

Maj. Gen. W. M. Robertson, director  
Burton Washburn, secretary, California Defense Council  
David C. Andrew, staff, California Defense Council  
Lt. Col. William Haines, Headquarters, Sixth Army

###### Colorado:

Gov. Walter W. Johnson  
R. George Woods, director

Hawaii: George C. Wallace representing William B. Cobb, director

Kansas: Standish Hall, director

Louisiana: Maj. Gen. Raymond Hufft, director

Minnesota: Col. E. B. Miller, director

Missouri: Ralph W. Hammond, director

Montana: Col. A. H. Williams representing Adjutant General Mitchell

Nebraska: Edward Gillette, vice chairman, State defense council

Nevada: Brig. Gen. James May, director

New Mexico: Edward Oakley, assistant director

Oklahoma: Forest McIntyre, Governor's executive secretary

Oregon: Louis Starr, director

South Dakota: R. P. Harmon, director

###### Texas:

William L. McGill, director  
R. E. Smith, Civil Defense Agency staff

Utah: J. Wallace West, adjutant general

Washington: R. J. Olson, director

Wyoming: Brig. Gen. R. L. Esmay, director

##### EASTERN MEETING—OCTOBER 3

Alabama: Col. Ira. B. Thompson, director

###### Connecticut:

Roger Gleason, director  
Edward J. Coady, assistant director

###### Delaware:

D. Preston Lee, director  
Maurice Dupont Lee

**District of Columbia:**

Inspector John E. Fondahl, acting director  
Col. Thomas Hayes, assistant commissioner

**Florida:**

Col. R. G. Howie, director  
Dr. K. E. Miller, civil defense council

**Georgia:**

Maj. Gen. S. E. Vandiver, director  
Col. Frank A. Kopf, coordinator  
Maj. Homer Flynn, information officer

**Illinois:** Gen. D. O. Elliott**Indiana:** Lt. Comdr. Frederick T. Creators, deputy director**Maryland:** Lt. Col. David McIntosh III, director**Maine:** Col. Spaulding Bisbee, director**Massachusetts:** John Stokes, director**Michigan:**

Donald S. Leonard, commissioner  
Thomas J. Masterson, civil defense staff  
Ambrose Howell, civil defense staff

**Mississippi:** Alex McKeigney, acting director**New Hampshire:** Rear Adm. Miles R. Browning, director**New York:** Lawrence Wilkinson, director**North Carolina:** E. Z. Jones, director**New Jersey:**

Leonard Dreyfuss, director  
Thomas S. Dignan, assistant director

**Pennsylvania:**

Maj. Gen. Richard K. Mellon, commissioner of military and civil affairs  
Col. A. C. Miller, director of civil defense  
J. H. Hermana, State civil defense office

**Puerto Rico:** Hon. Jorge J. Jimenez, commissioner**Rhode Island:** Brig. Gen. James A. Murphy**South Carolina:**

Brig. Gen. James C. Dozier, director  
Col. George Warren, deputy director

**Tennessee:**

Adj. Gen. Sam T. Wallace, director  
Herman T. Millerie, civil defense agency staff

**Vermont:**

Maj. Gen. Merritt Edson, director  
Brig. Gen. Murdock Campbell, assistant director  
J. Larmon, civil defense agency staff

**Virginia:**

J. H. Wyse, coordinator  
J. J. Howard, civil defense staff assistant

**Virgin Islands:** Adolph Gereau, director**West Virginia:**

Brig. Gen. Charles R. Fox, director  
Maj. Edgar Sites, deputy director

**PROGRAM****CONFERENCES OF STATE CIVIL DEFENSE DIRECTORS**

Presiding: Mr. James J. Wadsworth, Acting Director, Civil Defense Office.

Statement: Mr. W. Stuart Symington, Chairman, National Security Resources Board.

1. Purpose of the conference and the work of the National Civil Defense Office: Mr. James J. Wadsworth, Acting Director.

2. Relationships with States and suggested State legislation: Hubert R. Gallagher, head, State and local relations.

3. Women's role in civil defense: Mrs. Martha Sharp, special advisor to Chairman, National Security Resources Board.

4. Role of the Department of Defense in civil defense: Col. Barnet W. Beers, Assistant to the Secretary of Defense.

5. Air alerts and air-raid warning system: Col. A. B. Pitts, Office of Civil Defense Liaison, Department of Defense.

6. Critical target area maps: Leslie Kullenberg, head, research group.
7. Mutual aid and mobile support: Col. J. C. Gault, General Staff Corps, Office of Civil Defense Liaison, Department of Defense. (This session was held in the map room and was classified.)
8. Manuals: Gerald R. Gallagher, head, technical services group.
9. Public affairs: John A. DeChant, head, public affairs.
10. Communications: Robert R. Burton, head, civil defense communications.
11. Shelter: Leslie Kullenberg, head, research group.
12. Plant protection: Carl Gabel, head, plant protection group.
13. Training: John Sundstrom, head, training group.
14. Requirements and supply: William A. Gridley, head, requirements group.
15. Financing civil defense: James J. Wadsworth, Acting Director. (Adjournment.)

#### CONFERENCE OF STATE CIVIL DEFENSE DIRECTORS

OCTOBER 2 AND 3, 1950

The conferences were convened on Monday, October 2, 1950, with State civil defense directors west of the Mississippi in attendance, and on Tuesday, October 3, 1950, with State directors east of the Mississippi present. Two meetings were held in order to facilitate round table discussion. The agenda was identical for both conferences. This summary includes statements made by the staff of the Civil Defense Office and discussions which took place at both meetings.

Mr. James J. Wadsworth, Acting Director of the Civil Defense Office, presided at both conferences.

Mr. WADSWORTH. "We are glad to see you all today and without further ado, I would like to present to you, Mr. W. Stuart Symington, Chairman of the National Security Resources Board."

#### STATEMENT OF MR. W. STUART SYMINGTON

The civil defense of the United States is now a very practical matter. We know that our only possible enemy has the atomic bomb and also has the capacity to deliver it on this country.

The interest in civil defense has varied over the country in recent months, but I think it is fair to say that it is of great interest to our citizens all over the Nation.

I believe this is sound and wise because, based on the last two World Wars, anybody who decided that they wanted to attack the United States would certainly consider it as their primary target, and perhaps their first target is productive capacity.

I think it is fair to say, in addition to the courage of our fighting people, that the productive capacity of the United States had more to do with winning the last two World Wars than any other single item. Therefore, what I am trying to say is that what you are all here today to discuss is of very practical interest to our future security.

We have a report out here which I think is a good one. It was delayed, for which we were criticized, but we wanted to get it right and felt, therefore, that the delay in getting it the way we wanted it was justified. It has in it two outstanding characteristics. I think, first, that it shows the wishes of the administration are for civilian administration control.

Those of you who had experience in the battle of Britain and afterwards the German attack at night, know that the British problem was handled entirely by the civilians with great and outstanding success to the point where the Bull report, the first report put out by this country on civil defense, said that England could not have lived and stood up under the attack if it had not been for their preparation over the preceding years in civilian defense. I think, therefore, that that is one of the two characteristics that is worth noting.

The second is that what the Federal Government wants to do is be, you might say, a catalytic agent, an over-all planner or suggestor to the States and municipalities. That is also characteristic of the extremely successful British effort, and I will refer to that because they had such a practical experience as against our theoretical developments. Their organization was decentralized and handled in the various 12 districts that they had set up. So that is a State problem and a problem of the municipalities under the States and various home communities.

The last point is that I hope we don't get lulled into any false sense of security as the result of the fine new developments in Korea. After all, in the Korean situation we had some great advantages. Korea itself was almost adjacent to

our extensive military developments in Japan, and we might say that perhaps Korea was the cheapest, the least strong satellite of the Russians, and the fact that we have been able, after some months, to defeat them, in my opinion, should not lull us into any false sense of safety.

I believe that, as the years go on and any possible enemy develops a stock of atomic bombs, regardless of any periphery action or reaction, the security of the United States becomes more and more ominous unless we have some form of world peace through an agency like the United Nations. Just as I have been pretty sure in my own mind that the Russians will not attack this country until they do have a stock of atomic bombs, so I personally feel convinced that they will attack when they do have a stock, unless we are so strong that they feel they could not win. To the best of my knowledge, nobody has started a war that they did not feel they could win.

Those are just a few brief thoughts on my part.

We, in this agency, are very grateful to you all for coming down here and giving your time and energies to this great new problem which Mr. Hopley in his fine report described as the missing link in our defense structure.

#### PURPOSE AND OBJECTIVES OF THE CONFERENCE

(By James J. Wadsworth, Acting Director, Civil Defense Office)

The purpose of this meeting is to acquaint you with our staff and the problems on which we are working, and to get your advice, your criticism and your cooperation. The conference is designed to interpret the United States civil defense plan, explore the needs for strengthening the plan, and find means of guaranteeing smooth and satisfactory operation of a successfully functioning national civil defense system.

Some of the States have already carried out many of the recommendations made in the report and we commend them for their initiative. Others must wait for the convening of their legislative sessions in January to secure the necessary funds and authority to operate. Despite the fact that some of the States have not had legislative authority or specific appropriations, much has been done by the governors by executive order, or through their adjutant generals or some other responsible department.

What we are developing is a Federal plan. We cannot succeed without the active participation of the States, any more than you can succeed without the complete cooperation and the well directed participation of the operating agencies in the front line and at the attack and shock points of civil defense—the local civil defense organizations.

We in the national Civil Defense Office, you in the States, and the localities face stern tests. We shall need to exert great effort to insure against ineffectiveness or failure. It is the intention of the President to seek the passage soon of Federal legislation establishing a Federal Civil Defense Administration patterned after the proposed act included in the appendix of United States Civil Defense. This proposed legislation is suggestive only and is subject to modification. The suggestions of State civil defense directors will be given careful consideration.

In the meantime it is intended, as was pointed out in the President's message transmitting the report to Congress, to establish a Federal Civil Defense Administration by Executive order. Such an order has been drafted and is in the process of clearance by appropriate agencies. Many of the functions and powers included in the proposed act can be carried on by our agency under the authority of such an Executive order. In the meantime we have a staff of specialists and consultants working on the many problems concerned with developing an effective defense against atomic or other attack.

This staff is in daily contact with members of the Department of Defense, the Atomic Energy Commission, the Red Cross, the Public Health Services, and numerous other public and private agencies. Regardless of developments in the international situation in the foreseeable future, civil defense must remain a program of paramount importance to the security of the United States and of its people.

In closing, few statements have expressed the spirit of what we are trying to accomplish in civil defense planning and operation better than the following paragraph from a recent report of a State civil defense director:

"We are all working together as a team toward one great goal; the maximum perfection of local organizations working under a common plan of mutual support for the protection and assistance of the civilian population should an emergency develop within the State. Civil defense is today a vast undertaking, and in order

to achieve a maximum degree of success in its great variety of problems, it is necessary to utilize and absorb the ideas of all concerned."

#### RELATIONSHIPS WITH STATES AND PROPOSED LEGISLATION

(By Hubert R. Gallagher)

The United States civil defense plan follows long-established and traditional principles of American Government. It recognizes that ours is a Federal system and that the States are vital to the successful functioning of our governmental structure. As in the Hopley report, the United States civil defense plan provides that the Federal Civil Defense Administration will operate through the States.

Experts on civil defense and intergovernmental relations have long recognized that it would be unwise practically and administratively unsound for a Federal civil defense office to work directly with the nearly 2,000 cities and towns in the United States. To carry out such a program would result in a Federal civil defense bureaucracy, and in the expenditure of Federal funds almost beyond reason. The policy set forth in the United States civil defense plan calls upon the States to be co-partners with the Federal Government in furthering civil defense.

Experience in two wars has demonstrated that the key to a successful mobilization of the civilian population is the proper organization of defense agencies. Therefore, over-all policies and plans for civil defense should be developed by the Federal Government through a Federal Civil Defense Administration—and their actual operation carried out by the States through legally established State and local defense agencies. Intergovernmental cooperation is the key to a successful civil defense and preparedness program. These are the principles that we expect to carry out in operating the Federal Civil Defense Agency.

From an operating standpoint we are in the process of selecting a field staff which will work out of Washington and which will assist the States in their organization and planning; help them with their technical work, and aid them in interpreting Federal policies and programs. Five members of such a field staff have been appointed and they are here to meet you, and in the future to work with you in a purely advisory capacity. These men have been selected because of their training and experience in State and local government work. We are sure that you will find them of assistance. In brief, their functions are as follows:

1. Serve as a point of contact between the national office and State defense directors. The directors would be expected to continue their contacts with the Washington office.
2. Advise and assist State defense directors, governors, State legislators and other public officials on civil defense.
3. Appear at State legislative hearings, but only on request, and represent the Federal civil defense agency at regional conferences, State and local meetings, and before various public groups.
4. Assist in the development of State civil defense activities.

It is our plan to serve as a clearing house for you. In addition to the regular civil defense publications of a general nature which will be sent to you from here, we hope to make available summaries and digests in the form of memoranda which would report on the activities of the State defense agencies. Such publications would deal particularly with legislative and administrative matters of interest to the State directors themselves.

To make this service useful, we will need your aid and assistance. Thus we would appreciate it if you would continue to send publications or documents that would be of use to us as well as any new legislation or amendments to your existing Civil Defense Act, including information regarding planning and organizational activity on the local level.

From an operating standpoint we will undertake the following:

1. To serve as a clearing house on Federal and State civil defense developments. On policy matters and questions, our Advisory Bulletin series will be continued and expanded to keep States, and through the States, counties and cities informed of civil defense policies and activities at the national level.
2. To develop our memorandum series principally for the use of the State civil defense director. The recent memorandum on the organization and legislative status of the various State civil defense councils is an example. Another is the table showing the status of State defense laws. These have been sent to you.
3. By correspondence and field staff to work with you and operate as a service and research agency for you.

## STATE LEGISLATION

Now I would like to discuss briefly the subject of State civil defense legislation. State civil defense directors recently have been sent a chart and a memorandum outlining the status of civil defense legislation in the States. In addition, we have included in the appendix of United States Civil Defense the text of a suggested model State civil defense act. The need for such legislation is set forth in the report.

It is our feeling that every State should study and review its existing civil defense legislation. If no enabling legislation is in existence then it should consider enacting State civil defense legislation.

According to the information which we have received, the status of State civil defense legislation is as follows:

## STATUS OF STATE CIVIL DEFENSE LAWS

Twenty States have new laws enacted since World War II.

Fourteen States have laws based on World War II legislation.

Fourteen States have established defense agencies by Executive order.

In reviewing its civil defense legislation, we suggest that a State should provide for the following:

1. The establishment of a State civil defense agency in the executive branch of the State government to serve as an advisory agency to the governor. Action when necessary would be carried out through the office of the governor, and he would serve as chairman ex-officio of the defense council. Additional extraordinary emergency powers under such legislation could be exercised by the governor in case of war or upon the declaration of an extreme emergency.
2. The appointment by the Governor of a full-time, salaried civilian director who would serve as the operating head of the council in executing the governor's civil defense responsibilities. The director would coordinate the activities of State and local defense agencies.
3. The authority to create local organizations for civil defense in the political subdivisions of the State.
4. The authority to enter into mutual-aid arrangements with other States; to coordinate mutual aid plans among political subdivisions of the State, and to establish mobile support units to reinforce stricken areas.
5. The authority to use the property, services, and resources of the State for civil defense purposes.
6. The power to make surveys regarding food, clothing and other necessities of life, and the distribution of the same.
7. The power to take precautionary measures against air raids and other forms of attack and the authority to appoint auxiliary personnel and to mobilize police and firemen.
8. The authority to regulate highway traffic in the interest of national defense and in case of evacuation.
9. The power to designate emergency health and sanitation areas in any section of the State which has been damaged by air raids or has suffered other catastrophe, and the authority to make rules and regulations designed to safeguard public health and to prevent the spread of radiological infection or other maladies.
10. The authority to direct all activities by State and local officials and volunteer agencies, with regard to evacuation of civilians into adjoining States.
11. The power to enforce all laws and regulations relating to civil defense, including Federal regulations and in emergency to assume direct operational control of all civil defense forces.

All of these functions and activities are provided for in the suggested model act.

In addition, the States should provide by legislation for the necessary State appropriations to support a full-time organization. Furthermore, consideration should be given to providing a contingent fund of from \$250,000 to \$5,000,000 for unusual or additional civil defense purposes which cannot be accurately estimated at this time or for immediate use in case of disaster or great emergency. If a catastrophe occurs, it is probable that the legislature would immediately be called into special session to provide for the State's needs so the amount set aside for contingencies should be based on that factor.

The following existing appropriations are submitted as a guide in preparing appropriation requests for the administrative costs of the State defense agency: (The amounts shown are for the present fiscal year.)

California.....	\$475, 000	Louisiana.....	\$50, 000
New York.....	100, 000	Minnesota.....	50, 000
Massachusetts.....	150, 000	Colorado.....	20, 000
District of Columbia.....	100, 000	North Dakota.....	10, 000
Connecticut.....	75, 000		

We will keep you advised from time to time as to what the States are planning by way of appropriations, and as to what we think will be needed during the coming months.

#### DISCUSSION—LEGISLATION

Mr. Gillette expressed the view that the State directors should be kept advised when field representatives of the Civil Defense Office consult with officials of cities. Mr. Wadsworth assured the State directors that no Civil Defense Office field man would go to any city without going through the State civil defense director and keeping him advised completely as to where he is going and what he is doing. Mr. Gillette indicated that was quite satisfactory. Mr. H. R. Gallagher also said in response to Mr. Hammond's inquiry that the field men will come into the States from time to time in order to assist the State directors and serve as their point of contact with Washington.

Mr. Wadsworth added that if a city asks the national office for help without first clearing the request through the State director's channels, the national office will clear the request with the State director first. He further stated that the Civil Defense Office would not suggest that its field representatives should appear officially before meetings of State legislative committees, as that was the province of State civil defense officials, but that the field representatives would be available for informal meetings.

In response to a query from Mr. Dreyfuss as to whether civil defense workers and volunteers would be covered by the Federal Government in case of death or injury, it was stated that legislation was being studied which would establish Federal war damage or war risk insurance to compensate those injured or those whose property is damaged.

Mr. Wadsworth further advised Mr. Dreyfuss that in keeping with the principles set forth in "United States Civil Defense" the mayors will be expected to channel civil-defense matters through the State civil-defense organization to Washington and, he continued, he would drive this principle home with all the power he had at his command.

#### WOMEN IN CIVIL DEFENSE

(Mrs. Martha Sharp, special adviser to the Chairman, National Security Resources Board)

I am happy to speak on the role of women in civil defense. Ever since the President made his appeal for unity, the women of the United States have been writing to the President and to Mr. Symington pledging their cooperation and that of their organizations in the planning and the implementation of our national-defense effort.

Women are the greatest untapped resource of the manpower of the United States. They will be called upon to carry at least half of the civil-defense responsibilities of our country. Women are able to do any job as well as men if they are properly trained. Women have certain qualifications by inheritance which make us think of them as being especially qualified in certain roles. Women can do well any of the following jobs:

Warden services	Auxiliary police traffic control
Communications	Welfare services
Evacuation services, including emergency housing and feeding	Public relations
Medical services (we all know the splendid record of the nurse's aides)	Supply (the collection of clothing and its distribution)
Teaching	Civil Air Patrol expects to use a majority of women in their ground teams.
Driving	

The women's services of the Department of Defense have offered to provide the Civil Defense offices with the names of former servicewomen who are now

mothers of young children and therefore will not be taken back into the services, but whose special training would make them excellent civil-defense volunteers or part-time workers in their local areas.

Since women are to participate so completely in the civil-defense program, we expect that their representation will also be large in the State and local advisory boards and administrative offices. We hope that you defense directors will choose qualified citizens who also happen to be women to serve on all levels in advisory, in paid, and in volunteer positions.

May I suggest that women will be particularly useful in the field of volunteer services where they can fit the intricate part-time efforts of thousands of citizens into a powerful working whole. They are also especially qualified by their traditional interests in welfare and in community services.

In commenting on the role of women in civil defense, Mr. Starr stated that a woman serves on the Governor's Defense Council for the State of Oregon, and that 17 women serve the State in an advisory capacity.

#### ROLE OF DEPARTMENT OF DEFENSE

(By Col. Barnet W. Beers)

In discussing the role of the military today, I am of course, excluding a discussion of its well-known primary mission in wartime—that of defeating the enemy in combat. My remarks will be confined entirely to a discussion of the role of the military in connection with the domestic affairs of the Nation and in civil defense. There has always been a traditional dependence on the Armed Forces in times of emergency. The Constitution and our laws have wisely provided limitations regarding military activities and military authority in order to assure that our military forces serve our people rather than control them. The military forces are an agency that emphasizes organization, discipline, and carefully planned techniques, a force that is widely dispersed geographically throughout the United States; and a force that is mobilized and available 24 hours a day, 7 days a week, 52 weeks a year. It is a force that the Chief Executive traditionally calls upon to meet emergencies such as managing railroad systems, accomplishing rescue in disaster, building emergency bridges, handling emergency evacuations, affording emergency relief and the like. The military forces have furnished training facilities to national guard troops in peacetime, to cadets, to high-school students, and provided instructor staffs at scores of universities. For many years the Army supervised and operated the Civilian Conservation Corps because of its capability of doing so rather than to fulfill a function that was primarily military.

To have prominent military participation in peacetime is proper and expedient, but it is neither expedient nor safe to depend upon the Armed Forces in wartime to perform functions that should be accomplished by civil agencies. This consideration has been included in establishing the policies concerning our national civil-defense plan. Therefore, the entire Department of Defense will fulfill only a role of complete cooperation and support. It will make available its extensive technical knowledge in the development of civil defense and in times of emergency, war-caused or otherwise, will give material support and aid to the civil power to the limit of its ability. Such support and assistance will be quick and temporary and will be designed only to fill gaps that might exist in the civilian effort. Some people have conceived that martial law will be declared throughout the United States immediately following enemy attack by any means, but the provisions for martial law were not designated to meet such a situation. I should like to make it clear that there are two entirely different applications of military assistance. One, martial law—or the application of martial law—which is the assumption of control of the population and is usually accomplished because civil law has failed or broken down temporarily. The other military support does not necessarily imply military control. In the Texas City disaster, in the South Amboy disaster, in the floods of the Ohio and the Mississippi Rivers, extensive immediate and effective assistance was given by military forces all without any thought of applying martial law. However, provisions for its application are in existence to meet any serious situation which might require it.

In the prosecution of a war, the military not only will be limited in its ability to give assistance but it will itself require a great deal of help from civilians. We have already established as a military auxiliary an aircraft observer corps requiring 160,000 volunteers. This is presently operated in 25 States, as Colonel Pitts will later explain. We will extend this according to plan in the near future. In the event of war, other auxiliaries will be required, making additional demands on the patriotic and volunteer efforts of civilians.

In brief, the role of the military sets up a two-way street. The military needs auxiliaries, but at the same time the military becomes a member of the team where every man, woman, and child in the United States under wise and proper organization and leadership of the civil officials combine to meet any emergency that might arise.

#### AIR-RAID WARNING AND AIRCRAFT OBSERVATION

(By Col. A. B. Pitts)

There is presently being created, in selected areas of the United States, a network of observation posts from which information of the movement of aircraft over those areas can be obtained—a service that will supplement or augment the air-surveillance capabilities of our air-defense forces. These posts, located at appropriate intervals, are to be manned by civilian volunteers recruited by the directors of Civil Defense in the States involved or by special headquarters established for the purpose. Aircraft movement observed from these posts is reported over the existing commercial telephone system to collecting points called filter centers.

At these filter centers observer reports, plotted on a large map, show graphically the position and flight path of aircraft observed. Tellers at these filter centers relay this data to air-defense fighter-control stations, where they are evaluated and added to the information obtained from the radar screen. At the fighter-control stations—called ground control intercept stations—hostile aircraft are identified; tactical action is initiated, and pertinent information, such as position, altitude, direction, and speed of the invader, is immediately reported to a higher air-defense headquarters for plotting on the large situation map at the Air Defense Control Center.

Based on the evaluated information on hostile aircraft, as shown on the Air Defense Control Center situation map, air-raid warnings are initiated and disseminated to civil-defense authorities in the threatened areas.

While the installation of ground observation posts is presently being made in selected areas, an interim air-raid warning system which covers the entire United States has been installed and is now being operated by the United States Air Force. It includes personnel and terminal telephone equipment with which to initiate warnings at air-defense control centers, and it provides special telephone equipment installed in strategic locations where civil-defense authorities can receive warnings for further dissemination throughout the threatened areas within their boundaries. The dissemination of warnings from the key receiving points becomes a responsibility of the States alerted and is accomplished in accordance with their respective facilities and capabilities.

In the national civil defense program special attention is being directed toward further development of warning media and procedures that will provide at all levels a warning system of maximum efficiency.

#### GENERAL DISCUSSION—AIR RAID WARNING AND AIRCRAFT OBSERVATION

In response to a question from Mr. Pryde as to whether there had been a change in the color system, Colonel Beers said: "The Air Force is presently eliminating the blue for usage under the present system. They anticipate, in anything that would come up in the immediate future, not having the capability of giving too many degrees of warning. I want you to keep in mind that we are not eliminating the blue signal at this level for all time. I want you to keep in mind the meaning of the blue warning. In this agency, which will take over eventually at the Air Defense Control Center, based on the information they give us, we will probably develop a capability of using the blue signal again at some future time. So don't erase it as a possibility in your future operations." Colonel Pitts continued: "I told you that we regarded this as a provisional warning system and a limited one. It needs a lot of refinement. We are aware of that. And there will be improvement in it—either in it or in the development of a better system as time goes on. That question is being studied."

In a reply to a question from General Robertson, Colonel Beers said that the type of alert is a prerogative of the air defense people of the Air Force. Colonel Beers continued: "The present system will be converted. When this agency, the Civil Defense Administration, is established and the whole pattern is capable of operating, there will be a reshuffle, and the alerts will be given to the State authorities. It will be their responsibility to fan that out through their own communications system. Until there is a shifting of the pattern as well as of the responsibility, this is an interim warning system that will give a degree of

warning. Until there is a change-over to meet a pattern such as you suggest consider each of these phones that lies within your State as being a source of information in the event of anything happening. It is far from perfect. It is designed as a military means of giving warning down to these areas likely to receive attack, but it doesn't fit in with a program where there is complete autonomy at the State level, and there will have to be a transition into that other pattern. So we are just putting it forth as the one in existence now and should be changed over into a different pattern. If one State has several of these key point air raid sources, you have several sources; but if you only want one, we have one source. We have to let that ride that way until a transition can be made to a new system. We are developing the possibility of having more than one way of getting a warning out, probably by some auto-radio system, and that whole pattern will be changed in the future. We simply describe to you the system that is in being and workable at the present time. We now have a pattern that is set up by the Air Force independent of an organized system of civil defense. When this was installed, you as States were not nearly in the position you are now to receive this warning and carry it out. It was set up on a pattern of getting direct warnings to certain areas without regard to State lines or anything of the sort—a military pattern. Just as soon as it can be done, we will switch it over to the State pattern."

#### MANUALS

(Address of Mr. G. R. Gallagher)

We are all familiar with the fact that an architect, as a general rule, in designing a structure first makes architectural drawings showing elevations and floor plans which define the size and shape of the structure. Before construction can proceed very far the architect's drawings must be followed by detailed working drawings for the builder. He must have specific information as to the details of construction of the walls and the roof of the structure as well as guidance in the installation of such things as lighting, plumbing, and heating facilities.

The basic plan for civil defense, the architect's drawing, is provided in our recent publication, *United States Civil Defense*. In order that the actual construction of the civil defense structures to protect the citizens of New York or California or any other State can proceed to completion, you the builders must be provided with additional details.

To supply some of these details and to supplement *United States Civil Defense*, as promised in that document, we are already engaged in the preparation of the manuals and other publications covering the information which the Federal Government must provide for setting up the civil defense program at State and local levels. Much of the detailed information the States obviously will work out for themselves in their own plans. It will be our policy to provide in the manuals only that information which is absolutely required from us for uniformity of organization and indoctrination, and secondarily the information which the Federal Government is uniquely fitted to provide as an authoritative source.

We propose to confine manual writing to that information which you in the States want and need in order to bring an effective civil defense organization into being at the earliest possible time. We do not propose to attempt, for example, to tell firemen how to train auxiliaries in fire fighting except insofar as the extraordinary conditions of modern warfare indicate the need for such information. In the same way we will not attempt to tell a road builder how to patch a road or an engineer how to repair a bridge.

The term "manual" is used as a designation for all forms of publications needed for the indoctrination of the personnel of the civil defense organization. Generally they will appear in four forms, administrative guides, instructor's guides, technical manuals, and handbooks.

While the definitions cannot be too rigid, the general purposes of the various types can be stated in this way:

An administrative guide will impart instructions on the planning, organizing, staffing, training, and operating of civil defense activities.

An instructor's guide will outline for a trainer methods and procedures needed to convey the content of civil defense instruction effectively.

A technical manual will provide the civil defense service chiefs, instructors, and other civil defense administrators and supervisors with detailed technical or specialized information in an area of civil defense.

The purpose of a handbook will be to provide the nonsupervisory civil defense workers with the basic information required for them to do their jobs.

It is our firm policy to restrict the number of manuals to the absolute minimum consistent with the purposes which I have outlined. On the basis of the present schedule we anticipate that approximately 30 manuals will be produced and distributed by June 1951. This implies a production of about one per week. We plan to have these 30-odd manuals cover the bulk of the basic informational guidance needed by the States and localities for establishing, organizing, and training the forces to make civil defense a going concern on a national basis. There will, of course, be production of guidance material beyond next June, particularly in the technical manual field where it is anticipated that for an indefinite time manual production will continue, as the need for specialized information on various subjects appears.

There are obvious priorities of need in the development of manuals. There has been a discussion of our first production, Critical Target Areas in Civil Defense, a copy of which has been given to each of you. While this document does not, perhaps, fit any of the definitions I have given you for manuals, it is nevertheless, in our opinion, a most important item for the guidance of Governors and State directors in approaching their civil defense planning task, and it was therefore given earliest priority. Next priority is to be given to a manual covering the planning procedures outlined in part 3 of United States Civil Defense.

We have on hand or in process drafts of about 13 or 14 separate manuals. There will be early production of a health technical manual, one entitled "Fire Effects of Bombing Attacks" which is a historical record of experience with fires due to bombing in the last war for the guidance of our fire-fighting services, and manuals in the administrative guide series covering the organization and operation of mutual aid and mobile support. Among the technical manuals which will be of prime interest to you—and these are planned for the earliest possible production—will be a series dealing with personnel shelters and protective construction.

Fulllest use will be made in manual preparation of all available materials including those of the World War II Office of Civil Defense, the Office of Civil Defense Planning, which produced the Hopley report, and all pertinent material from nongovernmental groups and foreign sources. We are proceeding with our own development of materials required for the manuals which we feel will be necessary. In the process, the advice of State directors will be solicited as we are soliciting the guidance and assistance of technical experts in the various service fields.

In the distribution of the manuals we must, of course, take into account limitations of budget. There will be some free distribution for State civil defense directors. Documents at the Government Printing Office will be available and additional copies of the same will be purchasable from the Office from the Superintendent of Documents. They will always be for sale at the lowest possible price and can be bought in any quantity unless paper shortages in the future make it impossible.

#### GENERAL DISCUSSION—MANUALS

Mr. Wadsworth in answer to a query from Mr. Dreyfuss said that where it is advisable and necessary the State directors would be given a chance to look over the proposed manuals. In addition, he pointed out experts on State and local police and fire services are serving on the Civil Defense Office staff as advisors and full-time staff.

#### PUBLIC AFFAIRS PROGRAM

(By John A. DeChant)

There is a strong and growing demand, of which you are aware, from the public for all the information on all aspects of civil defense.

The public affairs program, as outlined in the national plan, recommends, that three major activities be launched as quickly as possible by the State and local civil defense directors: (1) General public education, (2) public information, and (3) public relations or group relations.

One of the first major Federal activities will be the series of public education booklets with which some of you are now familiar. The current plans for this series are roughly as follows:

1. There will be six public booklets in the initial series. These would include survival booklets on atomic, biological and chemical warfare; a postdisaster handbook, a simple first-aid booklet; and a simple explanation of the civil defense program.

2. We intend to ask all media to build programs around each booklet in order to utilize every possible type of sound public education media, such as motion pictures, radio, television, etc.

3. The first public booklet *Survival Under Atomic Attack* is now in its final stages. It has taken 4 months of intensive research and review by many experts in and outside the Government to prepare this booklet so that it is both technically accurate and highly readable. On the face of it, that might seem a long time, but the problems are so many and varied in atomic warfare and civil defense that we had to be sure that the information we release to the public will be accurate.

This public booklet will be released in October or early in November, with an initial distribution by the Federal Government, principally to State and municipal civil defense directors, in the same manner as the national civil defense plan was handled.

4. The demand for public education is so vast that it would not be possible for any Government agency at the Federal, State, or local level to supply all the booklets, films, and radio material from its own budget. For that reason it will be the responsibility of the Federal Civil Defense Office initially, and then the State and local directors, to urge all communications media such as newspapers, radio, television stations, magazines, book and private publishers and printers, and private interests and organizations to buy copies or reproduction proofs of these booklets from the Government Printing Office for printing and distribution or sales through their own facilities in cooperation with the local and State civil defense authorities.

Should State and municipal civil defense agencies decide to distribute these booklets out of their own funds, or through some arrangements with local private organizations, every assistance will be given to develop that type of localized distribution.

5. Obviously mere distribution of booklets and films and audio-visual aids to the public through one facility or another does not guarantee public understanding of the material. What is needed, as quickly as possible, is an intensified program through State and local facilities to make certain that the local public is constantly exposed to the material contained in the booklets. This could include mass distribution of the booklet and the four-page "tear-out" which is a summary of the high points of each booklet; use of the material by study clubs, speakers' bureaus, radio and television spot announcements, information centers, displays, posters, advertisers, study courses in the schools and any other sound means that can be devised locally to intensify public awareness and, finally, understanding.

As the public demand for information on all the aspects of civil defense in modern warfare continues to increase, it will be more than evident that State and local affairs programs will require tremendous effort and attention. Unless the public has an understanding of all its aspects, no civil defense program can hope to succeed.

#### GENERAL DISCUSSION—PUBLIC AFFAIRS

In response to inquiries from Mr. Pryde of Washington, Mr. Starr of Oregon, Mr. Hammond of Missouri, Mr. Hall of Kansas, and Mr. Woods of Colorado regarding informational material on civil defense, Mr. DeChant stated: "At present the Civil Defense Office is not in a position to give official approval to State, local, or private publications relating to civil defense but upon request will state whether the material has been cleared with the Office for accuracy."

The State civil defense organizations will undoubtedly find it extremely desirable to include State legislators in their information programs and on their general mailing list to receive material.

In addition to various booklets there will be films. There are several private producers who have made films and there are several more coming up. This is such a vast job that we will encourage all private production of films, booklets, and radio shows providing that the technical accuracy of the material is established before it is distributed, because, as you know, there is a wealth of misinformation on the whole subject of civil defense and modern weapons. We have access to all facilities in the Federal Government and we have used them extensively.

General Dozier asked if the staff would undertake the job of condensing into one page the vital information contained in a 65-page booklet so the newspapers in the States could have a civil defense item to publish for the information of the public?

Mr. DeChant said that the initial civil defense plan went to every daily newspaper in the country, every major weekly newspaper and every major radio and

television station throughout the country. We will continue to do this with any document that is of considerable public importance. The civil defense plan was accompanied by a summary of four or five pages and we disseminated it as widely as possible not only to communications media but to major organizations too. We are finishing the preparation of a 4,000 word summary of the civil defense plan. That will be sent to all the State directors in quantity, perhaps 50 to 70 copies. Our facilities are such that we cannot go beyond that. We plan to prepare radio shows and other material that might be of use to you. You are perfectly at liberty to adapt them in any fashion that you choose. In all these areas we will try to take some burden off your shoulders.

In answer to a question from Mr. Leonard concerning the use of penalty envelopes and the franking privilege, Mr. Wadsworth said it was being given consideration.

In answer to a number of questions concerning civil defense movies, Mr. DeChant said, "There are a number of films in this field that were made for purposes other than civil defense. The Atomic Energy Commission has five or six different films which do pertain to civil defense. One is the monitoring film at Oak Ridge and another is at UCLA, but none of them are directed precisely to problems of civil defense."

Mr. Leonard asked if there was a list of such films, if the films were available and where they might be procured. Mr. DeChant said there are no films today in our estimation adequate for training or educational purposes. The Department of Defense wants to make several changes in the film *Everybody's Business* before it goes out. It has served the purpose of indoctrination of Army personnel. As soon as films like that are made available we will make them available to you.

Mr. Gereau asked if the Civil Defense Office would consider putting out a number of short talks to assist in the training program, which might be run over several of the broadcasting stations throughout the country. Mr. DeChant said that the Civil Defense Office hopes to have recorded radio shows issued to back up each of the educational booklets as they come out. The recordings will be available for the State directors for whatever use they wish to make of them. You can also make use of films that will be obtainable through your office and our office to anyone who requests them.

#### CIVIL DEFENSE COMMUNICATIONS

(By Robert R. Burton)

In the time allotted to me to present the subject of civil defense communications to you, I intend to touch on three points. First, I would like to bring to your attention the importance of communications. Next, I would like to present a brief survey of the facilities we have in this country for civil defense communications use. Finally, I would like to offer some suggestions on making use of the communications facilities we have, both on the national level, and on the State or local level.

The summer before last I was designated by the State Department to head the United States delegation at two radio conferences held in Europe. These conferences dealt with the allocation of radio frequencies to the countries in Europe, including the American zone in Germany. The first conference was held in Brussels, and while there I took the opportunity to visit the old battlefield of Waterloo which is just a few miles outside of Brussels. On the battlefield there is now a museum and a motion picture house which shows a movie of the modern conception of how the battle was fought.

As you may recall, Napoleon had two marshals on whom he relied to command portions of the troops. Marshal Ney's troops were the ones that fought in the Battle of Waterloo. Marshal Grouchy had been sent the day previously by Napoleon to intercept the Prussian General Blücher who was attempting to join his troops with those of Wellington's.

On June 18, 1815, the famous battle started. Around noon Napoleon saw a dark cloud of dust, stirred up by horses and men, approaching across the plain toward his flank. On investigation it became apparent that Blücher had evaded Marshal Grouchy and was hastening to join the attack on Napoleon. Napoleon immediately wrote a letter to Marshal Grouchy (who, incidentally, was within hearing distance of the cannonading at Waterloo, but who had disregarded the advice of his generals to return to Waterloo because Napoleon had given him orders to find Blücher and stop him).

When Grouchy finally received Napoleon's letter, ordering him to return to Waterloo, it was 4 p. m., and too late for Grouchy to do anything to affect the

decision at Waterloo. In Napoleon's memoirs, later written while he was a prisoner on St. Helena, he attributed the loss of the battle of Waterloo to Grouchy's absence on that fateful day. What might have been the course of history if Napoleon and Grouchy had been provided with walkie-talkie sets?

The Battle of Waterloo is a famous case illustrating the value of communications in warfare. However, we do not need to go abroad to find such examples. On that same fateful year of 1815—on January 8, to be exact—the British attacked New Orleans, and after a furious battle in which they lost 2,000 men, they were driven off by the city's defenders under Andrew Jackson.

The ironical part about that battle was that neither the British nor the Americans who fought in it were aware that a treaty of peace had already been signed between the two nations at Ghent—some 15 days earlier. Due to lack of communications, thousands of widows, orphans, and heartbroken mothers were needlessly created.

The same possibility of needless tragedy descending upon our cities is with us today. In event of war, it is a foregone conclusion that our cities will be bombed. The degree of tragedy—the loss of life, and the destruction of property—will depend to a certain degree on the efficiency of the communications in the cities.

Before Hitler rose to power I spent 3 years in Germany. Four years ago the State Department sent me to a conference in Moscow. While waiting for the Russian plane to pick us up in Berlin I chanced to run into one of my acquaintances of 20 years before. She had been bombed out of her home three times, and had been in the last block of houses to capitulate to the Russians when Berlin surrendered. She told me there was nothing—absolutely nothing—that could equal the sheer terror caused by mass air raids. Every Berliner knew of friends and acquaintances who had been trapped and burned to death. It seemed that no matter what type of bombs were utilized—incendiary or demolition—fire always resulted, and always caused the bulk of the damage.

The United States is most fortunate in the possession of communications facilities. In this country we have approximately 42,000,000 telephones, which is more than all the rest of the world combined. In fact, about 60 percent of all the world's telephones are to be found in this country.

In radio the picture is approximately the same. For instance, we have three times as many broadcasting stations as all of Europe combined. We have some 80,000 radio amateurs in this country, who possess short-wave transmitting and receiving equipment. We have twice as many licensed amateurs as all the rest of the world combined.

The same situation probably exists, although to a lesser degree, in the radio equipment used by fire departments, police departments, and by waterworks and utilities departments.

Commercial and private aircraft, taxicab companies, doctors, and even farmers seem to be getting more radio-minded day by day.

Now we come to the third part and the conclusion of my talk. What are we going to do about these facilities? We have a great need for the facilities we have, which are many, but we may need more. What is our next step?

I can tell you in one, two, three, order. I won't attempt right now to tell you about the intricacies of radio, since you are not communications people, and in line with what we have just heard we don't want to use big words that are not understandable to everybody and anybody.

Incidentally, I come from the West and have lived in many of the States that are represented here today. I can recall some 15 years ago when I was an engineer in a broadcasting station. At that time it was a common habit for the local townspeople to come out to the radio transmitter and ask to be shown through. As a matter of courtesy and as a matter of advertising, we were glad to show them through. We then hastened through a spiel on the technicalities of the mechanism and then asked if there were any questions. We usually got this one, "Yes, tell us how it works."

Well, I don't want to do that today. First of all, when you get back to your States get a communications man to be on your State staff. Next, try to get a communications man on the civil defense staff of every target city in your State. Third, if you have questions on how to get started inform your communications people to write in to the Washington office and we will send you written material telling you how to get started. If you want a visit we will do our best to accommodate you.

There are three problems with which we are concerned here at the national office right now. You have named all three of them, although they are not broken down exactly that way. The first one deals with broadcasting. Will it be permitted to remain on the air during an air raid, and how long, if permitted.

Well, broadcasting offers a wonderful medium for disseminating information to people. They take special comfort from a calm voice telling them what to do and how to do it and when to do it. Then, broadcasting has some very grave disadvantages. One of them being that every broadcasting station in the world is world known. It has given its exact location in degrees, minutes, and seconds, latitude and longitude to the world. You see, there is an International Telecommunications Union with headquarters in Switzerland and they publish a famous list called the Bern list, which gives priorities on frequency usage to the various nations. In order to give priorities they must be furnished the location and the date operations are started.

So, with that information in enemy hands and knowing the facility of using radio frequencies for homing devices, we have a very bad combination. People can slide in on that beam just as if it were an aircraft beam guiding them in and they know the exact location of where the beam is going to stop, because they know in advance the exact location of it. We are studying right now just how far we might go in utilizing broadcasting stations.

Now, the third point is the use of amateurs. The amateurs have a series of bands going through the high-frequency spectrum. All have different carrying power. Some will carry only across the city. On a lower frequency some will carry around to China. We have already had some preliminary discussion with the military as to what amateur frequencies will be kept available for amateur civil defense purposes. A committee has been set up and I anticipate that soon we will get in operation.

#### GENERAL DISCUSSION—CIVIL DEFENSE COMMUNICATIONS

In response to a question from Mr. McIntyre, Mr. Burton said that no plans have been made to designate any single station or network in a region as a clear-channel station for the exclusive use of the Government or for broadcasting official information. Mr. Burton also stated that efforts would be made to utilize local ham organizations in civil defense.

Mr. Dreyfuss said they were having inquiries from the local defense councils that have ham operators in a network for local use as to what wave length they should travel on. In reply Colonel Beers states that they should use the facilities they now have and the wave length they are authorized to use. Later there may be a change in the authorized wave length assigned to them. Mr. Burton added that we are going to work out a sharing arrangement so that civil defense can use parts of all the other amateur bands, which number some 10 or 12. That has not been done as yet. A committee has been set up to do that.

Colonel McIntosh asked if it was planned to provide a communications frequency for civil defense per se, as distinct from any channels that the ham operators, fire, police, or other agencies may be using. Further, will such a channel be a Federal one or will we get such a channel for use within the State itself? Mr. Burton answered that he knew the frequency referred to. It is really more than a frequency, he said. It is a band of frequencies and is 50 kilocycles wide. It has been set up by the Federal Communications Commission as a disaster band. It was set up before civil defense became so hot and they didn't at that time intend it to be used exclusively for civil defense nor do they yet.

I talked to the chief of the Federal Communications yesterday and he said he would be very happy for us to work in it, but he thought that band should continue even after the civil defense agency may be a thing of the past. I agree with him on that. We still have to work out with the FCC the rules that will apply to that band. The FCC has worked up a set of tentative rules and they have come to us for comment. We sent them our tentative comments 2 weeks ago to this effect: They have a 50 kilocycles wide band. The first half is divided into channels 1 kilocycle wide, which means no voice communications can be used on those channels. Only Morse code can be transmitted over such narrow channels. Furthermore, to set up such a stringent frequency tolerance would mean that no amateur equipment could work on it. It would take commercial equipment and a very high type commercial equipment at that.

So, our tentative comment on that was that we thought we might review the separation of bands, the band widths and the tolerances. That is something we will have to send you further word on.

The FCC, Mr. Burton said, will license the people in your State and we will try to get something established whereby civil defense will know of all licenses that are issued. It will be something like the WERS of the last war where civil defense knew what was going on, but really FCC licensed the people in the States. It is definitely planned to give defense officials a channel to operate on.

## SHELTER

(By Leslie Kullenberg)

The Civil Defense Office has been studying the question of shelters for a considerable period of time. We have looked into the shelter experiences of all the foreign countries, particularly Great Britain. We have arrived at this general conclusion. We feel that major emphasis on the provision of shelters to the public should be concentrated in the designated critical target areas for a very practical reason. Any attempt to provide protective shelter to all of the population of the United States would cost such a terrific sum of money that it would break our economy. We would pull out of our economy materials which would be required in connection with a great many things—concrete, steel, air-conditioning equipment, communications equipment, pipe, and all the other things that go into any kind of a shelter.

Secondly, we recognize that even in the critical target areas there can be no absolute protection provided by a shelter. That simply means we must take a calculated risk. If we attempted to provide 100 percent shelter protection for all of the people in all of the critical target areas, the massive construction required in connection with the development of these shelters would be such that it would be prohibitive from an economic standpoint. Since, as someone mentioned this afternoon, we don't know precisely what point in a target area would be used as an aiming point and therefore what might be ground zero point, we would have to provide very heavy shelters over such a wide area that a great deal of money would be wasted. The very heavy shelters would be worth-while in providing protection if they happened to be under or near the ground zero point. For those that were outside, obviously the extra heavy construction provided would be wasted.

Now, that simply means that about all we can expect in the critical target areas is that we can provide minimum protection to the greatest number of people and thereby reduce the casualties as much as we can.

As I stated before, we have been studying this problem for a considerable period of time. We have enlisted the help of the Corps of Engineers of the United States Army to make a very thorough study of the whole subject of both the individual family type shelters and the communal type shelters. They are the group in the Government who have been studying this problem of protective shelter for the longest period of time. We expect to produce in the near future a shelter manual. This manual will contain a series of drawings on variations of two or three standard types of shelters. The dimensions will be those which will give the maximum of protection from an atom bomb exploding at a given distance from the shelter.

The Protective Construction Manual is in the process of completion. It discusses the type of protective construction which will be necessary in certain parts of the city. That is, we assume there is a certain place within the core of a city that would be a logical aiming point and that any new construction within a rather broadly defined area, in order to withstand an atomic bomb attack, would have to be of rather heavy construction. The construction standards will be thoroughly discussed in the manual. Since the forces dissipate themselves the farther out you get from ground zero, it simply means that less massive type construction is necessary out in the more distant zones. Naturally, these zones are going to have to be rather broad because we have to take into consideration first the bomb aiming errors and secondly the errors that might be caused by evasive action that might be taken by the enemy aircraft because of our own fighter aircraft. Under these conditions planting a bomb precisely where they want it might not be possible.

In attempting to define some of the problems connected with how many shelters should be provided, where they should be provided, and how they should be provided, we run into a great many problems. First, what degree of protection should be provided? Then, what use can be made of existing buildings? How accessible should the shelters be to the people who are seeking the shelter? Also what normal peacetime use could be made of these shelters, because there is an economic problem connected with it. Lastly is the problem of the direction from which the explosive forces will come. In relationship to a specific shelter it makes a great deal of difference whether the entrance to the shelter is faced toward the direction from which you could normally expect the explosion to come or away from it and the type of doors makes a great deal of difference.

There is also the question of improvising shelters. It was found in England during the war that a great many personal shelters were built by excavating an

area in the back yard or on the side of a hill, putting heavy timbers over the top of it and putting an earth fill over the top of that. That type of improvised shelter has some advantages in that the earth fill over the top, particularly in home shelters, will provide protection against the radiation which normally occurs in the explosion of an atomic bomb.

Now, until the Corps of Engineers is able to provide us in the very near future with the first of a series of draft manuals on protective shelters we are in no position to provide you with specific information as to how thick the walls of a shelter should be, how thick the roof should be or information about the problems of orientation of the shelter in relation to probable ground zero points.

There is this hopeful aspect to the problem, however. During recent months there has been a conversion of the design data based on static design to dynamic design. By that I mean that the time interval of the shock forces involved in ordinary high explosives are of rather long duration in comparison to the shock forces that will come from an atomic explosion. Therefore, since the duration of the forces is so much smaller, we find that in considering the effects of the shock forces from atomic explosions on structures that where we originally considered that two feet of reinforced concrete were necessary for protection reasonably close to a ground zero point, we may find that that requirement could very possibly be considerably reduced. That in turn means, of course, that the cost of construction of shelters can be reduced somewhat.

There are a lot of ways that shelters can be provided. We have a great many reinforced concrete and steel-frame buildings in most of our major cities. The lower and central portions of those building should be examined to see what can be done to strengthen them, particularly up to the first floor in order to withstand the debris load which will pile up on it if the building should be hit and collapse on top of the first floor area. We find that that is one of the most important things to take into consideration—the lower level of the building should be able to withstand the debris load.

We believe that there is great usefulness in existing subway structures, particularly if entrances or exits can be cut into buildings along the routes where people can get in and out. We also believe there are certain types of home structures which lend themselves to better protection than others. We are at present not in position to give the engineering people the specific answers they need. We do hope to be able to have those ready for you in the not too distant future.

There is a psychological problem in connection with the provision of shelters. The people in a community must be organized and trained and instructed as to where the nearest public shelter is. As we proceed civil defense planning and organization we should have regular shelter drills. Otherwise, you will find that the panic situation which has been described here by several people will take effect and a great many people will be killed who otherwise would not have been if they had received the proper instruction and training as to where the nearest shelter was and the quickest way to get there.

There is finally the question of the responsibility for the provision of shelters. As far as we can see at the present time the Federal Government will be responsible for the necessary research and development in order to come up with the design criteria and to provide you with the information on the effects of various types of weapons on the types of shelters that will be built. We think that the provision of shelters is a joint responsibility between the Federal Government and the State and local governments. The State and local governments will be asked to survey their needs for protective shelters, particularly in the designated critical target areas. They will be asked to execute any construction program on the assumption that the engineering services in the State and local communities will fully participate in such a program and that the development of educational material to counteract the possible panic effects of enemy attack will be a Federal responsibility.

Now, undoubtedly you have questions in your mind as to just what the ratio of the financing of shelters will be and how it will be arrived at—how much the Federal Government will pay, how much the State Governments will be expected to provide and how much the local governments and the private citizens will be asked to provide. Quite frankly we will not have the answer until we have a better idea of what protective shelters will look like, how much they will cost and how many of them will be needed. We will present that information to the Congress and from that point it is considered Congress will decide the extent to which the Federal Government will participate in a shelter protection program.

## GENERAL DISCUSSION—SHELTER PROGRAM

In answer to a question from Mr. Pryde, Mr. Kullenberg said that the United States Corps of Engineers was being called on for advice and assistance in developing standard designs and criteria for a construction program. It would be anticipated that the field offices of the Corps of Engineers would also cooperate on such a program.

Governor Garvey asked if there was any construction contemplated and if so, when and where could it be done? Mr. Kullenberg said that some construction is under way. There is the underground parking construction project in Boston. The people of Boston got together and decided that they wanted a dual purpose structure. They had a problem of parking and decided they wanted an underground parking lot. They applied to the Reconstruction Finance Corporation for a loan, since this was to be a self-liquidating project. The Reconstruction Finance Corporation asked for our opinion. We told them we thought it was a sound idea and that we would certainly give it all possible approval if they would make it a dual purpose structure for parking as well as an underground shelter. They made certain modifications in their design, which were based on the best information we have available at the moment. It will provide an excellent shelter for somewhere in the neighborhood of 40,000 people. Incidentally, on the basis of the changes they made at our suggestion the Reconstruction Finance Corporation granted a loan and we understand they are going ahead with their plans to start construction. They also included provision for a civil defense control center as well as an emergency first-aid room in the structure.

Now, we believe that is one approach to the problem of providing communal shelters and that possibility should certainly be explored in all of the cities which have the space to see if that sort of thing can be done. It takes a financial burden off the taxpayers since it serves a dual purpose. We certainly would encourage that type of thing whenever it comes up for consideration.

Shelters will be used for comparatively short periods of time and for short periods you can crowd a great many people closer together than you would ordinarily consider doing. You certainly don't need 150 square feet per person for a comparatively short period of time. We are not anticipating that people will live in these shelters night after night. If we did that we would be completely disregarding all the work that has been done by the Department of Defense in building up a warning system. The whole problem of shelter, of course, is tied up with how much lead time you have to get people into these shelters. As soon as the raid is over the whole civil defense organization goes into operation and in those areas where people are no longer in danger you will obviously get them out because they will be part of your civil defense organization and you are going to need them. So, you can crowd a lot of people into a pretty small space for a short period of time and get away with it.

In connection with the discussion of shelter, Mr. Wilkinson made the following statement: "It is quite obvious that the whole shelter program is largely contingent upon the ultimate decision on the type and timing of air raid warnings in a city such as New York. It is quite impossible to anticipate the need for adequate shelter on a scale which would house the transients and day-time population—all of them trying to get cover after the air raid warning. Consequently, it seems to me that before there is any policy decision on the very costly construction of large capacity new shelters, we are going to have to think out the circumstances under which they will be used; how effective they will be; whether people are going to live in them for long periods of time; or do we anticipate that people get under cover when a bomb goes off. Those are all variables which have made us feel that for the moment we are only justified in going ahead with the modification of existing structures so that they will afford maximum protection at minimum expense."

## PLANT PROTECTION

(By Carl Gabel)

Gentlemen, the objective of the plant protection program of civil defense is to give the maximum of guidance in plant protection for the protection of personnel and facilities that are engaged in vital war production. We are trying to help them to protect themselves from enemy action, whether it be a bombing raid from the air or sea or whether it be from sabotage, espionage, or subversiveness. Anything that would curtail vital production or endanger personnel by an enemy action, we feel is our concern.

Our program is divided into two parts. The first part is composed of regular civil defense measures for those plants which are located in industrial areas which are likely to be attacked. The second part is a preventive protection program for those critical plants that are so necessary to all-out mobilization.

Earlier, someone brought up the question about the criticality of plants. The establishment of the criticality of a plant is to be done by a board composed of representatives of various Federal agencies. We anticipate this group acting as an evaluation board which would be under a Government agency. One of its functions will be to evaluate all plants and assign criticality ratings for plant protection purposes.

Part 1 of our plan is similar to the civil defense measures that were installed in industrial plants during the last war. That is, an emergency plan on a voluntary basis. By that I mean that it should be manned by adequately trained volunteers under the direction of a capable coordinator. This plan should be one that can be quickly implemented at any time during an emergency.

Here we have a chart—and you gentlemen will notice that it is similar to the one that was issued during the last war, with the fire services, police services, medical services, and maintenance services. Now, we do not wish to say that this is an ideal chart for all plants. In small plants you may wish to contract and combine some of these services. In large plants which spread over a great area it will be necessary that the organization and services be expanded.

There has been some discussion about whether or not we should have these services organized for duty when plants are not in operation. We feel that these services should be manned on a 24-hour basis, as in many instances facilities located in small communities must rely upon their own personnel for aid because the local assistance will be inadequate. Should this personnel not be needed by their own plant they could be of assistance to the local civil defense organization. It is also necessary that the civil defense organization in a plant coordinate their program with the local organization.

On the self-help principle of civil defense we hope that plants will be in a position that will enable them to handle all emergencies in their own plants, whenever these emergencies may occur, but in those extreme emergencies when they do not have sufficient help in the plant it will be necessary to rely on the local civil defense. It also may mean in your coordination effort that the plants will be asked to help the local civil defense organizations in adjacent areas. It also may mean that these plants will be in a position to help other plants in the vicinity. It should be coordination for mutual aid in the entire area and among the plants in the district.

The preventive protection, of course, is a protection that we hope to put into effect before an attack. This is the protection against sabotage, espionage, or subversiveness. We use the usual plant protection measures to combat these particular actions of an enemy—guard forces, fire fighting, fire prevention, control of visitors, control of vehicles, and last but not least, screening of employees.

I mention the screening of employees because just because a man is a good mechanic or a good operator doesn't necessarily mean that he is the most desirable type of man you would want in that particular plant. We think that employers should make every effort to screen employees and try to get the best they can, not only from the standpoint of skill, but also from the standpoint of loyalty.

You will notice that we passed out a few booklets. One is entitled, "Principles of Plant Protection," which has been issued by the Department of Defense and the other booklet on plant protection which was developed by a plant protection group for the Chicago exercise. They are similar and we believe that all plant protection methods are about the same basically with some variations. Our program will be similar to the one by the Department of Defense and at this particular stage of development the effort is toward standardization of plant protection principles of all Government agencies, which should avoid confusion.

We may find from this Evaluation Board that the Department of Defense has so many plants assigned to it for supervision in plant protection. We may find that the Department of Commerce or the Department of the Interior may have some plants or facilities assigned to it for protection purposes. The Atomic Energy Commission may also have additional plants assigned to it for protection and we feel that Civil Defense will be assigned some critical plants for protection. Therefore, we are trying to design our plant protection principles on a standardized basis so that if a plant that has been assigned to Civil Defense for guidance in plant protection is shifted over to the Department of Defense for plant protection purposes, there will be no confusion and that it will be perhaps a matter of adding the extra requirements that are being asked for by the Department of Defense.

There is one thing I would like to ask you, gentlemen: If you please, when you go back to your States ask the industrialists and the people who are managing those facilities to realize the importance of a good plant protection program. We are not going to get by in any type of all-out mobilization if we don't have industry solidly behind us. The production that is going to come from these critical plants is what we will need. If you will please impress upon them the importance of coordinating with your office I feel it will be of great assistance should an emergency occur.

#### GENERAL DISCUSSION—PLANT PROTECTION

In response to the inquiry of Mr. Woods whether auxiliary police would be reestablished for plant protection, Mr. Gabel, Mr. Wadsworth, and Colonel Beers indicated that the Civil Defense Office is not anticipating the establishment of auxiliary police for guarding facilities which may be assigned to Civil Defense. Whether auxiliary military police will be established at plants assigned to the Department of Defense will be determined by that Department.

Mr. Woods also asked whether the Civil Defense Office advocated fingerprinting all employees of plants at this time, adding that certain plants were fingerprinting their employees for the morale effect. Mr. Gabel recognized the psychological value of fingerprinting employees but stated that full use of the fingerprints could not be made at this time because the FBI was unable to process fingerprints until funds were available for this activity.

Mr. Wallace of Hawaii and Mr. Woods of Colorado stated that fingerprints of their civil defense personnel were being processed by their own police facilities. Mr. Gabel and Mr. Wadsworth felt this would be a helpful procedure.

General Hufft commented that the FBI which formerly provided a loyalty check of employees of installations had stated that the Munitions Board would take over this responsibility. They are now cleared by the State police, but this does not provide Nation-wide coverage.

Mr. Gabel, in response to several questions, said that an evaluating board determines criticality of plants and assigns critical plants to various agencies of the Government, the responsibility of guidance, and in some instances the supervision of plant protection. Upon assignment of plants to Civil Defense for guidance in protection, the Civil Defense Office will notify each of the States which plants in the State are considered critical and have been placed under Civil Defense.

In addition, any plant assigned to the Department of Defense will get its guidance and supervision from one of the three departments in the Department of Defense—Army, Navy, or Air Force. Furthermore, some facilities will have such a high critical rating that the Department of Defense will take them under their supervision.

In addition, we are working on an agreement now whereby the agency having the interest in the plant for protection purposes, such as the Department of Defense, will implement civil defense in that plant; that calls for cooperation and coordination with local civil defense units for exchange of aid.

Colonel Hayes asked: "If a steel plant or a chemical plant requests information to supplement their internal security over and above what their plant protection supervisors have, where do we secure that information?" Mr. Gabel said: "That will come from the agency that is charged with the responsibility for guiding or supervising the particular facility. When Civil Defense is notified of plants under their jurisdiction for guidance and protective supervision we will immediately notify the State civil defense directors so they can go to the management."

We intend to set these plants up as autonomous civil defense units which will call upon local civil defense agencies only in case of need. In case of a disaster which a plant can't handle with its own internal fire brigade, the plant will call on the local civil defense organization. It is going to be a coordination job between the local civil defense people, and the plant and other plants. They will have to determine who can and who cannot come on to the premises by coordinating clearance between plants and the local civil defense agency.

Mr. Leonard pointed out that this was a reason why we should have NSRB screening of civil defense people. He said if we screen in civil defense through fingerprinting or some similar method, we won't have subversives going up to the plant gates, but the Federal Government hasn't spoken on that. I would like to recommend that. It is very important for loyalty and security reasons and also for personal identification reasons. I recommend that further consideration for the fingerprinting of all volunteers for civil defense be continued.

Mr. Wadsworth in reply said that a great many organizations have recommended that and we welcome it. He emphasized what had been pointed out

earlier that the FBI cannot undertake the processing of fingerprints with its present personnel and appropriations. Also, the FBI is unable to handle loyalty clearances of State and local civil defense personnel because of statutes and directives which do not allow release of data in the FBI subversive file. We suggested for a loyalty oath and suggested State and local legislation for the same sort of thing. Beyond that we can't go. The local law enforcement agencies have some facilities for screening and that is highly recommended.

### CIVIL DEFENSE TRAINING

(By John W. Sundstrom)

The purpose of this report is to indicate how the Federal Civil Defense Agency is working to provide guidance and assistance to State and local authorities in developing their civil defense training programs.

This assistance takes several forms at this time. You have learned already of the plans for early production of a number of training manuals. These will contain suggestions for planning, organizing, staffing, training, and operating your civil defense organizations. The manuals are important guides since they provide standardized training in civil defense for the entire country and provide a method for achieving uniformity in planning, establishing, and operating your civil defense programs. To emphasize the need for such uniformity here is unnecessary. In practical terms, however, the national civil defense plan outlines policy, while the proposed training manuals make that policy live. We plan, for example, to prepare and issue a considerable number of instructors' guides to assist those responsible for training, especially at the local level. Based on the content of the courses, these guides will break down the course into the appropriate number of lessons, will contain detailed outlines of these lectures, and will recommend audiovisual aids and examinations for use in the courses.

Another way in which the Federal Government has provided guidance and assistance in civil defense training was by conducting training courses for medical and radiological specialists. The purpose of this instruction was to prepare specialist trainers from States and Territories who would plan and develop medical and radiological defense courses at the State level and within the States. In the course entitled "Medical Aspects of Atomic Warfare," 157 medical specialists have completed 1-week courses. There were 78 specialists from 43 States and Territories who completed the 5-week course on radiological monitoring. Both courses were sponsored cooperatively by the Atomic Energy Commission and the National Security Resources Board.

Other courses soon to be conducted in the medical and health areas include the following:

- (1) Nursing aspects of atomic warfare.
- (2) Public health aspects of atomic warfare.
- (3) First aid.
- (4) Nurses aides.
- (5) Home nursing.

The recent publication entitled "United States Civil Defense" proposes several national civil defense schools for State and local directors of civil defense and their staffs. Since the budget authorized under any Executive order creating an operating civil defense agency can be expected to be small, we may be able to establish only the Federal civil defense staff college until such time as Congress appropriates funds for an expanded Federal Civil Defense Office.

We expect to establish the staff college first since it will satisfy the greatest and most urgent need. In this planning stage the immediate need is for assistance to top planners and administrators in civil defense.

The primary objectives of the civil defense staff college will be to furnish top civil defense planners and administrators with a means, place, and occasion for obtaining the latest available information on civil defense and civil defense techniques and a forum for discussion and solution of civil defense problems common to them all.

The staff college will provide an opportunity for studying and developing civil defense policies and practices. Those attending the courses will constitute a qualified group of experts in civil defense, prepared to discuss how civil defense policies and practices operate at the State and local levels.

Our present plans envisage two types of courses at the staff college: One of short duration for those who supervise top, full-time civil defense officials and a longer course, primarily of interest to the principal, full-time civil defense planners

and administrators and to their staffs. If funds are authorized, it is expected that the first of these courses will be under way in February 1951.

The Federal Government will allocate the student quotas among the States for attendance at the staff college; however, students will be selected cooperatively by the State and local civil defense authorities. There probably will be larger quotas for State authorities in the earlier courses. Obviously, civil defense representatives of critical target areas will have priority over those from non-critical areas.

The Civil Defense Office plans to propose the establishment of several Federal technical training centers. The primary purpose of these centers will be the training of those responsible for administering civil defense training programs at the State and local levels of government. These centers will provide a medium for standardizing technical and specialized civil defense training. Standardization is particularly important because of provisions in recent Federal civil defense publications for mutual aid and mobile support, not to mention the fact that a sizable segment of our population is fluid. Equally important is the size of the training job to be done in civil defense.

Those attending Federal technical training centers will be responsible for training others within the States, probably using existing State educational facilities. This training technique sometimes is referred to as the "multiplier principle" of training. In other words, this kind of civil defense training would consist primarily of providing instruction to civil defense trainers, who would, in turn, teach other trainers at the next lower level, and so on down to the person at the end of the line who has to do the job for which the training was intended.

There will be a standardized segment of instruction in courses at technical training centers. This segment or package of training will include the basic instruction necessary for a volunteer to do his special job as a member of a civil defense team. In order to carry out the multiplier principle and to standardize training, students at these centers will be asked to use this package of instruction at all training levels within States.

Our present thinking is that the following courses at the centers can best solve those requirements which cannot be met readily with existing facilities and experience in the States:

- (1) An atomic, biological, and chemical course for training instructors in radiological defense.

- (2) A general course in civil defense, to provide basic training for all civil defense workers including such areas as basic first aid, improvised rescue, and organization and operation of civil defense.

- (3) A course in rescue training, such training to be given largely by demonstration and practice techniques in demolished and partially destroyed buildings. These buildings will be constructed as part of what we might call a rescue street.

We expect to find a need to conduct other courses at the technical training centers. For example, we believe that there will be a need for a course in plant protection.

Other ways in which we expect to provide you with guidance and assistance in civil defense training include development of audiovisual aids and other training materials. In addition, we plan to encourage the development of civil defense courses in schools and colleges. The Federal Civil Defense Training Group also is responsible for developing suggested policies and procedures for the procurement and use of civil defense workers. In this connection, we plan to furnish descriptions of and qualifications for typical civil defense positions, and guidance on organizing and operating a volunteer office.

These are but a few of our plans for assisting you in the development of your civil defense training programs. If we are to be most helpful in meeting your training needs, we recognize that we must provide means for determining what those needs are. Furthermore, we must follow up on our training to be sure that it is realistic and practical. We hope that you will encourage your civil defense training directors, among others, to communicate to us informally what they conceive their training needs to be and how best they can be met. Be assured that your suggestions and theirs will be welcome.

Remember that we can serve you best in civil defense training only when all of us are working together.

#### DISCUSSION—TRAINING, NATIONAL STAFF COLLEGE

In discussing training further, Mr. Sundstrom said that the largest job of training will be done by the States. "The obvious question then, is what role

does the Federal Government serve? It is to provide guidance and assistance to you to best meet your particular training requirements. Therefore, the type of operating training that we might do would be an attempt to supplement your own training—that for which you are already well equipped to do. In that connection we recognize that one of the early needs in training at this stage is guidance and assistance to you who are planners, top planners, and administrators in civil defense.

"Therefore, because our budget will be limited, we have determined that if we are to set up any one type of national school as promised in the plan, that school should be a civil defense staff college. The purpose of this college would be to provide the latest information on civil defense, civil defense technicians and particularly to provide an opportunity for discussion of civil defense problems which you as top planners and administrators would have. We would expect that the staff college would provide us with an opportunity to discover how the plan, the policies, and the procedures that have been established are working out. You people could tell us and members of your staff could help us in that respect.

"Our concept at this time is that we should have two types of courses at the civil defense staff college: A shorter course, which would be for the purpose of covering the things which I mentioned as the purpose of the staff college; the longer course would be for the persons who are spending their full time on civil defense staffs at the State and local levels.

"Obviously, the Federal Government would have to determine pretty much what the quotas of students would be. I know there are considerations of which you are all familiar. There is the criticality of areas and there are certain other factors involved that I think are quite obvious. However, the actual selection of students to attend would be determined cooperatively, as we envisage it, by the State people and the local authorities in your States.

"Congress willing, we hope to set up several technical training centers. These centers are primarily to train your top people in certain specialist areas. Here we are interested in supplementing the kind of training you will require in your States. For the most part you will provide fire and police training. We will concern ourselves at the technical centers with providing training in areas which are peculiar to civil defense—rescue work and radiological defense. In all likelihood there will be a general basic course, which all civil defense workers should have, in such things as first aid, improvised rescue work, and on organization and operation of civil defense. I also remind you that we feel those are in the offing and will depend on the good will of Congress. Our target date for the staff college is February 1951."

In answer to a question as to whether anyone would be sent to the English staff colleges, Mr. Sundstrom said:

"Some personnel are there now, not as students, but rather as observers to pick up information on rescue work as it is done where they have partially demolished and completely demolished buildings. We have an architectural engineer getting that type of information for us. We have had personnel in England in the past. So, we are familiar with what they have been doing. To answer your question specifically, we do not plan to recommend that certain State representatives go to England to attend their courses. They have rather limited facilities both in their technical training centers and particularly in their staff colleges."

Mr. Hall inquired whether the names of the 79 graduates of the radiological monitoring course could be made available to the State civil defense directors. Mr. Wadsworth indicated that the list would be sent to all State directors.

Mr. Washburn indicated that they were starting some training programs now. "For several years we have had in-service training in the fire fields, but in these other categories do you recommend that we hold up further training until you have brought your schools along to a further degree of completion?" Mr. Sundstrom replied that the Civil Defense Office is attempting to supplement what the States are now equipped to do. In other words, I have not said anything about fire or police training because the States have the facilities for the most part and although the training will not be standardized you can be reasonably sure that it will fit into the pattern.

Our training is supplementary in the sense that we are trying to furnish those Federal courses that are peculiar to civil defense. For example, there is nothing quite comparable to rescue training right now. To be sure, we have mine rescue training, but there is no training in rescue quite comparable to that required under an atomic attack. You have some guidance in United States Civil Defense and as long as you are within the bounds outlined therein, you can be reasonably sure that your training will fit the general pattern with only slight adaptation necessary.

Mr. Starr asked: "Do I understand, then, that you do not prefer the training to proceed on radiological monitoring and the other phases of the medical side that

were offered in these colleges? I ask that question for this reason: In my State one of the institutions gave the monitoring course and we have 13 of those people who are ready to go out and teach what they have been taught. We also have seven doctors who attended at Salt Lake City and are ready to start if they get the signal. Should we wait or go ahead with training in our State by using the doctors who took the monitoring course?" Mr. Wadsworth referred this question to Dr. Robert H. Flinn, of the Health and Medical Resources Office of the National Security Resources Board. Dr. Flinn said: "I think Mr. Sundstrom hit the nail on the head when he pointed out the desirability of having a balanced training program across the board. In the civil defense plan it was pointed out that many of these special training courses, such as the one for radiological monitoring and the one on medical aspects of atomic warfare, might well await the forthcoming basic training manuals which will be out before very long. Also, in the matter of monitoring instructions there is a question of developing an economical instrument that will do high range counting under field conditions. In other words, we need better instruction for civil defense purposes.

"However, if any States are equipped to go ahead we would encourage it. New York State has done quite a bit of training for its doctors and public health people on this problem and within the last 2 weeks the District of Columbia has had a series of courses given by the medical society. The main thing is that we are not prepared at the moment to urge every State to go full speed ahead until the basic manuals and instructions are ready."

General Huff explained that he had arranged for a 1-week course in Louisiana in radiological monitoring later in October and inquired whether it was the recommendation of the Civil Defense Office that he proceed with the course. Dr. Flinn answered: "I would say that if you are all equipped and ready, go ahead with it."

In answer to a question from Admiral Browning about the atomic training of physicians, Dr. Flinn said that during the past few months 148 teachers from 38 States have been given courses in the medical aspects of atomic weapons. Since then, 78 teachers from 43 States have been trained at the Atomic Energy Commission laboratories. It is contemplated that these two groups will form the second echelon of teachers, who will in turn train a third echelon of instructors who will conduct courses throughout the States and local communities.

As to the question of suitable instruments for civil defense purposes, Dr. Flinn said the Civil Defense Office has been working with the Atomic Energy Commission, the Department of Defense, and the Bureau of Standards. In the near future we hope to have for the specialist, effective monitoring instruments for civil defense purposes.

In response to Mr. Pryde's question as to how the instruments might be bought, Dr. Flinn said. "That is one of the undecided questions as to how much the Federal Government, how much the States, and how much the localities will finance." Mr. Wadsworth explained further that we do have an indication in United States Civil Defense of what our planning has been in that direction. Certainly the long-range consideration that is handled by the State mobile monitoring people will be able to get a good deal of help in acquiring that equipment. But the small dosage devices that the individual defense worker uses while working in a contaminated area is of such type and price that the Federal Government probably will not enter into that procurement field.

Mr. D. P. Lee asked Dr. Flinn if the Federal Government has recommended any special type of radiological monitoring equipment. He said, "No, we are working on the development of instruments for high-range rugged counters that can be used under field conditions that will not be too expensive."

#### CIVIL DEFENSE REQUIREMENTS

(By William H. Gridley)

In your review of the United States civil defense plan, you have noted that the need for economy is frequently mentioned. This emphasis on economy is necessary since we are only one of the claimants for the overtaxed resources of the country in emergency.

Standardization is conducive to economy. It is therefore to be expected that we should standardize civil defense equipment and material specifications at the outset.

Our principal tool in this standardization will be the Standard Requirements Specifications Manual.

Part I of this manual will include standard requirements lists. These lists will set forth those items which are recommended as standard equipment for the respective civil defense services. They are determined by study of World War II, United States and foreign experience combined with review by representative advisory committees.

In part II the standard lists are explained in the form of brief descriptive specifications, complete enough to identify each item. In the upper right-hand corner will be given a standard Federal specification symbol. This reference to an accepted specification assures the necessary quality control in procurement, production, inspection, storage, and distribution which will follow after the initial stage—determination of requirements—has been completed.

Having determined what the recommended items are, we must next find out how many will be required. These requirements, together with those of the military and civilian economy in general, will be matched with resources at the national level to assure equitable allocation of available resources.

In determining requirements we are going to need the help of your planners throughout the country who know more about their local conditions than anyone else. As you probably know, this same principle of feeding requirement estimates up from the grass roots is used by the military in presenting their estimates to the National Security Resources Board. Fortunately, our problem is not as involved as that of the military, since fewer items and smaller quantities of equipment are involved. However, with 48 States, Territories, and several thousand communities to be considered, it is certain that uniformity of approach to the problem will have many benefits.

Briefly, the recommended approach to the problem by your planners is this:

First the critical classifications of the particular areas, as well as the mutual aid and mobile support reserve obligations, will be determined as explained by preceding speakers.

Next the load imposed by the disaster will be estimated by analysis of the local emergency and the mutual aid and mobile support reserve obligations involved.

Knowing the loads and the part of this load one team can handle, the number of teams needed for the respective services can be estimated. Supplementing the teams with the necessary operational and administrative personnel will complete the organization. The recommended equipment for each team is known, so what is required for the complete organization is readily determined.

Standard forms for reporting requirements estimates have been designed. The forms have been designed to facilitate reporting, with carbon copies provided for retention at local, State, and regional level. Summary forms are included for local and State coordination of requirements. We believe these forms will be helpful not only to the Federal office but also to the States and cities as a comprehensive record of civil defense requirements. Instructions for the use of the forms will be embodied in the manual Procedure for Estimating Standard Requirements.

You will note that no reference has been made as to who will furnish the equipment and material required. We feel we must first take an objective view of our whole requirements picture as above outlined.

It might be well to point out that present inventories will not be reported on the forms. The estimates first requested will include only items needed to adequately equip the civil defense forces in preparation for possible attack. This will be a measure of the immediate additional load which will be imposed upon resources by civil defense. Rehabilitation and replacement estimates will come later and can be made by the same reporting system.

In submitting these standard lists and specifications to the States, Territories, and urban localities, we will solicit suggestions for improvement of the standards. Thus the standards will be strengthened by their use in the requirements estimates and should be in finished form for the procurement, production, and distribution phases.

The benefits to be reaped from the suggested standardization include: Economy of production, since tooling up will be simplified; lower unit costs which attend mass production; promotion of uniformity of training since equipment is standardized; simplification and systemizing of records; reduction of misunderstanding by adherence to one standard; interchangeability—which is of vital importance in civil defense, where mutual-aid pacts will require shifting manpower and material from one area to another.

A similar system is being set up to estimate the manpower requirements of civil defense. By means of standard organization lists, job descriptions and reporting forms, we will promote efficiency and understanding in the equally important study of the effect of civil defense on manpower resources.

## FINANCING CIVIL DEFENSE

(By James J. Wadsworth)

The question of money to finance our needs in civil defense is now and will continue to be high on our list of considerations. This applies to you and your municipalities as well as to us.

You and we must present our needs for funds to our legislative bodies and, when funds are received, must use those funds with the utmost discretion. Every dollar of the taxpayers' money must go as far as possible. And we must use every conceivable means to conserve to the limit every resource we now possess, both tangible and intangible.

Throughout United States Civil Defense are found indications of Federal plans for financial aid in various areas of civil defense. Since these references are scattered throughout various chapters, it is possible that readers have not fully recognized the intent of the Civil Defense Office, the Chairman of the NSRB, and the President in approving the plan as issued. These various items are, therefore, gathered in one statement in order that you may have a clear idea of what the Federal civil defense agency plans to recommend to the Congress in this regard.

The following are the areas in which we believe that it is proper for the Federal Government to participate in whole or in part:

1. In the field of research there are several references in "United States Civil Defense which indicate 100 percent Federal underwriting for projects, including construction standards and criteria for public shelters, code and performance standards for air-raid-warning signals, sirens, etc., the effect of atomic and other weapons on typical structures in American cities, performance and capability standards for radiological monitoring instruments; type and quantity standards for all sorts of essential civil defense equipment, etc.

2. Training costs, which would be absorbed in whole by the Federal Government, are: The establishment and operation of a national staff college, the establishment and operation of several national technical schools, the production and distribution of training manuals, the procurement and distribution of certain training aids, materials, and equipment.

3. In the field of communications, the Federal Government through the Continental Air Command of the Air Force is installing and operating the primary phases of air-raid warning, part of which will be taken over by civil defense and will be operated from the Federal level down to the State or state-area level. All communication equipment in which the Federal Government is involved, i. e., national to regional office; regional to State or State-area office, will be procured by the Federal Government.

4. Procurement and other costs for the health program to which the Federal Government should assume total responsibility are—

- (a) Stockpiles on a regional basis of medical and surgical supplies, strategically placed to service two or more critical target areas.

- (b) Financial aid to the American Red Cross for use in all aspects of the blood program; also storage and processing of blood and blood derivatives at selected centers.

- (c) Preparation and conduct of courses in radiological, bacteriological, and chemical warfare for health technicians and other specialists; procurement of high-range counters for special radiological surveys on a long-range basis, to be performed by mobile teams probably at State level; special-type laboratory equipment to be used on a mobile basis for the various phases of the special weapons defense, particularly bacteriological and chemical.

5. In the field of shelter protection, in addition to the research already specified in section 1 above, the plan states that the Federal Government will finance "a portion of the construction cost of approved community and heavy-type shelter." The exact percentage of this responsibility cannot be determined until the total import of a national shelter program has been estimated in more careful terms than is now possible. It is obvious, for example, that if we recommend to the Congress that the Federal Civil Defense Administration assume 50 percent of the cost of such a program, the first question would be "50 percent of what?"

All of the above indications of commitments on the part of the Federal Government are to be found in one form or another as stated above in the United States Civil Defense. In addition to these statements, however, there is another field which appears only by implication or by omission from the major plan. This is the field where the Federal planning agency does not feel that Federal appropriations should be used in certain areas of civil defense. These are, speaking very roughly, as follows:

1. Federal appropriations will not be used for assistance to States or localities for the payment of salaries of civil defense workers at those levels of Government.
2. Federal appropriations are not planned for the procurement of personal equipment of civil defense workers.
3. Federal appropriations are not planned for the procurement of communications equipment to be used below the point at which the Federal Government is involved. This means that intracommunity, intercommunity, and interstate communications equipment, as a general rule, will not be furnished by the Federal Government. Comparatively simple dosage meters for defense workers entering contaminated areas are not planned for Federal assistance. This is in contrast to the high range counter equipment mentioned in 4 (c) above.
4. The Federal Government is not planning to furnish large amounts of equipment which is normally owned and operated at State and local levels during peacetime. This means, for instance, that standard types of fire-fighting equipment will not be furnished in great quantities. Here we remind the States and cities of the mutual aid and mobile support plans, in which we claim that it is far more economical and realistic to utilize 20 fire companies from 20 surrounding communities than to procure the equipment for 20 additional fire companies for exclusive use of the target city.

#### GENERAL DISCUSSION—ALL AREAS OF CIVIL DEFENSE

Before concluding each meeting, Mr. Wadsworth invited further questions on any phase of civil defense.

Governor Garvey and Mr. Wilson of Arizona stated that many States, including their own, were vitally concerned with the problem of reception of evacuees from other States. Mr. Wadsworth replied that the States were urged in United States Civil Defense to make plans for evacuation of population from critical areas, including surveys of housing and facilities in reception areas. Some of the States have already made evacuation plans to be financed by themselves. We do not know whether the Federal Government will assist in financing this activity. That is one of the things Congress is going to have to help us determine. What level of civil defense will we have? You can put on a certain program for X dollars. You can put on a much bigger program for triple X dollars, but we don't yet know how far we can go. At this point the States should be working out mutual plans for sending and receiving evacuees.

If an adjoining State is going to send you X thousand evacuees, perhaps some reciprocal or reimbursement arrangement could be made. If you can't do that and Congress decides it is a proper use of Federal funds, perhaps the Civil Defense Office can step in and put up aid stations in your States.

Governor Garvey stated that Arizona has made inventories of food, shelter, petroleum, and water supply and has held meetings with California and Nevada, with representation from the Sixth Army Corps, to plan orderly evacuation. But suppose a bomb drops tomorrow, what can be done? It would be difficult to prevent panic evacuation. He felt it was a bigger job than the States could handle. Colonel Beers emphasized that it was the basic responsibility of the States to care for their evacuated citizens. Also, citizens should be shown by public education that their greatest protection lies in orderly evacuation. Mr. Wadsworth indicated that if a catastrophe occurs before Federal and State plans are ready, it might be necessary as a last resort for the military to assist and the Red Cross could be counted on. Mr. Hugh Gallagher also pointed out that funds would be available immediately to feed and clothe evacuees from the \$5,000,000 "Disaster relief" appropriation which the President had signed the preceding Saturday.

Governor Garvey stated that he had been requested to ask a question in connection with fire protection. "Some of the municipalities out in our section of the country have some old equipment they have discarded. They want to know if they should try to put that equipment into commission and, if so, who would help them to pay for it. Mr. Wadsworth replied: "That is one of the questions being asked all over the country. As it can be done through local resources, we say you should bring your fire department up to full peacetime strength as nearly as possible. At present, the Federal Government has no plans for assisting municipalities in repairing old fire equipment for service. That, too, is the kind of thing that we will have to take up with Congress."

Mr. Washburn asked: "Does the Federal Government, either NSRB or the military, recommend that public alarms be installed ready for use at this time?" Mr. Wadsworth said: "We recommend that wherever there are existing instru-

ments of public alarm, no matter of what type, that they be utilized on a code to be developed very shortly. The ordinary types of electronically or motor-operated sirens are not adapted to codes. The Bureau of Standards is now developing codes and also a type of siren that can be used on codes, such as factory whistles or other types of noise-making equipment. Meantime, if you use your own code, it should be standardized within the State.

In response to a question from Mr. Hall regarding mobile support units, Mr. Wadsworth stated that some manuals were to be issued in this field. At the request of Mr. Wadsworth, Colonel Gault explained further that the manuals will contain definite suggestions as to make-up of teams and their duties and will also deal with sustaining properties—how much food, fuel, and other supplies should be carried.

Mr. Hall also asked: "In your plan is thought being given to having the Federal Government supply some of the equipment for these mobile units? Jeeps, fire-fighting equipment or anything of that sort?" Mr. Wadsworth said: "Generally speaking, the equipment used by mobile units will be equipment ordinarily used in your own home communities. The Federal Government should help out financially with special types of equipment not normally used in peacetime. We don't want to make this a heavily paternal type of program. The States are quite articulate on the subject of Federal regulations, which almost invariably follow financial aid from the Federal Government."

Mr. Eric Biddle stated that a booklet would be issued on the process of conducting the test exercises, together with a printed, condensed version of the Chicago, Seattle, and Washington experiences. In the case of Chicago it will be a fairly complete account and in the cases of Seattle and Washington it will be a summary. The three together provide a fairly complete picture of the planning exercise method.

Mr. Wadsworth concluded the conferences with the following statement: "In conclusion, we want to ask again that wherever possible you send to us your public reports and manuals and anything that you feel will be of interest to us and which I know will help. Any time you have criticisms or comments, send them along. I want to repeat again that field men will be available. They will be available in comparatively small numbers at first, but we hope to add to that staff immediately. When necessary, and only when necessary, we plan to repeat meetings of this sort. We won't call you until we feel it justifies the time and expense of your trip to Washington. In the meantime the information we can give you through field officers and through correspondence and through sending you material will be continued.

"I want to say for myself and on behalf of my staff that we appreciate to the full your being here today and the tremendous interest you have shown in the discussion. It has been of great value to all of us. I only hope it has been of near that much value to you. Remember, as far as we are concerned, our watchword is going to be cooperation; first, last, and always. Any time that you don't think you are getting full cooperation, please don't hesitate to let us know."

At the conclusion of the eastern conference, Mr. Wilkinson made this statement: "May I on behalf of the eastern conference of civil defense directors express to you personally and to your staff our genuine thanks and appreciation for this opportunity of meeting with you and discussing our mutual problems in this field of civil defense. I think there is not one of us here who has not gotten a great deal out of this meeting. I think you have personally and officially infused new life into our planning and respective activities and I know you can count on all of us individually and collectively to give you the most complete cooperation and we will look to you for future guidance."

(Adjournment.)

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# COMMUNITY POLICY

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## HEARING

BEFORE THE

JOINT COMMITTEE ON ATOMIC ENERGY

CONGRESS OF THE UNITED STATES

IN EXECUTIVE SESSION

EIGHTY-FIRST CONGRESS

SECOND SESSION

ON

COMMUNITY POLICY

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APRIL 18, 1950

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## COMMUNITY POLICY

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TUESDAY, APRIL 1, 1950

CONGRESS OF THE UNITED STATES,  
JOINT COMMITTEE ON ATOMIC ENERGY,  
*Washington, D. C.*

The joint committee met, pursuant to call, at 11:30 a. m., in room 48-G, United States Capitol Building, Senator Brien McMahon (chairman) presiding.

Present: Senators McMahon (chairman) and Knowland; Representatives Durham, Holifield, Price, and Cole.

Also present: Sumner T. Pike and Henry D. Smyth, Commissioners; Carroll Wilson, Manager; Carlton Shugg, Deputy Manager; Walter Williams, Production Manager; Joseph Volpe, General Counsel; Everett Hollis, and Brig. Gen. James McCormack, Director of Military Application, all of the Atomic Energy Commission.

William L. Borden, executive director; Edward Heller, Walter Hamilton, William Bergin, and Kenneth Mansfield, all of the committee staff.

Mr. DURHAM. The hearing will come to order. The Commission has a matter to discuss with the committee this morning with regard to the problem raised by the limitation placed on the appropriations bill by the Appropriations Committee. That is the House Appropriations Committee.

Mr. PIKE. And, I understand, the proposed action of the Senate Appropriations Committee, too.

Mr. DURHAM. You may proceed and tell us what problems it raises.

Mr. PIKE. As the committee is aware, we have had in the last 6 or 8 months two enormous programs added to what we were previously doing: one, the expanded program for production of fissionable materials centering largely at Oak Ridge, although some of it is at Hanford, where our construction work is now going on; the other one, the H-bomb program, which is a more recent one.

In each of these we are trying to telescope the time element as much as possible, trying to save time in the one place to get into operation and, in the second place, to get to where we can make an experiment to see whether the H-bomb can be designed so as to work, and if it can, to get into production.

Now, as to those two, the real centers of those efforts, although they will be spread somewhat, one will be at Oak Ridge and the other one at Los Alamos.

Now, we have, as you know, a recommendation of the House Appropriations Committee that the fees paid to the community operators—I will use that for a short name—at Los Alamos and at Oak Ridge be cut approximately in half beginning with this fiscal year

and approximately the same recommendation for the transportation system at Oak Ridge.

Also the committee is aware that these towns were set up as auxiliaries to the laboratories and production facilities, and they are still obviously auxiliary plant facilities in the sense that if the plants or laboratories were not there, the towns would not exist.

Almost as obviously, if the towns were bad towns, it would be another deterrent to the quality of the people we need to come to live in them.

We feel that to live with either the recommendation of the House Appropriations Committee or the recommendation which I understand is being considered by the Senate Appropriations Committee, would throw these community affairs into such a state of confusion at just the wrong moment that it might very well be the greatest deterrent to getting on with the H-bomb program that we have to contend with.

We realize that we have been open to criticism, we have criticized ourselves, your committee has criticized us, both appropriations committees have criticized us for somewhat different things, and there is not much use of our going over back history.

The fact is that, looking ahead, if we are forced into a major change-over in community operations in the next several months, looking, I am afraid, almost surely to direct Government operation, with its attendant waste, and I think almost obvious waste of Government money, we are going to be in real trouble.

We take this very seriously. We have been attempting for a long while to work toward better communities, both from the point of view of economy and from the point of view of communities that make sense, as closely as possible to normal American communities.

We have not gone along fast enough to suit you. We have a lot of outside help and advice. But we are inclined to think now that we ought not to have this thing shoved at us at this time. We are not doing this to ask for just time alone. We do think that very possibly if we can have an objective, disinterested survey made by a panel or group of people who would be above any suspicion of having interests in the situation, a group that would be satisfactory to you, do a job of coming up with a report we could all take seriously and study, it might give us an indicated course of action and that it would probably be very helpful.

We have thought about this for some time. We had thought at first perhaps that it might be the sort of thing that the committee should do to avoid its being accused of self-interest or self-service. It looks as though perhaps that would not be too practical. You would know more about that than we would.

Our recommendation is now, one, that this committee, through its membership, really try to convey to the Appropriations Committee the seriousness of this situation in its effect on the two really close-to-the-impossible jobs we are trying to do.

Mr. DURHAM. Did you do that at the time you were having the hearing on the House side?

Mr. PIKE. Yes, sir. We did not put up this particular problem. This occurred to us later. In the Senate we thought we had explained very clearly the close relationship of these communities to the actual management of these two very large jobs, but apparently we failed again. I do not think it was for want of trying.

We have always felt that this community operation was an essential part of plant management, it is going to be an essential part of plant management.

Mr. DURHAM. Has there been a reduction in the amount of money required for the operation since it began under the present arrangement?

Mr. PIKE. I think so.

Mr. DURHAM. As I recall, they have considerably reduced.

Mr. PIKE. I think they have, but I do not have the figures here. What I do know has happened, is that the expense of operating the town at Oak Ridge, the first year we ran a deficit of about \$11,000,000, and for this coming year we think it will be much less than \$4,000,000. That, to me, is much more important as an index of town operation than the amount of the fee paid, which, as I remember, is \$180,000 a year. It has been reduced very substantially. I do not have the figures.

Mr. COLE. Who pays Roane-Anderson, you or Carbide?

Mr. PIKE. We pay Roane-Anderson. That is a separate contract.

Mr. COLE. Who pays Zia?

Mr. PIKE. We pay Zia.

Mr. COLE. You pay all of them? Do you pay American Transit?

Mr. PIKE. Yes; all three of them.

Mr. COLE. I do not see where that provision of the House bill would affect the situations.

Mr. PIKE. Well, only in one case they will not work and in the other case they will keep on and sue us and probably have a good case. At least that is what they have told us they would do.

Mr. COLE. I notice Senator McMahon's statement before the Senate committee raised the question that the House provision might jeopardize the contract with Carbide. How can that be if Carbide does not have any dealings with or responsibilities in connection with town management or transportation?

Mr. PIKE. This was a legal concept, and really I do not think I am competent to follow it. We do know this: These contracts were freely entered into after arm's-length negotiations between ourselves and the contractors. This would have, of course, a very disturbing effect outside of the thing I am making the major point on, on all our fee contractors who in the middle of a contract period may find that fee arbitrarily cut by legislative action.

This, of course, is very clear. If somebody is going to devote a staff for 3 or 4 years and feels he has a valid contract with the Government, then along during that period you say the contract is not any good, this is the disturbing factor. I do not know how high to rate, it, but I rate it rather high.

Mr. COLE. Maybe we ought to hear your suggestion.

Mr. PIKE. It happens that two of these contracts expire at the end of this year. The other one expires in the middle of 1951, the end of fiscal 1951. We think, frankly, we ought to carry out these contracts in good faith as they were entered into. Our principal suggestion, however, is that we get immediately on a study by some outside disinterested objective people, who can come up with some idea that will make sense to the lot of us and get this community situation to where it will not be a constant source of irritation to all and

sundry and where it might not be a major obstacle in the way of doing these two jobs.

Mr. DURHAM. When the study was made before, we tried to compare this with the operation of the services rendered by this organization as compared to running a city of comparable community facilities and population.

Mr. PIKE. Something of the sort.

Mr. DURHAM. Was that not done?

Mr. PIKE. It was done, but that missed one of the larger points there. This is not only a municipal organization, but it is a big real estate and commercial operation, too. Ordinary city management has police, fire, streets, garbage, sewage. I do not know whether it furnishes fuel, but we do, and the removal of ashes. We have rent collecting, repair of all buildings, et cetera.

Mr. DURHAM. He directs all those functions to be carried out. We pay for them, of course; is that right?

Mr. PIKE. We pay for them. They have done a pretty good job, it seems to me. The jobs were slack when we first came on. They were new after the wartime and we have no defense.

Mr. DURHAM. On a per capita basis at Oak Ridge, \$180,000 is what fee for rendering such a service?

Mr. PIKE. About five or six dollars per person. There are about 32,000 or 33,000 people there.

Mr. COLE. How many people are engaged by Roane-Anderson who give this administrative service for which they are paid the \$180,000?

Mr. WILLIAMS. Seventeen hundred.

Mr. COLE. None of the salary of that 1,700 personnel is paid by the Commission?

Mr. PIKE. We reimburse the contractor for all of it.

Mr. COLE. How many people are engaged in employment by Roane-Anderson for which Roane-Anderson receives from the Commission \$180,000?

Mr. PIKE. We reimburse all their expenses. They represent management only.

Mr. COLE. What do they do for \$180,000?

Mr. PIKE. This is their profit on the operation.

Mr. COLE. What is the total operation?

Mr. PIKE. Thirteen million annually, and there is 110 or 111 million dollars' worth of property in their charge.

Mr. COLE. What is that percentage?

Mr. WILLIAMS. One and one-half percent.

Mr. PIKE. One and one-half percent of the annual income and about fifteen one-hundredths of 1 percent of the capital value involved per annum.

Mr. DURHAM. The Appropriations Committee, how deep did it go into this?

Mr. PIKE. This is all we could make out of it. There was no hint before the report came out, as I remember, that this action was proposed. We found it out when we read the report.

Mr. DURHAM. This involves all the utilities, public-health functions, schools, the whole operation of the city?

Mr. PIKE. Yes, sir.

Mr. DURHAM. It could be very disturbing if you cut all the services 50 percent, if you have not been rendering too much service.

Mr. PIKE. You see, this is merely the fee. This is not the services themselves. But it does happen that these contracts were negotiated out and these people—of course, one says he will quit. The other says he will go on and put in a suit in the Court of Claims. Our people believe he would have a good suit.

My real reaction is that these communities are a part of the plants just as much, let us say, as the cafeterias in the plants.

Mr. DURHAM. We might set up a city government and hire our own personnel and operate the things and get rid of this.

Mr. PIKE. We do not get rid of it, Mr. Durham, by doing that.

Mr. DURHAM. Why?

Mr. PIKE. In the first, let's take Oak Ridge. We do not have any charter. We do not have any tax base. The Government owns all the property, including all the houses and all the stores.

The usual thing that you have in a town of 30,000, you have an industry, which helps make up your tax base. That is not in the town.

Mr. DURHAM. I realize that. We are paying that and we ought to, as far as the cost of the present utilities and schools and streets and public health, and all the things that go into the operation of the city. Why could we not have a good man in there and let him manage the thing himself?

Mr. PIKE. We had a little try at this in, I think, early 1946. It only lasted a few months and was one of the finest pieces of empire building started there, Mr. Williams told me, that he ever saw. We got out of it rather quickly and went to the contractor arrangement.

Mr. COLE. Where was that?

Mr. PIKE. Oak Ridge. Our feeling is that we do not see, we have not found any simple and easy answer, and we have tried a good many ways.

What we would like now is to really get a good panel, something like this Bugas panel that just finished on our security set-up, to put some time on it and come up with something we will all view as objective and honest and able, rather than try to prejudge what they will come up with—say here is a problem, it is a serious problem and one thing we can say is that this offers the most serious obstacle right now to getting on with our H-bomb and our expanded program for fissionable material production.

Mr. DURHAM. How many men does Roane-Anderson have at the present time at Oak Ridge functioning on this? How many do they actually have at Oak Ridge? I understand Roane-Anderson uses personnel back in the home office to carry on some of these functions.

Mr. PIKE. I do not believe so, Mr. Chairman. It may be true.

Mr. WILLIAMS. It is all included in the record.

Mr. SHUGG. If you are speaking of executives, they have 21 of the parent company termed "executives" there, and we reimburse their nominal salary at Oak Ridge. The top salary is twelve thousand.

Mr. DURHAM. I am trying to find out how many people actually draw this \$180,000. They ought to be able to give you a justification, in the employment of the personnel for the expenditure, whether it is fifteen hundred or what.

Mr. PIKE. That goes to the parent corporation as its gross profit on the deal. All their expenses are reimbursed at Oak Ridge.

Mr. DURHAM. Evidently they assign some persons to carry it out.

Mr. PIKE. They are paid for part of their time and in some cases whole time while at Oak Ridge. I understand those people also get some bonuses.

Mr. COLE. Does Roane-Anderson operate in other places?

Mr. PIKE. No, sir. It was formed only for this thing and does this one job.

Mr. COLE. What is its capital?

Mr. PIKE. It is a directly owned subsidiary of the Turner Construction Co., which is a pretty large concern. It is a purely synthetic corporation, set up for this purpose.

Mr. HOLIFIELD. This, in effect, is a management fee. This is not their operating expense; is that right?

Mr. PIKE. Not at all.

Mr. HOLIFIELD. That is paid in addition?

Mr. PIKE. That is right.

Mr. HOLIFIELD. That is a management fee?

Mr. PIKE. That is right.

Mr. HOLIFIELD. The point involved is: Are they rendering efficient service and enough economical service to justify this type of a fee? That is really the point involved, and the alternative to it would be that the Commission itself would have to operate the town.

Mr. PIKE. I am afraid that is correct.

Mr. HOLIFIELD. If that occurs, that means every complaint coming from a resident or businessman or anybody else then becomes of primary consideration to the Commission in place of the buffer which Roane-Anderson now operates, a buffer agency.

Mr. PIKE. You are right.

Mr. HOLIFIELD. In other words, it will make this committee a District of Columbia committee so far as the towns are concerned.

Mr. PIKE. You will be in for it as well as ourselves.

Mr. HOLIFIELD. They will come to you and then come to us and complain about it.

Mr. PIKE. I had not thought about it.

Mr. HOLIFIELD. So the alternative of this is that we become a District of Columbia committee on every community operation of AEC.

The CHAIRMAN. How much is the budget? How much does Roane-Anderson spend to get \$180,000?

Mr. PIKE. It is about \$13,000,000 annual expenditure and about \$110,000,000 capital invested.

The CHAIRMAN. That budget would seem to me to be awfully high. You cannot take that amount—\$110,000,000, did you say?

Mr. PIKE. In that neighborhood, capital invested in the town.

The CHAIRMAN. Averaging that among our American cities of similar size, how does it compare budgetwise?

Mr. PIKE. I think it is on the high side.

The CHAIRMAN. I should think very much so. It is a long while since I paid any attention to municipal government, but I would think it is \$5,000,000 high.

Mr. PIKE. Of course, Mr. Chairman, you will remember that includes all the real-estate management, collecting of rents, repair of buildings. This is something completely outside of ordinary municipal government. It does not go too far from a 50 to 50 ratio, as I re-

member it, the work they do; but you have a real-estate management job as well as a municipal.

The CHAIRMAN. I had not thought of it.

Mr. PIKE. That is extremely important.

Mr. HOLIFIELD. I have given this study and I have been on several subcommittees that have given these community problems study, and I think that the method you are using is right. I do not know whether the \$180,000 fee is too much or whether it is too little, but I know that you could not get any management concern such as, for instance, George H. Lee—isn't that a large management concern?

Mr. PIKE. It sounds familiar to me, but I do not know.

Mr. HOLIFIELD. They will go in, for instance, and take over a business that is having trouble, they will streamline and make the business efficient, and they always exact a management fee.

Now the thing that concerns me is not the method by which this is being handled, because I realize you would not fire a man if the Commission took over. You would still have to have the same number of supervisory people and probably more.

Mr. PIKE. We would have to have more on account of Government regulation. It would cost us a half million dollars more a year without any fee just from getting the people in civil service and the leave. Of course, we would then have to have them all FBI'd, too. The cost would be enormous for the two towns. It would cost us at least a million dollars extra that we can see, besides, I am sure, a lot we could not see.

Mr. HOLIFIELD. I am perfectly willing to approve of this present method, and I think that the attention of this committee and Congress should be devoted to whether this is a reasonable management fee in comparison to other management fees of big industries and other large projects which are matters of industrial record. I think that is the point this committee should concern itself with.

Mr. COLE. The Appropriations Committee did not dispute the method of running the place down there, did they? The dispute is entirely with the amount of the fee.

Mr. PIKE. On the fee, except I think in the Senate there was a little question about whether a New York corporation ought to be running a Tennessee town.

Mr. COLE. From my standpoint I will say that when the Federal Government reimburses all of the costs that a person incurs in an operation, where that person has no capital investment whatever, a fee of \$180,000 is altogether too much.

Mr. PIKE. I only have one or two pieces of evidence on the other side, Mr. Cole.

Mr. COLE. What are they doing to justify this cost to the Federal Government of \$180,000?

Mr. PIKE. I have some belief in the profit system, and when a corporation undertakes to do a job for us, I think it is entitled to a profit over its costs.

Mr. HOLIFIELD. Is it not true that while this is spotlighted—

Mr. COLE. What are its costs?

Mr. PIKE. Its costs are all paid.

Mr. COLE. It has no costs.

Mr. PIKE. Its profit is about 1½ percent on the gross business conducted.

Mr. COLE. Not on what it costs them. The profit to them is  $1\frac{1}{2}$  percent on what it costs us.

Mr. PIKE. We certainly could get no private organization to go in for nothing.

Mr. COLE. Of course.

Mr. HOLIFIELD. Is this not an analogy? If you ask one of the shipbuilding companies to build a ship at a cost plus fixed fee, that fixed fee might be 2 percent or 5 percent of the cost of the ship. The Government pays all of the materials cost, it pays all of the employees' wages on that ship, and all of the supervisory employees of the shipbuilding company, and the fixed fee itself is for know-how, for management, for correlation of the work of the project.

Mr. PIKE. That is about it.

Mr. HOLIFIELD. That is exactly what you are up against here. You are up against a cost-plus-fixed-fee operation of a town, just like the cost-plus-fixed-fee building of a plant or a ship or any other Government facilities; is that not right?

Mr. PIKE. I think so, sir.

Mr. HOLIFIELD. Of course, in a fixed fee, it is always based, as you say, on the profit system. You cannot get any big industrial-management organization to go in and manage anything just for the straight cost.

Mr. PIKE. Frankly, if anybody offered to do it for me for nothing, I would look at him with suspicion, thinking he was either a fool or a crook. I would not want to take him on.

Mr. HOLIFIELD. Whether the fee is the right amount, I do not know, I would like to have some evidence presented that this fee is a reasonable fee, commensurate with the amount of management which they actually do. I would like to have a comparison, and undoubtedly you have made that in arriving at this fee.

Mr. PIKE. We have tried our best. We have negotiated it out. To me, as a Commissioner, who went on this fee, I believe in living up to my contracts. This fee was carefully negotiated. That contract has 8 or 9 months to run.

While the Government has a right to break its contracts, I do not believe it is ethically more justified than any other concern.

Another thing that convinces me that this fee is not outrageously high is that this matter of the fee has been aired in the House and Senate committees for 2 or 3 years now. If this fee were high, we would have had contractors running around with their tongues out trying to get this business. To the best of our knowledge, we have had no hint of any reputable people who have come around saying they would like to dicker with us when it runs out.

Mr. HOLIFIELD. Is it a publicly negotiated contract? The general contracting trade knows you make these contracts for certain periods of time?

Mr. PIKE. Yes; and, of course, we deliberately did this for 4 years, I believe it was, so we could get a breathing spell so it would not expire every year.

Now, this year we have been figuring—you see, when this was made you had to go out and catch a contractor, trap him, and put him in a box and make him sign. It was a tight market.

Now, there are plenty of contractors. We get 20 or 30 floating around after every good-sized contract.

We had planned to shop this thing around about the time of its expiration. You cannot give exact specifications that are close enough to tell a fellow exactly what the job is and is going to be. We had expected to get several people in to see what the best deal was we could make. I give it to you that if we arbitrarily have to break that fee or break that thing off in its expiring months, we will discourage a lot of contractors who otherwise might like to do business with us.

Mr. HOLIFIELD. That is another factor of breaking this.

Mr. PIKE. It is only negative testimony.

Mr. HOLIFIELD. Maybe Mr. Williams can answer this. In ordinary cost-plus-fixed-fee contracts, let us say in construction, what is the percentage of fixed fee ordinarily? What is the range of percentage ordinarily of the fixed fee in relation to the gross cost?

Mr. WILLIAMS. It is on a varying scale. If your job is a hundred thousand dollars, it might be as much as 6 percent. When it gets up to 10,000,000, it might be around 2 percent. When it gets up to a hundred million dollars, it gets down to three-quarters of a percent.

Mr. HOLIFIELD. This is a \$13,000,000 operation, as I understand it.

Mr. WILLIAMS. That is gross.

Mr. HOLIFIELD. This \$180,000 fixed fee, then, would represent about  $1\frac{1}{2}$  percent?

Mr. WILLIAMS. Just roughly.

Mr. HOLIFIELD. Of the gross operation?

Mr. WILLIAMS. Yes, sir.

Mr. HOLIFIELD. Now, is that in line with the ordinary fixed-fee, cost-plus-fixed-fee contract, which the Government lets in the ship-building and all other lines?

Mr. WILLIAMS. The way we arrived at our fees for our construction management was to contact a large number of construction firms throughout the United States, well-known firms, and to get them to submit to us a curve of what they thought was a reasonable fee.

We got the Navy, the Corps of Engineers, we got the various Government agencies to give us their fees. We took the fee during the war and from all of these we came out with a fee curve which we use on construction and which is agreed to be reasonable.

Now, that gives the basis on which we negotiated the contract with Roane-Anderson. We split out of that contract those portions which most nearly resembled construction and to those portions we applied, after deducting for complexity, and so on, we applied the general construction fee.

For instance, there is a portion there for collection of rents. They collect several million dollars, I think 6 or 7 million dollars a year for us. On this we did not allow them the same fee at all. We allowed them one-quarter of 1 percent for that. All of this we broke down and went through to justify the fee which we paid them.

I might point out that the Roane-Anderson Co. have written us also, they have talked to us, this negotiation went on over a long period of time. They feel that they should have \$25,000 a month and that is what they asked. If you would talk to their vice president today, Mr. Horr, he will tell you he is doing this for less than he thinks he should and is probably appearing as a sort of a soft touch to the industry because it is less than they think they should get for the number of people they have tied up.

Mr. DURHAM. Is he on record making such a statement?

Mr. WILLIAMS. Sir?

Mr. DURHAM. Has he written the Commission or anything?

Mr. WILLIAMS. Yes; we have a letter here that he wrote. I will be glad to give you a copy of it. I do not have it with me, but I can give it to you.

Mr. DURHAM. Submit it for the record, if you will.

Mr. WILLIAMS. I will do that.

(The letter referred to above is as follows:)

ATOMIC ENERGY COMMISSION,  
Washington, D. C., April 20, 1950.

Mr. WILLIAM L. BORDEN,  
Executive Director, Joint Committee on Atomic Energy,  
United States Congress.

DEAR MR. BORDEN: We are enclosing a photostatic copy of a letter, dated March 9, 1949, from Mr. Clinton N. Hernandez, vice president of the Roane-Anderson Co., to the Atomic Energy Commission. This letter was referred to at the hearing Tuesday morning, April 18, before the joint committee, and it was requested that a copy be furnished for insertion in the record.

Sincerely yours,

WALTER J. WILLIAMS,  
Director of Production.

MARCH 9, 1949.

Subject: Contract No. W-7401 ENG-115, Fixed fee.

UNITED STATES ATOMIC ENERGY COMMISSION,  
Oak Ridge Operations.  
(Attention: F. W. Ford, Acting Director, Office of Community Affairs.),  
(Oak Ridge, Tenn.)

DEAR SIR: The Commission determined that basic policy changes and reorganization within the Community Affairs Division of the Commission at Oak Ridge necessitated revision and changes in the Roane-Anderson Co. contract. The basic policy changes upon which this determination was made, and which Modification No. 20 effectuates, might be briefly stated as follows:

The Commission plans that the Company operate without detailed direction by Commission officials. However, the Commission intends to retain the responsibility for broad basic policy determinations. The company will carry out the intent of such determinations through procedures and methods initiated by the company. This concept of operation is a distinct departure from past performance by the company under the original contract and modifications thereto. This increased management responsibility is developed in more detail, later in this letter, under the heading "Additional responsibility."

Initiated by the city manager, in September 1948, numerous conferences have been held looking to the completion of that objective. On March 1, 1949, in conference at Oak Ridge, modification No. 20 was agreed to in principle by officials of both the company and the AEC. It is confidently expected that this modification will be ready for execution on March 10, 1949. The changes in the contract are comprehensive and modification No. 20 might well be considered a new contract, notwithstanding the fact that the former scope of contract work has not been enlarged as to new operations to an appreciable extent.

During the several conferences, it was mutually agreed that discussion with reference to fixed fee would await the final negotiation of modification No. 20. There has been a meeting of the minds on all other matters contained therein. We, therefore, feel it appropriate to address you on the subject of fee at this time. From informal discussion of the subject, we understand our request will have your early consideration.

The current fixed fee is the sum of \$16,000 per month, made effective July 1, 1947. We had planned that modification No. 20 would provide for a revised fee. But because of the long delay in its negotiation; the fact that the company is currently executing new phases of operation without technical coverage; the desire of all concerned to execute the new modification at the earliest possible moment and the assumption on our part that this application will take time for consideration by you and your staff, leads the company to suggest that

modification No. 20 be executed with the fixed fee remaining as is. We suggest that the fee, if revised, be made effective for the new fiscal year beginning July 1, 1949.

With what we hope is full knowledge of the implications and responsibilities of the company under modification No. 20, we request your consideration and approval of a revised fixed fee in the sum of \$25,000 per month.

Since the inception of contract W-7401, ENG-115, the fixed fee has been changed twice. From September 23, 1943, to October 30, 1945, it was the sum of \$25,000, per month; from November 1, 1945, to June 30, 1947, the sum of \$14,000 per month, and from July 1, 1947, to date, the sum of \$16,000 per month.

It is considered pertinent to examine into the conditions and reasons for these changes in fixed fee.

There is no doubt that the original fee of \$25,000 per month was low in comparison with the general concept of fees on Government contracts even as low as they were during the war period. During the war period the company was thinking less in terms of profit and more in terms of service to the Government in the prosecution of the war effort. During the initial negotiations of the contract there is no doubt that the company or the Government had no appreciation of the scope, the volume, or the difficulty of execution of such a contract. There was no precedent for such a contract and, therefore, no basis for comparison.

Our original contract provided for an increase in fee when additional personnel from the regular staff of the Turner Construction Co., were assigned to the work. Notwithstanding the fact that 32 additional personnel over and above the 10 initially agreed upon, were assigned to the work, the company made no request for additional fee.

In October 1945, upon the request of the Government, the company agreed to reduce its fee to \$14,000 per month. At that time, the war having ended, it was assumed by both the company and the Government that the operation at the Clinton Engineer Works would not continue for a much longer period and that the company's work would gradually grow less in importance and volume. In fact, the opposite proved to be true. The responsibility, scope, and volume increased. Many operations released by the company to the Government were returned to the company, for reorganization and operation. On January 1, 1947, the Atomic Energy Commission took over the contract. Our contract expiration date had been established as June 30, 1947. With the short period of time before contract expiration, the company made no effort to increase the fixed fee.

Subsequent to the take-over by the Atomic Energy Commission from the Manhattan district, negotiations and conferences led to the execution of modification No. 14 to the contract. This modification incorporated the original contract and all modifications thereto. Effective July 1, 1947, the fixed fee became \$16,000. It must be admitted that the company did not visualize the comprehensive changes in policy and procedures effectuated by this modification to the contract, nor did the company contemplate the reduction in management activities and supervision in the Commission's City Management Division. We doubt that the Commission itself was then cognizant of the changes which since have been accomplished. This fee has proved to be inequitable. It can readily be seen from the foregoing why we arrive after 5 years of operation with a fixed fee which we consider too low and which we hope we can convince you should be raised.

Through the negotiations and conferences preceding the final draft of modification No. 20, we have gained an insight and knowledge of what lies before us. We believe this modification entails greater risk and more responsibility for the company. We feel that both we and the Commission have a better understanding of what is to come in the future operations, management, and maintenance of the Oak Ridge area. The effects of an approach to normalcy; the opening of the gates to the public; the entree of a new, free, uninhibited newspaper; closer relations with the citizens of Oak Ridge and the inescapable knowledge of the close cooperation and coordination required to make the partnership of the company and the commission successful; are unknown but their effects and repercussions can be estimated. There follows substantiation of why we consider modification No. 20 entails greater risk and more responsibility for the company, and why the current fixed fee of \$16,000 per month is considered inequitable.

### 1. Performance

The company has operated under the contract with great credit and a minimum of criticism of its operations by governmental authority. Both the United States Engineer Department and the Commission have officially expressed approval of the company and its leadership in all capacities. The volume of work completed under the contract since September 23, 1943, is impressive to say the least, but the fact that the contract scope included every known activity necessary to the life of a city of 75,000 people is more impressive. As of January 31, 1949, the total expenditures of the company in the performance of its work was the sum of \$101,124,057; the collection by the company of cash revenues for the use of Government-owned facilities from lessees and others was the sum of \$39,617,903; making a total of expenditures and collections in the sum of over \$140,000,000. The total fixed fee paid the company amounted to only approximately eighty-six one-hundredths of 1 percent of the total. When it is considered that the particular nature and complexity of the services required for the operation, management, and maintenance of the Oak Ridge area are much more complex than for a construction project of the same dollar volume, it is apparent that the company has received a very low fee for its performance of the contract to date.

### 2. Additional load

Modification No. 20 adds a greater work load. The fact that the original contract and its supplements had developed a scope of work to include every possible requirement of the Government, makes it impossible to state that the scope of the contract has been increased. However, many operations and activities (within the scope of the contract) have passed to and from the company and the Government as new policy or the best interest of the Government required. The following activities newly added or presently operated by the Government are passed to the company for operation under modification No. 20:

- (a) The preparation of and operation under financial budgets. Reimbursement to the company is not limited thereby, but the operation of the contract certainly is more exacting and difficult.
- (b) Operation of the city permit bureau.
- (c) Operation of a radio repair service for the police department.
- (d) Inspection and maintenance of fire extinguishers.
- (e) Inspection and maintenance of sprinkler systems.
- (f) Operation or contracting therefor of the company telephone and communications system. The risk of nonreimbursable expense herein is present but of unknown volume.
- (g) Operation of Elza substation to the extent of dispatching primary current to the city of Oak Ridge and facilities adjacent thereto.
- (h) Operation and management of AEC surplus property and warehouse facilities in addition to our current warehousing and salvage operation.
- (i) Operation of the watchman service, currently under the police department.
- (j) Increased service by the company safety department.
- (k) Additional procurement for the Commission of prime contract materials not purchased by the Commission's prime contractors (electric ranges, etc.).

The transfer of the above duties to the company has made it possible for the Commission to decrease its own personnel and management responsibilities. The company is in full accord with the principle behind this program, and we feel it to be to the best interest of the Government. This program does, however, increase the management responsibility of the company.

### 3. Additional responsibility

The comprehensive future planning initiated by the Commission management of Oak Ridge operations on January 1, 1947, and as now fully envisualized by the master plan contemplate for the company duties and responsibility for the initiation of procedures, and policies certainly not contemplated in prior fee negotiations. It is granted that all phases of the development of Oak Ridge area under the master plan will not be effective during the life of the present company contract. That in itself develops difficult problems in the interim periods between phases of town development. Again the company finds itself confronted by problems for the solution of which there is no precedent. The Commission finds itself in the same position. There has been delay in approval of company recommendations, and it is to be expected there will be further delay in establishing basic policy. The company feels, as we know the Commission feels, these interim periods of operation offer great difficulties, demand greater coordination, leadership and vision than does a construction operation in accord-

ance with proposed plans and specifications or a management operation for which past performance and precedent over the years has defined a proved method for successful performance. The following administrative problems, activities and services add, in the company's opinion, greater responsibility than previously contemplated by prior contractual provisions or procedures and policies of the Commission currently known to the company during prior fee negotiations.

(a) Added responsibility for legal services.

(b) Added responsibility for public relations, the province and extent of which cannot at this time be defined.

(c) Added responsibility for recommendations by the company for the establishment of equitable revenues to the Government for the use by third parties of Government-owned facilities, such as, residential, dormitory, commercial rents, and so forth.

(d) Added responsibility for the unprecedented effort to attract private capital under long-term leases to develop a fully-owned governmental single purpose area and its attendant difficulties and problems. The real-estate promotion operation, already planned by the company and under way, necessitates study, investigations and planning certainly never before contemplated in prior contract negotiations.

(e) Added responsibility for study, advice and recommendation by the company in the design and planning of future large-scale construction developments by the Commission, which the company will later operate in the city area of Oak Ridge.

(f) Added responsibility for the study, advice and development of new light industrial and commercial areas.

(g) Added responsibility for recommendations to change present and past procedures of all operations of the company, where such operation will be more in accord with good business practice, to the best interest of the Government and in accord with the policy of free enterprise.

#### 4. *Transition periods (between phases of town development)*

What the periods of transition from the present to the future of the Oak Ridge area will bring in the form of added responsibility, changes in procedures and operation, condemnation or praise from the public affected, is unknown to both the company and the Commission. Certainly the effects and repercussion of (a) the opening of the gates, (b) the change to private ownership, and (c) the possibility of Oak Ridge being a chartered self-governed municipality, present problems to the company impossible to estimate at this time. The company desires to go on record here that if this request for increased fixed fee is granted, the company will make no further request for increase in fixed fee prior to the termination date of the contract on December 31, 1950, except when initiated at the request of the Commission.

#### 5. *Take-over of housing operation by the company*

When the company and the Commission negotiated our current fixed fee of \$16,000 per month effective July 1, 1947, the operation, management and maintenance of 9,200 residential housing units was currently under subcontract to the Oak Ridge Housing Co. Subsequent to the negotiation of the fee, the company terminated the subcontract in November 1947 and has operated, managed and maintained housing with its own forces since that date. This change was recommended and initiated by the company. The experience of the company's operation since that date (without additional fee) has proven successful and greatly to the best interest of the Government. Coordination of subcontract maintenance; more efficient maintenance by the company; preferable levels of maintenance and greater satisfaction to the householder has resulted. The change in operation of housing and in many other operations of the company during the last 2 years is in accord with the Commission policy enunciated in past conferences, but for the first time being officially confirmed in modification No. 20.

Since January 1946 the colored hutments, apartments, and housing have been operated and managed under a concession agreement by the J. C. Ridenour Co. It has been decided that the company will operate, manage, and maintain this facility with its own forces in the near future. Planning toward this objective and coordination of moves toward its accomplishment are currently proceeding. This facility was similarly subcontracted when modification No. 14, establishing the fee at \$16,000 per month, was negotiated.

The operation of both the above facilities with the company's own forces adds work load and responsibility over and above administrating such an operation on the basis of a subcontract or concession. In that fee negotiations under modification No. 14 were influenced by the fact that both white and colored housing were to be operated under subcontracts and concessions, the fact that both facilities are to be operated with the company's own forces in the future, certainly should be weighed favorably to the company in your consideration of increasing the fixed fee.

#### *6. Company progress under new Commission policy*

The company's operation during the past year has been colored by the changes in policy and organization made effective by Commission management before and during that period. Official commendation was received in the fall of 1948 for the company's efforts and ability to take greater responsibility and effectively prosecute the spirit of the Commission's enunciated desire for greater company responsibility in management.

During 1948 the company reduced its complement of personnel from approximately 4,000 to 2,600. This cut in personnel conformed to a proportionate reduction in management personnel of the Commission. With little change in the volume of operation and work this record bespeaks excellent progress in the short period since the new policy was initiated. The company feels well satisfied that current effort and plans for future changes in operation and procedure will fully satisfy the Commission's desire for effective prosecution of the changes made effective officially by modification No. 20. With the close contact that is being and has been maintained by the staff of both company and Commission, it is felt that the Commission should have complete assurance of the successful accomplishment of the present objectives without further trial or experience with the company's progress in the new work.

#### *Conclusion*

The company feels confident that its request for a fixed fee in the sum of \$25,000 is equitable and in accord with the facts as outlined heretofore. We would like to repeat that the operation of the subject contract is more difficult than a construction contract of equal money value. On the basis of the 1949 budget, i. e., expenditures, approximately 22 million plus revenues 7 millions; a total of 29 million dollars, the percentage fixed fee of the company as requested in the sum of \$25,000 per month is slightly over 1 percent. (This fee certainly is low by any method of comparison.) It might be added that the proposed fee does not take into account the risk that the General Accounting Office of the Government might determine as nonreimbursable costs that have been incurred by the company in good faith and with the direction or authorizations of the Commission, or upon its own initiative and responsibility, both of which have been greatly enlarged as a matter of new policy by modification No. 20. These risks, by good management and the experience gained in the past 5 years' operation of the contract, we hope to avoid.

We appreciate your past consideration and would be most willing to meet with you at your convenience to discuss any matter pertinent to the subject.

Very truly yours,

ROANE-ANDERSON Co.,  
CLINTON N. HERNANDEZ,  
*Vice President.*

Mr. WILLIAMS. They outline what they are doing for us and what they think they ought to have. From this we took off on the negotiations and, after a long period of time, we just more or less arbitrarily said, "We will give you \$15,000 a month."

Now last year it was \$16,000 a month and the Appropriations Committee raised serious objection. We went back to see what we could do about it, and we thoroughly reviewed this, everything we were doing. We broke it down into several different things to try to arrive at a reasonable way to calculate a fee. We came out with \$15,000 a month, to our satisfaction. It did not satisfy the contractor, but we said, "This is it," and he decided he would accept it, although he is not satisfied.

Mr. HOLIFIELD. Of course, we also want to consider that there is quite a recapture of that \$180,000 in income tax, as far as the people involved are concerned. There is at least a 38-percent recapture immediately from the corporation and then when it goes into the individual pockets of the owners as dividends, there is also an additional income tax deducted from that, is there not?

Mr. WILLIAMS. Yes; all of that. When they get through—that is no problem of ours.

Mr. HOLIFIELD. That is true.

Mr. WILLIAMS. But that is a fact.

Mr. HOLIFIELD. I am pointing out that, after all, when a man goes into a business operation, he figures his net. That is important to him. He does not just figure his gross.

This company undoubtedly figures, they do not figure the \$180,000. They figure their net.

Mr. WILLIAMS. For their own employees, there are certain employee benefits they pay out of this. I do not know the exact amount, but I know this is true. I have here a list of the key people on the job. Here is one fellow that came with the company December 4, 1943. He has been with them since that time.

Here is another one that has been with them for 4 years 9 months, and he went with Roane-Anderson in 1944.

Here is another one that went with them in 1945.

Here is one, the assistant superintendent of building maintenance, who has been with them 20 years.

There is one in here for 18 years, another for 27 years, another 11 years, and so on.

Now, these are the people that make the corporations a profit if they are used somewhere else. If you expect, if the Government expects, that they can go out into industry and get industry to do the Government's work on a charity basis, the Government can expect they will get that kind of performance. We have to pay a reasonable fee in order to get people who are sufficiently efficient in their work to show us a return. We feel we have. Our budget, if you will review it, will indicate what we have said.

Mr. HOLIFIELD. I was going to ask you about the 13 million approximately gross cost of operation of this Oak Ridge facility. Do you exercise any control at all upon the cost, and if so, how?

Mr. WILLIAMS. We exercise control. We approve certain transactions that they may make. We formulate policies for them to follow. But the actual saving in practically any contract depends on the attitude and the efficiency of the contractor.

Mr. HOLIFIELD. As far as personnel, I know you have reduced your personnel since the wartime, have you not? That is, Roane-Anderson.

Mr. WILLIAMS. We have reduced them by as much as 40 percent.

Mr. HOLIFIELD. And the cost of operation of the community has been reduced from what?

Mr. WILLIAMS. I can give you the actual figures here.

Mr. HOLIFIELD. I see here that you have approximately fifteen million in 1949, thirteen plus in 1950, and an estimated eleven million for 1951.

Mr. WILLIAMS. That is gross, but the net is still more impressive than that. It goes from eleven million eight, as I recall—

Mr. PIKE. That was the deficit?

Mr. WILLIAMS. That was the difference between the income and cost; that is, the part that the Government has to pay. It has gone in 1948 from \$8,681,000 down to three million eight.

Mr. HOLIFIELD. Let me understand. This thirteen million is not—that is the gross cost? You do have an income from the city to offset?

Mr. WILLIAMS. We have an income.

Mr. HOLIFIELD. What we are interested in then, really, is the net cost to the Government. That has gone from eight million, you say, in 1948 down to three million?

Mr. WILLIAMS. Three million eight. It will be less than that, but that was what is shown in the budget. We will come out some less than that.

Mr. HOLIFIELD. So it does show that from the standpoint of reduction in expense of operation you have had quite a reduction there.

Mr. WILLIAMS. Yes, sir. I would like to point out that in all the phases of the work wages have increased during this period. The fire department, police department, construction industry, all of these wages have increased.

Mr. DURHAM. Will that also apply at Los Alamos? I understand that to be at Oak Ridge, that reduction in operating expenses over the past 2 years.

General McCORMACK. The figures are comparable for Los Alamos. The net deficit, cost to the Government of operating Los Alamos, has come down over the past 4 years from 8.6 million to 4.5 million, to 2.3 million, and is budgeted for next year at 1.7 million.

Mr. DURHAM. In other words, you have come from eight million operating deficit down to a little over one million.

General McCORMACK. The town has grown in the meantime and costs have gone up—labor and materials have gone up.

Mr. PIKE. Mr. Holifield, you were referring to this cost plus fixed fee. I suggest to you you do not even need to go as far as a shipyard. Right there in Oak Ridge itself is the Carbide & Carbon Co. operating the big plant for us on exactly the same basis. They get complete reimbursement and get a fixed fee. This is our normal method of operation when we are unable to get on a lump-sum basis.

I believe, as a former businessman, that an arbitrary breaking of an arrangement entered into in good faith by both sides, when there is no hint of any crookedness, is very bad. It will give a business firm a black eye for everybody that deals with it in the future, and I do not think this is any time to give this operation a black eye. We are going to need a lot of good people for the next 2 years, and that is the most disturbing thing that has happened.

Mr. HOLIFIELD. I agree. If the Government is going to change any contract, the Government is morally bound to change them at the end of the contract.

Now, as to the wisdom of changing it, that is something else.

Mr. DURHAM. This is the point at which you can strike at the morale of the whole service personnel in carrying out your contract by the individual who is also producing the material.

Mr. HOLIFIELD. You break this contract with Roane-Anderson, there is no reason in the world why Carbide & Carbon should not say, "well, we are on an insecure basis, they broke Roane-Anderson's contract, they are likely to want to break ours."

Mr. PIKE. That is the question they will all have.

Mr. HOLIFIELD. And just through a rider on a congressional appropriation bill.

Mr. PIKE. Exactly.

Mr. DURHAM. I do not know how we will come out on it, but we will do the best we can for you.

Mr. HOLIFIELD. That is all you can do.

Mr. PIKE. There is one more point that ought to be made as far as Los Alamos is concerned. Oak Ridge concerns itself with the town real estate, and Los Alamos, as I am sure you will remember, has to do with the whole laboratory set-up where the H-bomb will center. The change in the laboratory thing could have a much more serious effect in what we are trying to do as fast as and as well as we can than the other.

Mr. HOLIFIELD. That is where the Zia Co. operates?

Mr. PIKE. Yes, sir.

Mr. HOLIFIELD. Let me ask you this: What method is used at Hanford?

Mr. PIKE. Hanford is operated directly by the General Electric Co. and it has never been questioned by either Appropriations Committee. The General Electric people are getting pretty sick of it.

Mr. HOLIFIELD. On what basis do they operate there? Do they operate on a fixed fee for their complete operation?

Mr. PIKE. Yes, sir.

Mr. HOLIFIELD. A cost plus fixed fee?

Mr. PIKE. No, sir. It is meant to be a cost including overhead. It is supposed to be a nonprofit contract. They get \$200,000 a month to cover their overhead. At the end of the contract—and I believe our contract runs out within the next year—all those expenses and accounts are to be audited by an independent firm of auditors, and a return is to be made to us for anything above costs, including Schenectady overhead.

Mr. DURHAM. If the big companies are getting sick of these contracts, as you say they are, I think it is about time the Commission, if we have to go to another method of operating these plants, we have to devise some means and methods to do it.

Mr. HOLIFIELD. Let me interpose there. Your contract with GE at Hanford is different from your contract with Carbide & Carbon because you have your profit element in your Carbide & Carbon contract and you are only saying that your contractor is sick of it at Hanford because he is on a nonprofit basis—supposedly nonprofit basis.

Mr. PIKE. What I meant is he is sick of the community end of it. That gives him more trouble than the rest, and he would like to get out of it.

Mr. HOLIFIELD. Do you have any break-down as to the cost of the community operation at Hanford, so we can use that to compare with the cost? Is there any way of comparing it?

Mr. PIKE. There is a question whether we can give it to you accurately. The matter of allocating overhead of people is always a matter of guessing.

Mr. DURHAM. They operate the whole thing at Hanford?

Mr. PIKE. Yes, sir.

Mr. SHUGG. The net cost—

Mr. WILLIAMS. The cost at Hanford is not this simple. There are a lot of things that come into the total. It would take a great deal of explanation.

For instance, the school system out there—the State contributes a large portion of the amount. At Oak Ridge we pay the total bill.

If you take the schools out and if you leave the hospitals in, then it would appear that Hanford costs \$7 per capita more than Oak Ridge, but that has never been questioned.

If you take the hospitals out at Hanford and Oak Ridge, then they are about even or maybe Hanford is doing a little better because it is a different type of operation.

You also have a different problem at Hanford. There is a great deal of water that has to be pumped or that would be a barren desert out there. So you have a great deal of irrigation. You do not have this at Oak Ridge. At Oak Ridge you are confronted with the problem of getting rid of water because you have about 55 or 60 inches of rainfall.

You have a lot of different items entering into it, but we have made comparisons, and depending on what figures you would take, you might prove anything. But the quality of operation is pretty well on a par, we believe.

Mr. DURHAM. We have three places with comparable operations. Can you people give us, so that we will have some figures, the comparable costs on the basis of each individual there in the operation of that, because the functions are similar, though they may be carried out differently.

Mr. PIKE. I think we can. Probably you will also need some explanation with each one and possibly Mr. Shugg has it right there. I doubt, however, if he does have it here.

Mr. SHUGG. I do not have them divided out, but we have in our detailed budget that we presented to the committees, 330 pages of detail on every function, and in there we took individual functions and compared them. We have comparisons not only among the three towns but between similar communities, as nearly similar as we can pick out.

Mr. DURHAM. I read most of that that you gave the Appropriations Committees, but I do not recall that you had a break-down on the actual cost, the number of individuals, whether it was \$5 or \$6 at Oak Ridge, \$7 at Los Alamos, or \$8 at Hanford.

Mr. SHUGG. That can be quickly divided out. You have the higher cost of utilities on the 7,500-foot mesa at Los Alamos. You cannot compare them utilitywise with Richland. The book had to be detailed. May I point this out. We have got reams of detailed information on this, reams of figures.

We have apparently never succeeded in getting the time that it takes to convince the committees of these figures, to get the objective examination of them, and it is just because of the fact that with all this detail and all this work which we have done on it, it has not taken with the committees, that we may have the idea of bringing together a group of experts who are experts each in a part of this business, who are working at it, who are "do it" men, and getting their impartial, calm, over-all analysis of the situation. If we are wrong, we will find it out.

Mr. DURHAM. Would you people like to sit down with two or three of the experts and with Mr. Gore, who has been assigned as an authority on this with the Appropriations Committee? I was hoping we could solve this this year without having to go on the floor of the House.

Mr. SHUGG. I would welcome any study on this.

Mr. HOLIFIELD. I think, of course, the key is in your Appropriations Committee. However, the Appropriations Committee has already acted, as I understand it.

Mr. PIKE. In the House they have. The bill has not gone to the floor. I talked to Senator O'Mahoney, and they are about to act. They are telling us that within 30 days of the passage of the bill we should notify these people of a 6-month cancellation. That is not quite as bad as the other, but it is not different in principle.

What we would like from you—and I really think it could be most useful—if this committee believes that these specific things should be eliminated and this other attack should be taken, you could be most helpful.

May I say this off the record?

Mr. DURHAM. Off the record.

(Discussion was had outside the record.)

Mr. HOLIFIELD. Have you inaugurated the study by a committee yet?

Mr. PIKE. No, sir. We wanted to get your approval, if you feel you should give it. We would like also to get your agreement with the people we pick. We do not feel we ought to be put in the position of being solely responsible for picking the people, who might be accused of bringing out the kind of a report we want.

We think it would be helpful if you or some of the staff would help us explore the field for who might be the right men. We think that, overworked as your staff is, somebody on the staff ought to be in there following and living with this work as it develops, so that as it is finished, no matter how it comes out, we can say it is honestly and decently done.

Mr. DURHAM. Have you gone into this to see if it is subject to a point of order?

Mr. PIKE. The riders? No; I have not. I do not know about the legal staff.

Mr. VOLPE. It is questionable. It depends entirely, particularly on the House side, on how they decide to handle the omnibus bill.

Mr. HOLIFIELD. What kind of rule the appropriation bill comes out under. This will be in the omnibus bill?

Mr. VOLPE. Yes. It is too early to say whether or not a point of order could be made with respect to this particular rider.

Mr. HOLIFIELD. I do not believe it is any way to legislate, and I will make a point of order on it if no one else will at the time, if a point of order can be sustained under the rules of the bill. It has not been put in there with the proper kind of consideration in the hearing.

Mr. DURHAM. The problem we have of covering this large scope, under the 5-minute rule you are under such a handicap.

Mr. PIKE. Are there going to be amendments allowed from the floor? One would like to see this amended out on the floor.

Mr. HOLIFIELD. You can always offer an amendment to strike, but it would be much easier to get it out on a point of order if it is susceptible to it.

Mr. DURHAM. We can determine that. We can get a decision from the Parliamentarian.

Mr. HOLIFIELD. You have three points. One point is that you should prove that this is a reasonable and customary profit on a cost-plus-fixed-fee contract. The second point is that the Government should not break its contracts summarily. The third point, as far as I am concerned, is from a legislative standpoint, this is no way to set the policy of handling these communities at this time, when we are under this H-bomb pressure of production. This is no way for this to be handled. It should be handled by a policy committee in a legislative way, rather than by a rider on an appropriation bill, and that is the way it ought to be fought.

Mr. DURHAM. Under the Supreme Court ruling has the Government a right to break a contract?

Mr. VOLPE. I wonder if I might make a comment off the record?

Mr. DURHAM. Off the record.

(Discussion was had outside the record.)

Mr. DURHAM. Would the Commission do this—advise each member by a letter on some of these problems that were raised, like the decision and other matters, how serious this is? You can set it forth.

Mr. PIKE. Yes, sir.

Mr. HOLIFIELD. Could you cover those three points in some type of brief to members of the committee?

Mr. PIKE. Yes.

Mr. HOLIFIELD. You see what we are up against, the low attendance here.

Mr. PIKE. We appreciate it fully.

Mr. WILSON. The reason Mr. Pike has stressed our point of having an analysis of this problem made by experts from the various categories of real-estate people, municipal operation, et cetera, is that none of us is terribly happy about these towns. They are a burden and they are difficult. But perhaps we can progress toward a more rational answer and course of action to follow in the future if, rather than sort of arbitrarily picking away at certain parts of it, we get a highly competent group, which we hope we can select in consultation with this committee, to make this study and come up with an answer better than anything we have done so far.

Mr. DURHAM. It proves how hard it is to make socialism work.

We appreciate your coming up here before us and outlining those matters to us and we will appreciate it if you will set forth those things we have talked about in a letter to the committee.

(Whereupon, at 12:40 p. m., the joint committee adjourned.)

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# COMMUNITY POLICY

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## HEARING

BEFORE THE

JOINT COMMITTEE ON ATOMIC ENERGY

CONGRESS OF THE UNITED STATES

IN EXECUTIVE SESSION

EIGHTY-FIRST CONGRESS

SECOND SESSION

ON

COMMUNITY POLICY

---

PART 2

JUNE 6, 1950

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Printed for the use of the Joint Committee on Atomic Energy

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(Created pursuant to Public Law 585, 79th Cong.)

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**WILLIAM L. BORDEN**, *Executive Director*  
**HAROLD BERGMAN**, *Deputy Director*

# COMMUNITY POLICY<sup>1</sup>

TUESDAY, JUNE 6, 1950

CONGRESS OF THE UNITED STATES,  
JOINT COMMITTEE ON ATOMIC ENERGY,  
*Washington, D. C.*

The joint committee met at 2:30 p. m., in room 48-G, the Capitol, Senator Brien McMahon (chairman of the joint committee), presiding.

Present: Senators McMahon (chairman), Millikin, and Bricker; Representatives Durham, Price, Kilday, Cole, Elston, Hinshaw, and Van Zandt.

Representatives of the committee staff present: William L. Borden, executive director; Messrs. Heller, Hamilton, and Mansfield.

Representatives of the Commission present: Commissioners Dean, Smyth, and Murray; Col. Coyner; Messrs. Wilson, Shugg, Williams, Volpe, Bayer, Salisbury, Noble, Towne, Hollis.

The CHAIRMAN. All right, Mr. Dean.

Mr. DEAN. We are up here today to advise you of a problem that if it is wrongly or carelessly resolved, I am afraid will give us a lot of trouble this next year. It has to do with the question of communities.

I am sure you are all rather tired of hearing about it, and certainly it produces the largest number of headaches for us. But I have prepared a statement here, which I am not going to read. I am not even going to attempt to paraphrase it at any length.

I would like to insert it in the record because it indicates pretty well what our position is, what our fears are, and so forth. I would like to give you orally perhaps a shorter version of it, if I may.

The CHAIRMAN. We appreciate that.

(The statement of Mr. Dean is as follows:)

## STATEMENT OF COMMISSIONER GORDON DEAN

In recognition of the Commission's responsibility to keep the joint committee fully and currently informed regarding its activities, we would like to discuss with you today some of the most important appropriation problems confronting the Commission. In particular, as we wrote you on May 23, 1950, requesting this meeting, we propose to discuss three particular provisions contained in the general appropriations act as passed by the House and to discuss them in the light of their effect on the atomic energy program.

The first of these is the community fee limitation which drastically cuts the fees being paid to certain Commission contractors. This provision would result in disrupting our community operations with consequent damage to the technical and production programs of the Commission. The second provision is the so-called Taber-Thomas amendment which in general would reduce the President's budget estimates by establishing ceilings on certain classes of obligations. Apart from the cuts it would impose, this amendment would seriously impair the Commission's ability to make necessary program shifts to meet new conditions and scientific advances. The third provision is the so-called Jensen

<sup>1</sup> Part 1 of the hearings on Community Policy has been printed and is dated April 18, 1950.

amendment. This provision, in general, limits the authority of Government agencies to fill vacancies occurring after June 30, 1950, and would probably cause a drastic reduction in the personnel of the Commission during the next year.

The community fee limitation is contained on page 265 of the general appropriations act, H. R. 7786, the language of which is as follows:

"\* \* \* no part of the foregoing appropriation or contract authorization shall be used in connection with the payment of any contractor or firm of contractors engaged under a cost-plus-a-fixed-fee contract or contracts at any installation of the Commission, where the fee for community management is at a rate in excess of \$90,000 per annum, or for the operation of a transportation system where the fee is at a rate in excess of \$45,000 per annum."

You will recall that we met with this committee on April 18, 1950, in executive session, and at that time explained our strong feeling that the enactment into law of this provision would be contrary to the best interests of the atomic energy program. At the conclusion of that meeting, Mr. Durham suggested that we send a letter to each member of the joint committee setting forth our views. This we did, also sending a similar letter to Congressman Albert Thomas, chairman of the Independent Offices Appropriation Subcommittee of the House and to Senator O'Mahoney, chairman of the Independent Offices Appropriation Committee of the Senate. With your permission, I would like now to refer to pertinent parts of the letter and to insert the full letter in this record.

To make the situation as plain as possible let me describe the operations of the Roane-Anderson Co. at Oak Ridge.

The Roane-Anderson Co. is a subsidiary of the Turner Construction Co. There are 22 persons on the Roane-Anderson Co. payroll who are also attached to Turner Construction Co. This experienced group of key personnel has a considerably greater earning power, in the judgment of Turner Construction Co., than the fee paid by AEC. It was estimated in September 1949, by Mr. Hernandez of the Turner Construction Co., that 14 Turner people employed at that time with Roane-Anderson Co. would earn for the Turner Construction Co. a sum of \$588,000 per annum. This estimate is based on actual earnings of comparable personnel now employed on Turner Construction Co. projects elsewhere than at Oak Ridge. The Roane-Anderson Co. annual fee for use of these persons is \$180,000. The House action would cut it to \$90,000. Over 80 percent of all the work performed by this company is in the field of physical maintenance of land and structures, and of related minor construction. This is the type of work for which the key personnel provided by Turner Construction Co. are especially trained by virtue of long experience, to perform. Compensation for this know-how is the real purpose of the fee.

The efficiency of the Roane-Anderson Co. in carrying out its work can best be judged by examining the record. The company was formed in 1943 when Oak Ridge originated as a war town. Oak Ridge grew rapidly and reached a peak population of 75,000 in 1945. At the time the Commission assumed operating responsibility for Oak Ridge, in January 1947, the population was 42,000, and there were 937 AEC personnel and 2,890 Roane-Anderson personnel with some experience in these operations. Today, Oak Ridge is a settled community of 30,000 population, and the company has had 6½ years' experience in dealing with the great diversity of problems involved in managing the properties in its care.

Roane-Anderson presently employs 1,732 persons, with greater responsibilities than formerly, as evidenced by the reduction in AEC personnel from 937 to 58. The number of Roane-Anderson employees alone is 40 percent below 1947 figures.

In fiscal year 1949, the first year for which accurate records of community costs at Oak Ridge are available, the gross cost of community operations was \$14,282,936, the revenue was \$6,911,030, with a net cost to Government of \$7,371,906. In fiscal year 1950, they are estimated to be \$12,701,918, \$7,888,305, and \$4,313,613, respectively, and in the Commission's fiscal year 1951 budget, gross costs were estimated to be \$11,809,999, the revenue, \$7,979,906, and net cost to the Government \$3,830,093.

These cost reductions are the direct result of intensive effort on the part of the company and the AEC staff to effect economies at a rate as rapid as an orderly adjustment of community services would permit. As you know, the fee limitation provision was debated at length on the floor of the House on May 5, 1950, and despite the efforts of House members of this committee to demonstrate the unsoundness of the provision and to explain its adverse effects on the atomic energy program, it was adopted by the House.

We cannot overemphasize the direct and vital relationship between the stability of the communities and the success of the atomic energy program. If un-

wise policies are pursued in the communities and if the communities are disrupted, then almost certainly disruptive consequences will be manifest in the program itself. It is our view that the community problem must be attacked on a broad base starting with the fundamental recognition that the AEC communities exist solely and completely for the support of the atomic energy plants and laboratories in or adjacent to the communities.

For some time, the joint committee has taken a great interest in the problems of community management and on several occasions has held special hearings regarding these problems. For example, when the Commission raised rents at Oak Ridge in connection with the program of moving ahead as rapidly as feasible in eliminating subsidies in the communities, you remember that there was a considerable furore from the residents of Oak Ridge, and a subcommittee of this committee (Representatives Durham, Holifield, Price) held a hearing at Oak Ridge. We have also been aware of the views of this committee, expressed in the report of the investigation last summer and more recently in the subcommittee report on the department store controversy at Oak Ridge, that you had doubts as to whether the Commission had shown adequate aggressiveness in moving toward the point where it could withdraw from the distracting business of running three communities. This committee had also expressed its opinion that a detailed plan should be drawn up for withdrawing from the towns and a definite timetable established for executing it.

We agree with your general viewpoint and with your objective to transform these communities into self-governing and self-supporting American towns. But we must frankly state that, while we agree with the desired end result, we do not know whether it can actually be done without jeopardizing the program; nor do we know, if it can be done, how long it will take. Our wrestling with this problem practically since the beginning of the Commission's existence, has convinced us that it would be reckless and irresponsible to attempt to pull out in a great rush. Before going into greater detail as to why we believe this, I would like to outline for you what has been our general approach to the whole community problem.

Our priorities in approaching the community management problem have been these: Our first priority has been to see to it that these communities are operated in a way that makes the scientists, technicians, and all the people on whom our program depends, willing to live there. Every other consideration is comparatively insignificant beside this one. It was obvious in 1947, for example, that we could not put a top priority on getting out of the communities altogether, at a time when scientists were leaving the project and there was an urgent need to get the whole project established as a vital going concern. This committee is well aware of the situation as it then existed. In this objective, we believe we have been successful.

Our second priority is, once having established a community with adequate facilities and adequate management, to place it on as efficient and economic a basis as possible as a necessary preliminary to any plan of getting out of the community management business. We believe that substantial progress has been made in this field. For example, the net cost to the Government of community operations at Oak Ridge has been steadily reduced from about \$7,300,000 in fiscal 1949 to an estimated \$3,800,000 in fiscal 1951. Similarly, at Los Alamos, the net cost of community operations was reduced from about \$8,600,000 in fiscal year 1948 to an estimated \$1,700,000 in fiscal 1951. The basic net cost of all community operations has been reduced from about \$21,000,000 in 1948 to an estimated \$7,500,000 in fiscal 1951. These cost reductions have been accomplished in the face of increases in the cost of wages, services, and materials, and, in the case of Los Alamos, a substantial increase in population.

Our third priority is to take all possible steps, without sacrificing our foremost objectives, leading toward the transformation of these towns into normal American communities with self-government, private ownership, and free enterprise. The early steps in this direction will enable us to determine as we go along whether it is possible to get out without jeopardizing the program and, if so, what the time schedule would be.

It is in connection with this third priority that I would like to outline briefly some of the problems which face us in getting entirely out of the community business.

As normal towns these communities would have local self-government, private ownership of commercial property, and private ownership of residential property. Absolutely essential to self-government in any community is not only the establishment of government instrumentalities through which the people can

make known their views and put into practice those policies they desire to pursue, but self-government also involves the vital need for financial stability and the means by which the residents can raise the necessary funds to carry on the local government. These means are lacking in the communities now. It is just a matter of simple arithmetic. For example, a detailed study of the feasibility of incorporating Oak Ridge was completed in January 1949. This study revealed that the community, if it incorporated, would require an annual contribution of \$2,000,000 from the AEC, over and above all payments in lieu of property taxes made by AEC on real estate in the community. This would amount to nearly half of the municipal budget, under incorporation, as estimated by an experienced municipal consulting firm. The net cost of municipal services in Oak Ridge is about \$4,600,000 in the 1950 fiscal year. The temporary war-built houses and commercial structures in Oak Ridge are totally inadequate as a tax base to support these services without confiscatory tax rates. Then, too, as you know, these towns have at present no other industry than the atomic energy plants and laboratories. Also the lay-out of these towns was not planned, during the war, with economy as a prime factor. Our purpose has been to reduce the cost of these services as rapidly as possible in the hope that ultimately the municipal budget could be balanced. But reductions cannot be made suddenly without a sharp curtailment in the standard of services, particularly schools. We are not willing to risk such an impact on the atomic energy program. It must be clearly recognized that the substantial expenditures of Federal moneys in these towns—subsidies, if you will—represent expenditures made as a means of getting the atomic energy job done.

Since the communities could not now support themselves, any reasonable plan for self-government would almost certainly involve substantial payments by the Federal Government to the local governmental unit. We believe the Federal moneys appropriated should be related directly to those needs which are necessary to and justified by their being in furtherance of the atomic energy program. If the Federal moneys now appropriated to these communities were completely turned over to the people for expenditure, special arrangements would be necessary to assure that the way in which the money would be expended would coincide with the needs of the atomic energy program. In fact, such arrangements might well result in greater expenditures in money and larger appropriations of money to the communities than are now being made. In any event, the establishment of local governmental units necessarily involves the working out of sound and equitable fiscal relations between the local government and the Atomic Energy Commission.

We do not believe real self-government is possible in a community owned entirely by the United States Government. Accordingly, any sound plan to get out of the communities involves the sale of land, houses, commercial facilities, and utilities. In the three communities, the estimated cost of the assets that might have to be sold by the Federal Government could amount to as much as \$300,000,000. The magnitude of such an undertaking is obvious.

Furthermore, it must be recognized that the establishment of independent local governments assumes the willingness of residents to purchase their homes and to shoulder the financial obligations involved in establishing complete local self-government. Self-government in the communities means money out of the pockets of the residents. Then, too, the future of these communities also may act as an impediment to the disposal of the houses and other physical assets in the communities, and to complicate the Commission's withdrawal.

It is not possible to establish the conditions of local self-government without reference to the effect it will have on the atomic energy program. The timing and sequence of establishing local self-government must be very carefully worked out to avoid serious disruptions in these three communities, with consequent disruptions to the atomic energy operations carried on in them. The timing, for example, cannot be the same in all three places. The town of Richland, for example, is an open town removed from the plant areas. Los Alamos, on the other hand, is a closed community in which plant facilities are located right in the town.

In sum, this is the situation: the United States Government has built and operates three towns for the single purpose of furthering the successful achievement of the vital goal of maintaining this Nation's supremacy in atomic energy. Much depends on this. If we were confident that the program would go ahead with undiminished drive, we would press immediately for withdrawing from the towns in all possible haste. But we cannot give you that assurance and we simply cannot gamble with the success of the atomic energy program by retiring pre-

capitately from the towns. As you know, we hope soon to have a panel of outstanding men to conduct an independent examination into these community problems and to advise us on what measures may safely be taken to move toward community self-government.

Turning now to the second of the provisions, we discuss the Taber-Thomas amendment (ch. X-A., H. R. 7786).

This amendment is designed to effect reductions in the President's 1951 budget estimates for all the agencies and departments covered by the general appropriation bill by establishing limitations on certain classes of obligations. The amendment provides for limitations on 10 separate classes of obligations corresponding to the "object classes" by which the budget shows the nature of the goods or services for which funds will be obligated during a fiscal year. The limitations are established through reducing, by a fixed percentage for each object class, the President's budget estimate for each department and agency. Let me cite a few examples.

Civilian personnel would be cut 10 percent except for the Department of Defense which is given a 2-percent cut. The personnel-cut provision does not apply to medical personnel in the Public Health Service and the Veterans' Administration. Contractual services would be cut 10 percent except for the Department of Defense. Appropriations for supplies and materials would be cut 10 percent except for the Department of Defense and veterans hospitals which are not cut.

You will recall that the reduction recommended by the House Appropriations Committee, and approved by the House, amounted to 10 percent of AEC's obligational authority for 1951. The House Appropriations Committee action left the Commission free to allocate the recommended 10-percent reduction among its programs and activities as might best suit the changing requirements of the whole atomic energy program. The Taber-Thomas amendment, on the other hand, requires fixed reductions in each of the 10 object classes and would seriously impair the Commission's ability to make changes in programs requiring a shift of funds from one object class to another.

This amendment would thus result in impairing the flexibility in operations which is essential to the program. Fiscal and budget rigidity, as this committee well knows, impedes the atomic energy program as it actually operates and must operate if our lead is to be preserved. The joint committee is in a position to appreciate the constantly changing nature of the atomic energy program and importance of allowing the Commission to adjust its budget to new developments.

Another important effect of the 10 separate limitations provided in the Taber-Thomas amendment would be to require the establishment of a complete system of fund control by object classes. The Commission's 1951 budget was presented on a "cost performance" basis and the present accounting systems of the Commission are designed to measure performance and to establish controls on an accrued cost basis. The method of fund control required by the Taber-Thomas amendment would represent a step backward in the Commission's program to establish its budget and accounting systems on a cost-performance basis.

It is not possible at this time to measure the full effect of each of the limitations under the amendment. However, it is apparent that there would be a substantial effect on activities falling under several of the object classes. For example, in the case of the limitation on rents and utility services, it should be noted that 13.3 million dollars of the 13.9 million dollars shown in the budget estimates for the Commission is for the purchase of gas and power for the operation of the production plants at Hanford and Oak Ridge. Since these plants require a continuous operation and power requirements are fixed, the effect of a 10 percent reduction applied specifically to this object class would be most serious.

It should also be noted that there is an inconsistency between the amendment and the proposed limitation on fees for community management contractors which we discussed earlier. As we explained, the fee limitation, if approved, would probably force us into direct Government operation of at least a part of the work now being done under contract in our communities. The direct activities of the AEC are chargeable to different object classes than are the activities of our contractors. The activities of our contractors are budgeted under the object class "other contractual services", whereas the direct activities of AEC are spread among the other object classes. Should direct Government operation become necessary, all of Roane-Anderson's expenditures, for example, which are currently charged to "other contractual services", would become chargeable as direct Government operations to other object classes and would also certainly require further congressional action to amend the limitations provided by the amendment on those object classes.

The third provision we wish to discuss is the so-called Jensen amendment. (Sec. 1114, H. R. 7786.)

In general, the Jensen amendment would permit the Commission to fill only 1 in every 10 personnel vacancies occurring after June 30, 1950, except for certain exempted positions, such as scientific and technical personnel and law enforcement officers.

The meaning of the amendment is not clear in a number of particulars, and this is one of the features of the amendment that concerns us a great deal. For example, it is not clear what proportion of our security forces would be exempt as law-enforcement officers. As another example, the amendment might be construed to effect the Commission's authority to establish and fill new positions for a new program or a new installation. This could well cripple the program.

Our average turn-over for AEC employees, based on past experience, is about 2 percent a month. This means that beginning with an estimated employment of 5,000 persons on July 1, we can expect vacancies to occur during the fiscal year 1951 in about 1,150 of our existing positions, of which over 300 vacancies would normally occur in our security forces. After allowing for the 10 percent replacement quota provided in the Jensen amendment, there would be more than 1,000 vacancies which could not be filled unless exempted by the terms of the amendment. If we assume that none of our security forces would be exempted as law-enforcement officers, but allowing for replacement of scientific and technical personnel, there would be about 900 vacancies which we could not fill. We, therefore, believe that, particularly with an expanding program, the Jensen amendment would seriously hurt us.

Mr. DEAN. Another thing I would like to insert in the record, which I believe is not in, is a letter which we sent over in response to a suggestion from Congressman Durham the last time we were up here, talking about communities. You asked the Commission for it. It is dated April 21, and I think copies went to every member of this committee and to the Appropriations Committees. If I may introduce that as well; I don't think it is repetitious.

(The letter referred to above is as follows:)

APRIL 21, 1950.

HON. BRIEN McMAHON,  
*Chairman, Joint Committee on Atomic Energy,  
Congress of the United States*

DEAR SENATOR McMAHON: In the hearing before the joint committee last Tuesday morning, we explained to the committee our belief that we would be unable adequately to fulfill our responsibilities for expanded production of fissionable material and the development of new weapons if the community contract fee limitation rider as reported by the House Appropriations Committee is enacted into law. At the conclusion of the hearing Congressman Durham requested us to submit to each member of the joint committee a short written statement setting forth our views on the rider. This letter is in response to that request.

The General Appropriation Act of 1951 (H. R. 7786), as reported by the House Appropriations Committee, contains a provision (p. 265, beginning line 22) which states that no part of the Commission's appropriation or contract authorization "shall be used in connection with the payment of any contractor or firm of contractors engaged under a cost-plus-a-fixed-fee contract or contracts at any installation of the Commission, where the fee for community management is at a rate in excess of \$90,000 per annum, or for the operation of a transportation system where the fee is at a rate in excess of \$45,000 per annum."

If enacted into law this rider would drastically cut the fees paid to three private contractors under existing contracts with the Commission. The Roane-Anderson Co. fee of \$180,000 per annum at Oak Ridge and the Zia Co. fee of approximately \$154,000 at Los Alamos would be cut to \$90,000, and the American Industrial Transit Co. fee for transportation service at Oak Ridge would be cut from \$90,000 to \$45,000. The Roane-Anderson Co. is a Tennessee corporation formed at the request of the Government, whose parent company is the Turner Construction Co. of New York. The Zia Co. is a New Mexico corporation formed at the request of the Government, whose parent company is Robert E. McKee, Inc., of El Paso, Tex. The American Industrial Transit Co. is a Tennessee

corporation formed by officials of large bus companies to operate the transportation system at Oak Ridge.

At the outset we would like to correct one generally prevailing misconception regarding the function of these maintenance and service operating contractors. It is really incorrect to refer to them as "community contractors." Their functions are not at all limited to the normal functions of municipal government. Municipal functions are a minor part of their work. This is particularly true at Los Alamos. Their responsibilities extend far beyond such functions to such additional tasks as managing extensive real estate operations and undertaking the care and maintenance of substantial amounts of physical property in the communities. In fact, at Los Alamos the Zia Co. is responsible for the physical maintenance of the technical laboratory itself.

We firmly believe that the enactment into law of the fee limitation rider would expose the atomic energy program to unnecessary risks which would adversely affect the early accomplishment of critical projects. Our reasons for this belief are as follows:

1. It will play havoc with the stability of community operations. The Roane-Anderson Co. has stated that it expects to be paid the presently agreed fee until the end of the contract on December 31, 1950. The company has informed us that under no circumstances would it consider renewing the contract for the maximum fee permitted in the rider. The Zia Co. has also indicated that it is not interested in continuing under the fee limitation of \$90,000 per annum for all the services they render at Los Alamos. We have as yet received no comment from the American Industrial Transit, Inc.

We do not believe it is possible to obtain competent contractors to take the place of these companies for the maximum fees allowed in the rider. The rider would almost certainly force us into direct Government operation of community affairs. Direct Government operation is extremely unwise for several reasons.

First, it is more costly because of the special security clearance requirements, vacation, sick leave, work day, and pension privileges accorded Federal employees compared with the employees of private contractors. In addition to increased operating costs, we would incur a heavy transition cost.

Secondly, direct operations would constitute a long step backward in our continuing efforts to get the communities on an efficient and economical basis as a necessary preliminary to getting completely out of the community management business. Much progress in this direction has been made. For example, the net cost of community operations at Oak Ridge has been steadily reduced from about \$8,600,000 in fiscal 1948 to an estimated \$3,800,000 in fiscal 1951. Similarly, at Los Alamos the net cost of community operations was reduced from about \$8,600,000 in fiscal 1948 to an estimated \$1,700,000 in fiscal 1951. The basic net cost of all community operations has been reduced from about \$21,000,000 in 1948 to an estimated \$7,500,000 in fiscal 1951. These cost reductions have been accomplished in the face of increases in the cost of wages, services, and materials. These are real savings and this progress ought not to be disturbed.

With respect to municipal affairs, the ultimate achievement of incorporation and local self-government in these communities will be much easier under contractor operations than it will be if we have to take the backward step to direct Government operations.

Finally, and most important, a transition to direct operation would result in a substantial diversion of key Atomic Energy Commission staff and top management, both in the field offices and in Washington, to the job of organizing and implementing an activity of this magnitude. We cannot afford such a diversion of effort at this critical time when the full energies of the Atomic Energy Commission staff are required to successfully carry out our responsibilities for the current expansion program and the weapon effort. This is by all odds the most disturbing aspect of the rider.

2. The rider would undoubtedly have a disturbing effect on other cost-plus-a-fixed-fee contractors, including those who operate the plants and laboratories. The implications of this kind of legislation are indeed serious if private contractors in the atomic energy program come to feel that contracts negotiated in good faith with the Atomic Energy Commission may subsequently be amended by legislation in such a way as to cut the agreed-upon fee.

3. The fees in community contracts were negotiated on an arm's-length basis with the private contractors. We believe those fees are reasonable. The Roane-Anderson Co. fee at Oak Ridge of \$180,000 annually amounts to approximately 1½ percent of the roughly \$13,000,000 total reimbursable costs of the company

for the fiscal year 1950. The Zia Co. fee at Los Alamos of approximately \$154,000 represents about 1¼ percent of the total reimbursable cost of about \$12,500,000. These fees are well within fee schedules used by Government agencies and individual corporations, and are not out of line with fees paid to contractors in generally comparable situations. In considering the reasonableness of the fee, it must be emphasized that a large portion of the work done by the community contractor is of a physical building-trades nature. We believe that private companies are entitled to a reasonable profit for the managerial skill which they furnish and for the assignment of key men to the job—men whose services could profitably be used in other undertakings by the companies.

The community problem should be attacked on a broad basis and not in piecemeal fashion. Accordingly, we propose immediately to set up a panel of outstanding men to conduct an independent examination into our community operations. This panel would include people of recognized competence in the fields of municipal affairs, Federal administration, and real-estate management. Their job would be to make an over-all study of the problem. We would appreciate any recommendations of the committee as to persons who would be particularly well qualified to serve on this panel. As you know, the community problems are extremely complex, particularly in view of the direct relationship between the communities and the laboratories and plants they support. We believe a survey of the communities by a panel is essential to a balanced understanding of the problems involved and is of great importance in formulating sound policies. We urge the joint committee to do what it can to eliminate the rider and thus to avoid an immediate impediment to the fulfillment of the whole atomic energy program as well as to give time to the panel to make its survey and recommendations.

Sincerely yours,

UNITED STATES ATOMIC ENERGY COMMISSION,  
HENRY D. SMYTH, *Acting Chairman.*

Mr. DEAN. We have got a real problem before us now. When we were up here last time we simply had before us the House rider, which, as you recall, would have cut the fees of Zia at Los Alamos, the fee of Roane-Anderson, and the fee for the transport company at Oak Ridge in half, and which would in effect, because of various circumstances, throw us into a direct Government operation of these communities.

We are faced with the problem of having two policies suggested up here in the Congress as to which direction we should go. I think this committee has been rather consistent in saying we should get as free as possible from the management of these towns; and now we have the proposal over in the House, and we appreciate very much members of this committee trying to make clear in the debate what our problem was, but we have a proposal which would run us directly into Government operation of the towns.

The GAC met with us here about last week end, we told them some of the difficulties, and they said they would not make an assessment of what disruption would be involved at Los Alamos or Oak Ridge.

They didn't feel competent to do it, but they would say that if there ever was a critical time at both Oak Ridge and Los Alamos it is now; and, if any disruption would result from putting this into a Government operation, it certainly should be postponed.

We are prepared to supply you with any information you want on this. I don't think you want to go over things with which you are quite familiar.

One misunderstanding, I think, has crept into these debates, on which we think you could help us straighten out the other Members of the Congress. These are not, strictly speaking, community management fees. Los Alamos has had a particularly hard time getting this point across.

At Los Alamos we have the fee to the Zia Co., and 52 percent of it roughly goes for the purpose of repairing and construction work and

maintaining the laboratory at Los Alamos, and has nothing to do with the town itself.

The remainder does go to such items as customarily fall in town management, plus other items, such as rentals, house repair, and so forth. At least 52 percent of that Los Alamos fee is attributable to the work done for the laboratory itself in the technical area at Los Alamos.

Senator BRICKER. Couldn't that be set up in such a way as to show that more clearly?

Mr. DEAN. We have tried it, and that is why I am up here again.

Mr. VAN ZANDT. If you read the debate, I think you will find that during the debate on the floor we tried to convey to the Appropriations Committee the fact that this committee was an over-all committee and not particularly a management committee.

Mr. DEAN. That is true, but it is one of those points that has to be said over and over again. Otherwise, the confusion remains.

Mr. DURHAM. Mr. Dean, we didn't have the information about the 42 percent for the upkeep of the laboratory.

Mr. DEAN. That figure was not used.

Mr. DURHAM. No.

Mr. COLE. What is the fee of Zia?

Mr. DEAN. About \$153,000.

Mr. COLE. You mean 42 percent of \$153,000 goes to work—

Mr. DEAN. Is attributable, when you make up the component parts of the fee, is attributable to the work in the technical area itself.

Mr. VAN ZANDT. That is maintenance of the technical area?

Mr. DEAN. Maintenance and such construction work as they do.

Mr. VAN ZANDT. New construction?

Mr. DEAN. Call it maintenance.

Mr. HINSHAW. Is that actual maintenance or profit on maintenance?

Mr. DEAN. That is maintenance.

Mr. HINSHAW. It is not any profit at all?

Mr. DEAN. That is right.

Mr. COLE. You don't mean that 42 percent of Zia's fee of \$153,000 is spent by Zia on the painting of houses, surfacing roads, etc.?

Mr. DEAN. I said it is attributable to it.

Mr. COLE. Fifty-two percent of what is attributable?

Mr. DEAN. Of the fee. You take the fee and you are going to work out how Zia shall be paid. You take those portions of the work, and 52 percent of that fee is attributable—actual work done there. The fee, of course, is kept by them.

The CHAIRMAN. As opposed to community management. In other words, 52 percent of it goes for supervision and overseeing and construction work and repairing in the technical area.

Mr. DEAN. And maintenance.

The CHAIRMAN. The other 48 percent is the management fee of a city?

Mr. DEAN. That is right. That doesn't change the whole picture, but it does show you that this label of "community management fee" is too loose a label to apply to this situation.

Mr. VAN ZANDT. Did you give this information to the House Appropriations Committee?

Mr. DEAN. It may be buried in the statistics. I pulled it out for this purpose to point it up. We have a letter here we sent to Mr. Thomas.

I don't know whether it covers that point or not. We sent it to him before the debate on the House floor.

That is the first point I want to make.

Much the same thing could be said about the Roane-Anderson fee. I think we can support this. Only approximately 25 to 27 percent of the fee of Roane-Anderson is attributable to strictly community-management operations, and the remainder of it, practically all the rest, roughly 75, to operations inside the town that are not community, and operations outside the town, but in the area.

Mr. ELSTON. May I ask this: Is that all in your contract?

Mr. DEAN. I will ask Mr. Williams to say whether it appears in the contract. It is part of the papers made up when you go to negotiate the fee, so that both sides understand what part of the fee is attributable to the work.

Mr. ELSTON. Is that the custom ever since they have been managing the properties?

Mr. DEAN. They have never had good cost figures until 1949 on that.

Mr. WILLIAMS. That is true. We had reliable figures in 1949. The contract itself says they will do certain work. It doesn't break it down percentagewise, but the costs are kept on the work, and from the costs you can get the percentage figures.

Mr. ELSTON. So, you can hold to that 52 percent? It is possible to do that? Is 52 percent mentioned in the contract anywhere?

Mr. WILLIAMS. No, because the contract says they will do certain work, and it lists the work they will do, the scope of the work they will do, but it doesn't say this portion of the work is 52 percent or any other percentage. The cost system which we use to record the costs as they are incurred gives you this information.

Mr. ELSTON. How long are these contracts. When do they expire?

Mr. DEAN. Roane-Anderson's expires at the end of the year. Zia's expires June 30 of next year.

Mr. KILDAY. Is it the view of the Commission that the language inserted by the House committee is such that you would not be permitted to separate community management from that work done in the technical area?

Mr. DEAN. That is our view. It is quite clear, in talking to the House committee, that when they used the term "community management fee or its equivalent" they meant the money to Zia or Roane-Anderson; and we would be playing cozy with them if we tried to break it up.

Mr. KILDAY. They say:

*Provided further,* That no part of the foregoing appropriation or contract authorization shall be used in connection with the payment of any contractor or firm of contractors engaged under a cost-plus-fixed-fee contract or contracts at any installation of the Commission, where the fee for community management is at a rate in excess of \$90,000 per annum, or for the operation of a transportation system where the fee is at a rate in excess of \$45,000 per annum.

Couldn't you administratively separate the community-management part?

Mr. DEAN. Not with the legislative history we have on it, and the very frank discussions with some of the staff and members over there. I don't think we could get away from that.

Mr. KILDAY. You are afraid they would get mad?

Mr. DEAN. I think they would say, "You know what we meant, whatever we said, and we made it clear, and now you are trying to come around with a device which really does violence to our directions."

Mr. DURHAM. Did you have an appearance before the Appropriations Committee on the House side. How long was your appearance?

Mr. DEAN. I think our appearance over there—approximately two full days.

Mr. DURHAM. What is the reason you were not able to get it across to them? What was the cause for it?

Mr. DEAN. I think one reason, Mr. Durham, was this: that when we went there to appear on our appropriation they did not say at the outset that "that is what we are going to do to you."

We just presented our budget. While there were little indications during the course of the hearings, they were not happy about community affairs generally—and certainly we are not either—we didn't have any such language to talk to. It was after our presentation was over that we learned what it was, and then the only way we could do it was through letters and conversation.

It really wasn't threshed out in the hearings. If we had been presented with it at the outset, I think we would have been prepared to talk to it, but we weren't.

The CHAIRMAN. You didn't get a warning in the course of the questioning that that was what they had in mind?

Mr. DEAN. Not enough, except a general unhappiness about this.

The CHAIRMAN. This committee registered its unhappiness in the report we made on the investigation last year.

Mr. DEAN. What I should like to suggest, if I might, Mr. Chairman, is this: There is not only this proposal before us but there are lots of other suggestions being made now. The Senate has this matter before it in the Senate Appropriations Committee.

What we fear is not simply the House one, bad as that would be, the Government operation, but we fear any attempt at this time—we fear any kind of rider which would attempt at this time, simply by a rider, to resolve all of the difficult questions that are involved in this question of running communities.

Mr. DURHAM. What is going to be the situation at Arco?

Mr. DEAN. Will we have one? We are determined we will never have a community at Arco. It is the last thing in the world we want.

Mr. VAN ZANDT. Where will they live?

Mr. DEAN. Live in towns. We hope private industry puts up enough places to take care of the people.

Mr. HINSHAW. I think this subject of money and fees could be resolved if we could find out or if anybody could find out just how much of these fees are fees upon which income tax would be paid by the company. That gives you the net amount that can be considered as a fee.

The rest of it deductible for this reason and that reason.

Mr. DEAN. I can give you the figure Roane-Anderson pays in income tax out of the fee.

Mr. HINSHAW. That wouldn't help. It is the figure on which they pay income tax.

Mr. WILLIAMS. This we have not checked. This we have been told. We have not verified it, because we didn't think it of enough interest

to go that far. But we have been told that of the total fee Roane-Anderson had received on their contract at Oak Ridge to date 48 percent plus had been paid back in Federal income taxes.

Mr. HINSHAW. That doesn't come to the point, because that depends on the rate of income tax they pay. What I am talking about is: On how much income do they pay taxes?

Mr. WILLIAMS. I don't know. You mean the total for the company?

Mr. HINSHAW. Roane-Anderson; yes.

Senator BRICKER. Net profit they make on the job.

Mr. HINSHAW. On which they pay income tax, not how much tax they pay.

Mr. DEAN. That figure we don't have.

Mr. HINSHAW. That will give you the net on the thing pretty well, unless they have got some fancy deductions.

Mr. DEAN. This is the suggestion I would like to throw out to this committee with the hope that it might prevent riders too quickly conceived that might really hurt the program.

I am afraid of some kind of rider that might attempt in this session to tell us to free ourselves of this town within the course of the fiscal year. Now, while it is a worthy objective, we are convinced, from our close examination of all the problems involved, it just couldn't be done.

There would be all the problems of selling off the land, getting the houses sold to the people, furnishing a tax base, getting the evaluations necessary for that, getting rid of the stores, incorporating the town—all of those problems could not be done, in our opinion, in less than 3, 4, or 5 years.

So what I would hope this committee might be willing to do is this: there have been plenty of hearings on this community problem, but no committee has sat down on the ground with these people as a community committee, and it seems to me it belongs in the joint committee, and talked to the residents—you have on certain cases such as the hearings on the rents—

Mr. VAN ZANDT. Individually too.

Mr. DEAN. But really go through this thing and come up with some direction to us as to whether we stay in this business or whether we get out of this business and how it is to be done.

It is so broad and it is so complicated I don't think you can consider rider legislation satisfactory, with a problem as big as this one. The more we look at it the more complicated it gets.

Mr. VAN ZANDT. A moment ago you said this situation arrived at a time when conditions are critical at Los Alamos and Hanford. Why are they critical? Is it because of the labor conditions, and so forth?

Mr. DEAN. I am trying to paraphrase the GAC report, and I think they said critical. It is because of the load on those two communities and the importance of the load to national defense. There is no question at Los Alamos today if we start either into a Government operation—that would be bad—but, certainly, if we went into a disbanding of the town, gave up our obligation, tried to sell houses when we have them back of the fence—we would play havoc with national security.

The CHAIRMAN. They would stop work in the laboratory and start wrestling about how much they would pay.

You and I had a talk about a committee that was going to be appointed of outside experts to advise you. Has that had any progress?

MR. DEAN. We have this panel in mind and have been getting personnel gradually. It has been hard to get the best people. On this panel we hope to have somebody who is an expert in real estate management, somebody perhaps with the experience of running a company town. The duPonts, for example, have had some bitter experiences in some large company towns and are getting rid of them. Then somebody in the insurance game, perhaps, who developed a large community with insurance company funds—somebody who has been an outstanding city manager. The man we picked, one of the outstanding men in the country, died the day we sent the invitation.

(Discussion off the record.)

MR. DEAN. I think if the Congress could know that this committee was setting itself up as a committee on communities or subcommittee on communities and really going into it, it would feel not so compelled to throw a rider on us this year, which I am afraid might have very serious results.

MR. COLE. Haven't you had a chance to present your side of this community thing to the Senate Appropriations Committee?

MR. DEAN. How long a session was that?

MR. WILSON. A couple of hours.

MR. COLE. A couple of hours on community management or the whole thing?

MR. WILSON. I would say at least an hour and a half on community management.

MR. COLE. And the effect of the House rider?

MR. WILSON. Yes.

MR. COLE. Do you feel you made any impression?

MR. DEAN. No, I don't think we made too much. I think some.

THE CHAIRMAN. There is no question about this being legislation on the appropriation bill?

MR. DEAN. I think it would depend on how it came out.

THE CHAIRMAN. Limitation on the use of funds.

MR. HINSHAW. There is no question, except we had a rule—

THE CHAIRMAN. I was thinking about the Senate where it would be subject to a point of order.

Senator BRICKER. It applies to the dollar value. It would not be subject to rule.

MR. ELSTON. It is what happens when the Appropriations Committee undertakes to legislate.

THE CHAIRMAN. What do you gentlemen think we ought to do?

How would it be if some of us went down and met with the Appropriations Committee and tried to explain this thing to them?

MR. KILDAY. Preliminary to that, how would it be to offer a bill with reference to community management that would be referred to this committee, set it for hearing here, and then go talk to the committee and tell them we have it here under consideration as a legislative matter where it belongs.

THE CHAIRMAN. How would you frame your bill?

MR. KILDAY. I would ask the Commission to do that.

MR. HINSHAW. It would be a simple bill authorizing the Commission to make contracts for community management.

Senator BRICKER. It would still have to go to the Appropriations Committee.

Mr. VAN ZANDT. I think you would get a broader hearing from it, both from this committee as well as the House and Senate in general.

The CHAIRMAN. Have you any other suggestion to make, Mr. Dean?

Mr. DEAN. No; I just have the conviction that a lot of the Members of the Congress, if they thought this committee, which is concerned with the Atomic Energy Commission's problem, was really going into it and you could say so on the floor, they would be reluctant to pass a rider which would resolve the questions you would have to study.

Senator BRICKER. Nothing was ever done about amending rule 6 in the Senate to put a couple of members of this committee on the Appropriations Committee to sit *ex officio* when matters of the Atomic Energy Commission are being considered?

The CHAIRMAN. They have been courteous enough to advise me and I have gone down there on a number of their hearings, and I advised Senator Hickenlooper of the fact that they were being heard, and he was there one time, I believe, when I was not.

Senator BRICKER. Have we any members on the Senate side who are on Appropriations?

The CHAIRMAN. Knowland and Russell.

Mr. HINSHAW. Are they on the subcommittee which handles the independent offices?

The CHAIRMAN. Knowland is. I don't believe Russell is.

Mr. DEAN. Even a report, I think, out of this committee, indicating that is the direction you were going, or something of that kind, based on today's testimony, might be helpful.

Senator BRICKER. Has Senator Knowland been briefed on this problem?

The CHAIRMAN. I don't think so.

Mr. BORDEN. No.

The CHAIRMAN. He has not.

Senator BRICKER. As a first step, we might be able—

The CHAIRMAN. How would it strike you gentlemen if I were to ask the chairman of the committee, Senator O'Mahoney, for a conference and we go down and have a talk with them about it? Perhaps the Commission could be represented in such a conference.

Mr. DEAN. We have talked to Senator O'Mahoney.

The CHAIRMAN. What is his attitude?

Mr. DEAN. His attitude, I think—perhaps Mr. Shugg had better state that.

Mr. SHUGG. He hoped that we could in a very short space of time, get out of community management entirely and turn it back to the people.

In the course of our short conversation we tried to bring out the fact that the people themselves have to be considered in that. We have 69,000 people we have to sell this thing to.

Senator BRICKER. Senator O'Mahoney is the chairman of the Subcommittee on Independent Offices?

Mr. DEAN. Yes. McKellar is the chairman.

Mr. ELSTON. This amendment itself won't accomplish that.

Senator BRICKER. It will make it more difficult.

Mr. DEAN. It is difficult to conceive how any amendment to the appropriation rider could get us out of the towns in a year, but it

might be that the worst could be this: "No funds shall be appropriated for the payment of community obligations out of this."

I can't expect anything as bad as that, but that is the only way I can see it would be tied.

Mr. HINSHAW. I would like to suggest that pending any action by this committee, if you could find the time, perhaps Senator Bricker, who sat here most of the time on the Senate side, could talk this over with O'Mahoney, and at least find out what they would do.

Senator BRICKER. Knowland should be there, too.

The CHAIRMAN. Suppose Bricker, Knowland, and I confer with O'Mahoney and then perhaps if that isn't enough, with all the members of the subcommittee. Then we could appoint a subcommittee to make a study of the situation.

I feel as though we have made enough studies of the situation, as far as this committee is concerned. We heard a lot of testimony in the hearings of last year about the state of affairs and there were some things we didn't like about the Zia management and said so in our report.

Senator BRICKER. On the other hand, you don't want to break up the progress of the development of the program at this time. It would throw confusion into it at the very best. If the Commission is going to appoint this committee of citizens to study the problem, I think the strongest argument is to wait until they report and see what their suggestions are. I think the Congress would like to get the Government out of contract management of the communities or get the communities established as municipalities, but, on the other hand, we had better get good advice.

Mr. DEAN. In setting up the panel we would make the panel come in with its final report before the first of the year.

The CHAIRMAN. You had better get that panel appointed before the appropriation bill gets on the floor.

Senator BRICKER. That would help.

Mr. PRICE. Mr. Dean, of course, we are sympathetic with you in this matter, but if I were sitting on the Appropriations Committee, I would want to know in just what way the community and the project would suffer by this language. Could you give us a picture of just what you expect to happen if this language goes in the bill?

Mr. DEAN. This language, understand me, is not the language which says get out of the towns tomorrow. That would be disastrous. This throws us into Government operation. When thrown into Government operation, in the first place, we are going to lose some personnel, some of the key people out of Roane-Anderson, maybe a few out of Zia, who will go back to the parent corporation.

Remember there were about 30 key executives that the Turner Construction Co. threw into Roane-Anderson and those people have been on the payroll, and they have 6 years' know-how. Some of those people have been with the Turner Construction Co. as long as 20 years, another man 17 years, and so forth.

The chances are, in view of the representations made to us by Roane-Anderson during our negotiations for the contract, that those men can make more for the Turner Construction Co. if they are pulled out and put on projects with the Turner Construction Co.

As a matter of fact, the figures are quite impressive. They would be three or four times the fee they are receiving. I would expect,

No. 1, we would lose some of those men. I can't say precisely how many or which ones. We would lose some.

We would have to replace those men then with people whom we put on the Government payroll. I don't know where we would get them. We could probably stumble along pretty well.

Mr. DURHAM. That is a matter of jack of all trades?

Mr. DEAN. Top people.

Mr. DURHAM. You won't lose all the way through.

Mr. DEAN. The ones you are talking about would stay on. It is the supervisorial personnel we are concerned with, who have the know-how, have done the job, and are in there doing pretty well. That is No. 1.

The second thing is we have the job of processing all the new people to fill these jobs. We are going to have to get FBI reports on every single one of them, whether they ever come in contact with a document or anything else, because they would be AEC employees. We will have to go through that mill.

The next thing is that it will cost more money to the AEC. Our estimates are that in this attempt to save the money by halving the fee, we will pay in added costs something like six or seven times what would be saved in fee reduction. We estimate the cost at Roane-Anderson would be roughly a million dollars.

Mr. DURHAM. We can solve the problem of the FBI investigations. If this is a public utility, I see no excuse for those going through FBI clearance.

Mr. DEAN. You have to have that at Los Alamos. They are in the town.

Mr. DURHAM. You would have to have it?

Mr. DEAN. Yes.

Mr. PRICE. In and out of the laboratory and technical area.

Mr. DEAN. Yes.

Mr. DURHAM. That doesn't exist at Oak Ridge?

Mr. DEAN. Less at Oak Ridge, because it is an open town. Those are the chief disruptions that I see in the Government operations, the change-over of personnel, loss of key personnel, plus the dollars that—if we are concerned with dollars—we will lose by going into it.

We will lose the dollars, as you gentleman already know from your talks on the House floor, in the overtime payments, the sick leave, and things of that kind that will run it way on up.

We will have to have at the fire department, for example, at Oak Ridge men on 8-hour shifts instead of 12-hour shifts. That means in that operation alone we will have to put on a third more men.

Mr. COLE. Why can't you do your own public works in the plant properties? Why do you have to have Roane-Anderson?

Mr. DEAN. The utilities themselves?

Mr. COLE. The paving of the streets and painting of the buildings and taking care of the electricity.

Mr. DEAN. There is no question but that we could. I couldn't argue against it.

Senator BRICKER. It will cost a great deal more.

Mr. DEAN. It will cost more and is disruptive at this time.

Mr. COLE. I don't see why it will cost more. Roane-Anderson hires an electrician to go into the plant, just like the Commission would have to.

Mr. DEAN. We have a breakdown on that as to just where the additional cost will come at Roane-Anderson by these additional people that will have to come in. It is substantial.

Mr. HINSHAW. You have civil-service rules right off the bat.

Mr. COLE. With respect to your supervisory people, maybe a half dozen of them.

Mr. HINSHAW. You have it with relation to every employee, with his 200 days of work against 250 on the outside.

Mr. COLE. The paving of streets would be under contract. The paying for engineers and electricians wouldn't be civil service.

Mr. PRICE. You mean you would have to set up a Public Works Department of your own?

Mr. DEAN. There is another angle to this matter—one which is perhaps hard to demonstrate, but it is certainly real. These contractors are somewhat of a buffer for us. I will never forget the story Franklin told me. He went down to his Oak Ridge office on a Saturday morning, figuring, "I will not get into any community problems, and I can work on the job." At 8:30 the first telephone call was from a lady who complained because the hours of the theater opening had changed. That is the way it went all day. If that is true when we have the buffer organization which takes a lot of that stuff, how much more true will it be when the AEC has all this? Tyler at Los Alamos will have time for little else without some buffer.

Mr. COLE. I was thinking along the lines of the suggestion of Mr. Kilday, giving Roane-Anderson two different contracts. Wouldn't it be proper to divide the contract? You could keep faith with them by saying, "We shan't let this work out on our own property and so we shall do it ourselves and hire Roane-Anderson to run the community."

Mr. DEAN. That would alleviate the situation certainly at Los Alamos if we could take the contractor and have him run the Tech area and then have another contractor take care of the town. That is an alternative. It has never been suggested. It is certainly not as bad as total operation, but take Los Alamos on the effects again. We have got only two men on the staff at Los Alamos who deal with Zia day in and day out and know the community operations; just two men. We just don't have the personnel in the AEC to take that over and do it smoothly and well, without making everybody in the lab mad because of the distractions involved in the changing of rents and services and houses and so on. If we had a staff built up there, that would be something else.

The CHAIRMAN. The reason for their reaction is because they think it is too much money for what they are giving. That is the basis of it. Because these men don't want a more socialistic undertaking, putting the Government further into direct operations; you might call it socialism in this enterprise.

We have based everything on the philosophy of getting contractors to work for the Government, and putting the Commission into community management is a socialistic step.

Senator BRICKER. The whole atomic energy thing is a complete socialistic set-up.

The CHAIRMAN. In a sense, that may be and that is why, because of that, we try to keep our free-enterprise concept as healthy as we

can. The basis of the objections must be that the Appropriations Committee think the community contractors are getting too much money.

Now, have you in any of your conversations with these gentlemen had them tell you where they thought the fee was excessive?

Mr. DEAN. This is arbitrary as I understand it—just cut it in half.

Senator BRICKER. You mean the committee?

The CHAIRMAN. Yes; the Appropriations Committee.

Mr. DEAN. I don't want anything I have said to indicate that Mr. Gore or members of the committee—he was acting chairman for our appropriation—haven't gone into this whole matter. They know our program quite well, and I will say he was very considerate, but I still think, in spite of all that, they are coming out with the wrong answer.

Mr. DURHAM. They wanted to cut it more than that.

Mr. DEAN. Some did; yes.

The CHAIRMAN. What you really want is some time within which to get some professional advice.

Mr. DEAN. Give us a year. Don't give us a rider. Let us look it over intelligently, either with this committee or with our panel alone, either one or both.

The CHAIRMAN. If you will appoint the right panel and bring them in here with a report and talk to us, we can adopt or reject their report, as far as our cooperation is concerned.

Mr. DEAN. We promise to have that report from the panel by January.

Senator BRICKER. It is important because you will face it next January, if we get by this year.

Mr. DEAN. We have two other items I call your attention to. One is that in the Thomas-Taber amendment, which is a rough cut of 10 percent, you will notice that the Military Establishment has certain exemptions; we have none. I submit we at least ought to be on the same plane with the military in these days.

The other is the Jensen amendment, which prevents our hiring after June 30 of this year more than one-tenth of the number of people who are turned over or let out of the program. Our turn-over is large, and it would mean in rough figures that out of a total employment of approximately 5,000 we would wind up at the end of the year with 1,000 less, or a 20-percent cut in our staff.

The CHAIRMAN. I think that is an oversight.

Mr. DURHAM. If I recall, in the debate on the floor of the House, the question was asked as to whether the Atomic Energy Commission was included.

Mr. DEAN. On the Taber amendment?

Mr. DURHAM. Yes.

Mr. DEAN. We have no exemption under it.

Mr. SHUGG. Scientific and technical is excepted in the Jensen amendment.

Mr. DEAN. On scientific and technical personnel we do have an exemption.

Mr. DURHAM. Scientific and technical personnel—how far does that extend?

Mr. DEAN. If they threw us into town management under the House committee, you can imagine how many people—we just couldn't take care of it.

Mr. DURHAM. It doesn't affect the weapons.

Mr. DEAN. It throws the load on the nonscientific, and they would have to do the paring there.

The CHAIRMAN. There is this about it: If you are allowed to keep all your technical and scientific, but have to fire your stenographers, your technical and scientific help aren't going to be able to function with full efficiency.

Mr. DEAN. It takes all the flexibility out of our program. We didn't mind too much the House cut of 10 percent, the House committee's cut of 10 percent, because we are still left with some flexibility, but the Thomas-Taber amendment will give us no flexibility, because we have to take it in the categories set forth there, some 12 categories.

We have spelled this out pretty well in the memorandum. So I won't labor the point.

The CHAIRMAN. What is the Appropriations Committee's reaction to that?

Mr. DEAN. The Bureau of the Budget is the only one doing any talking with them at this point.

The CHAIRMAN. We will have to talk about that, too. What is the other one?

Mr. DEAN. That is all.

Mr. ELSTON. If you eliminated your scientific personnel, how many persons would be affected by this amendment?

Mr. DEAN. About 500 scientific and technical.

Mr. ELSTON. The amendment exempts scientific personnel. Now, what sort of employees would be affected by the amendment?

Mr. SHUGG. All the rest, all of them, including our security forces. We have a total of 1,400 in that category.

Mr. ELSTON. Will that include your guards?

Mr. SHUGG. Yes, sir; those who are now employed, unless the amendment can be construed to exempt them as law-enforcement personnel—unless guards and couriers can be interpreted as law-enforcement personnel.

Mr. ELSTON. You don't have a tremendous number of stenographers and office assistants and that sort of thing; do you?

Mr. DEAN. Not too heavy; no. The 1,400 security people give us a problem, because I think that "law enforcement" language was used to cover such agencies as the FBI, Treasury agents, and so forth, and our security people are not quite comparable.

The CHAIRMAN. What paragraph is your exemption in on scientific personnel?

Mr. ELSTON. The Jensen amendment on page 1.

Mr. KILDAY. That is replacement and doesn't apply to the 10-percent cut.

Mr. DEAN. I think there is some confusion. There is no exemption for scientific and technical personnel in the Taber-Thomas amendment; it is only in the Jensen amendment.

Mr. KILDAY. That wouldn't relieve you from the 10-percent over-all cut. It would relieve you from the restriction of 1 out of 10, but you would still have the 10-percent over-all cut.

Mr. DEAN. That is right.

Mr. ELSTON. If you eliminated law-enforcement officers and your scientific personnel, have you figured out just how many persons you would have to let out?

Mr. DEAN. Assuming for the moment that all your security people are included under the law-enforcement exemption, which I don't think you could apply—

Mr. SHUGG. Rought figures show it would result in our losing 500. The total range that we might suffer is between 500 and 1,000—500 is the favorable figure.

Mr. COLE. Out of how many?

Mr. SHUGG. Five thousand.

Mr. COLE. Five thousand, including scientific and technical and guards?

Mr. DEAN. Including everybody.

Mr. COLE. When the community problem was up in the House, I detected some feeling of resentment on the part of the Appropriations Committee, and that may have been omitted in the printed record; so perhaps you may not have seen it. But it did appear they resented the idea that the Commission came to the joint committee to present its complaint against this rider, rather than going to the Appropriations Committee.

While I think technically you are right in coming to this committee, I suggest that it would be well to try to get an appointment with the House Appropriations people and go to them as you have with this committee with the explanation as to the adverse effect this rider would have.

Mr. DEAN. We have tried, however, to keep them as fully informed of our position—we have sent several memoranda, and we are doing the same thing now with the Senate Appropriations Committee. Senator O'Mahoney has been kept informed.

We have a letter, just prepared, ready for dispatch to him, which we will send after this afternoon's session. We might well have met with him again.

Mr. WILSON. We asked to be able to meet with them. We asked for the opportunity of discussing this community matter with the Appropriations Committee long before this got on the floor of the House. We wrote them a letter about it.

Mr. COLE. After the rider was published as part of the bill?

Mr. WILSON. Yes; we were told they were not interested in talking about it.

Mr. DURHAM. This gets back to the problem we have faced every year since 1946, and I have always felt that it was high time to have authorizing legislation for the joint committee in order to prevent other committees from doing any legislating. I thought we ought to move in that direction, but the Commission seems to have always felt heretofore that we probably shouldn't do that.

The CHAIRMAN. They have been against it when you and I have suggested it, and they "raised Cain" about it.

(Whereupon at 4:25 p. m. the meeting adjourned.)

# DEPARTMENT STORE LEASE AT OAK RIDGE, TENN.

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## HEARINGS

BEFORE A

### SUBCOMMITTEE OF THE JOINT COMMITTEE ON ATOMIC ENERGY CONGRESS OF THE UNITED STATES

EIGHTY-FIRST CONGRESS

SECOND SESSION

ON

### DEPARTMENT STORE LEASE AT OAK RIDGE, TENN.

\_\_\_\_\_  
MARCH 13 AND 14, 1950  
\_\_\_\_\_

Printed for the use of the Joint Committee on Atomic Energy



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**HAROLD BERGMAN**, *Deputy Director*

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### SURCOMMITTEE OF THE JOINT COMMITTEE ON ATOMIC ENERGY TO INQUIRE INTO THE LEASING OF CERTAIN DEPARTMENT STORE FACILITIES IN OAK RIDGE, TENN.

**CHET HOLIFIELD**, California, *Chairman*

**PAUL J. KILDAY**, Texas

**CHARLES H. ELSTON**, Ohio

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## DEPARTMENT STORE LEASE AT OAK RIDGE, TENN.

MONDAY, MARCH 13, 1950

CONGRESS OF THE UNITED STATES,  
SUBCOMMITTEE OF THE JOINT  
COMMITTEE ON ATOMIC ENERGY,  
*Washington, D. C.*

The subcommittee of the Joint Committee on Atomic Energy convened at 2 p. m., pursuant to call, in room 48-G, the Capitol, Hon. Chet Holifield (chairman of the subcommittee) presiding.

Present: Representatives Holifield, Kilday, and Elston.

Mr. HOLIFIELD. The subcommittee will come to order, please.

This special subcommittee has been appointed by Senator McMahon, the chairman of the whole committee, for the purpose of holding a hearing on the leasing of certain department store facilities in Oak Ridge, Tenn. We have had turned over to the subcommittee certain telegrams addressed to Senator Hickenlooper, Senator McMahon, and Senator Ives, and a letter addressed to Senator Lehman from parties interested at Oak Ridge, all of them asking for this hearing.

The departments of the Government concerned have been notified, and the people representing the Darling Stores and the concessionaires have been notified and, I presume, are present.

We will open the hearings by asking Mr. Stanley Levitt, whom I understand is the representative of the subconcessionaires in the Taylor Department Stores in Oak Ridge, and the complainant in this matter, to take the stand at this time.

I have just been informed by the committee staff that Mr. Roth is here representing the Darling Stores. Mr. Roth, do you have any preference as to when you should make your statement? Do you want to make your statement ahead of Mr. Levitt or after him?

Mr. ROTH. I do not think it matters except that I may lay the general background of all of the basic facts in the matter.

Mr. HOLIFIELD. Under that circumstance, and not having been informed of it before, I will ask Mr. Roth to proceed. Mr. Levitt, you may remain seated there and we will ask Mr. Roth to proceed with the first statement. Will you please give your full name and your capacity as a representative here, to the clerk?

Mr. ROTH. My name is Eugene F. Roth. I am counsel to the Darling Stores Corp., a New Jersey corporation, which is the parent corporation of Taylor's Oak Ridge Corp., and Taylor's Oak Ridge Corp. being a Tennessee corporation which is involved in this matter.

Mr. HOLIFIELD. Before you start, will you submit to an oath? Do you swear that the evidence that you are about to give and the testimony you are about to give will be the truth, the whole truth and nothing but the truth, so help you God?

Mr. ROTH. I do.

**TESTIMONY OF EUGENE F. ROTH, COUNSEL TO THE DARLING STORES CORP.**

Mr. ROTH. Taylor's Oak Ridge Corp. secured a lease on these premises in 1946, and that lease, subject to cancellation provisions, ran until the end of August 1949. It was extended to January 31, 1950, at which date according to its terms it expired. It provided for a straight percentage payable by Taylor's Oak Ridge to the Atomic Energy Commission, acting through Roane-Anderson Co. I might mention that Roane-Anderson Co. is a privately owned Tennessee corporation, a wholly owned subsidiary of Turner's Construction, a New York corporation. It acts for the Atomic Energy Commission pursuant to certain delegated powers and agreements. However, it is a private corporation.

Prior to the time that Taylor's Oak Ridge went into possession of the premises, they were occupied by Miller's Department Store of Knoxville. And for reasons that will appear in the later testimony, I believe, Miller's removed from the premises. Their volume prior to the time that we took possession in 1945, for example, was \$1,605,000. In 1946, for the first half, it was \$705,000.

At the time we entered into possession of the premises, we expended approximately \$77,000 in cash on fixtures and improvements. We also spent considerable sums of money in addition to that in getting started, sums which are truly capital items. As anyone can imagine it would take a substantial amount of money outside of ordinary expenses in getting a business of this type started. We estimated that those expenses were a minimum of some \$20,000 over and above ordinary running expenses, so that we had invested in there at least \$100,000, on the basis of what turned out to be a 3-year lease, with options on our part to get out.

A deal was negotiated with the Atomic Energy Commission, or rather Roane-Anderson, under which, if the Government exercised its option to terminate the lease at the end of any one year, Taylor's Oak Ridge would receive a rebate of certain amounts, certain unamortized amounts of the \$70,000 which was originally invested in fixtures. However, I would make it clear that we would never have gone into this proposition with the idea of putting up nearly \$100,000 of fixtures to be written off over a period of 3 years. We believe that any merchant would know that he has got to write off his fixtures, if he is going to operate profitably, over a period anywhere from 5 to 15 years, and our practice has been 10 years.

However, great stress has been laid on this amortization rebate provision which was simply a way of our recouping in case of a cancellation but had nothing to do with the real proposition of what the business amortization or the true amortization or even the tax amortization of these fixtures could possibly be. Amortization would have to be keyed to your profits and your business in a store, and we do not know of any instance where a store could be so profitable that you could successfully write off your fixtures in 3 years or should do it on that basis.

Mr. HOLIFIELD. Notwithstanding the facts which you have stated, Mr. Roth, the lease which your clients entered into did not contain any protection on that point?

Mr. ROTH. No. And all through the history of this matter there is permeated a certain atmosphere to which I cannot personally testify but which is there. We have witnesses here who will testify to it, that constant assurances were received that in dealing with this agency of the Government we would not only receive fair treatment but preferential treatment, and that we would be sure to stay in for a long, long period of time, and that the only reason we did not get a long lease right then and there was that it was contrary to the policy of the Atomic Energy Commission.

Those are facts that may or may not stand up in a court of law because they depend on oral testimony and they violate the parole evidence rule in many ways, and they are the sort of thing that a court may not be able to act on, but they are true. We have witnesses to prove them.

Mr. KILDAY. How did you get your lease? Was it negotiated or was it bid on?

Mr. ROTH. It was negotiated.

Mr. KILDAY. And it provided for only a 3-year term?

Mr. ROTH. Yes, and a percentage with no minimum, of 6 percent.

Mr. HOLIFIELD. May I ask you to clarify the term of the original lease?

Mr. ROTH. The lease ran from 1946—October 1—to August 31, 1949. That is, it may not have been that way originally but by amendment it was made that way and it was subject to cancellation from either side.

Mr. HOLIFIELD. It was a 1-year lease with the privilege of renewing it?

Mr. ROTH. It may have been in that form, or the reverse. It may have been a 2-year lease with the privilege of canceling, but I do not recall that detail at the moment. That is the substance of it.

Mr. HOLIFIELD. At this point we will enter the original lease into the record in order that the terms of it may be known.

(The lease above referred to is marked "Exhibit 1" and will be found in the appendix on p. 94.)

Mr. ELSTON. Were there any particular provisions with respect to the cancellation, any particular showing that had to be made or could either side cancel it at will?

Mr. ROTH. I think either side could cancel it at will.

Our operations in the premises were something like this in terms of profit or volume:

For the period from September 1, 1946, to January 31, 1947, we lost \$56,493.74.

From February 1, 1947, to January 31, 1948, we lost \$18,795.68.

From February 1, 1948, to January 31, 1949, we made \$13,163.37.

The only figures we now have available, from February 1, 1949, to December 24, 1949, which is not a full year, since our fiscal year begins on February 1, we made \$19,253.22.

Mr. HOLIFIELD. At this point will you give us the average investment in inventory of your department store, excluding the \$100,000?

Mr. ROTH. I do not have that figure at hand, but one of the witnesses may be able to give me a rough estimate of that. It is hard to say at the moment, but we can produce those inventory figures.

Mr. HOLIFIELD. Will you produce all of the inventory for all of the subconcessionaires as well as your original lessor?

Mr. ROTH. Would you want them, sir, as of the end of the year when?

Mr. HOLIFIELD. Not as of the end of the lease. That would not be a fair figure, because you would have sold down pretty low right after the Christmas rush. I would suggest that you give us your average inventory for the year for the different departments.

Mr. ROTH. All right.

Mr. HOLIFIELD. I think that that would be the fairest figure.

Mr. ELSTON. I would like to know if this \$100,000 entered into the profit-and-loss figures.

Mr. ROTH. Not the \$100,000, but certainly the \$74,000 did. It did enter into it. We did amortize it because we had to. Under our tax laws we would have had to amortize it over the entire period of our lease, no matter what the length of the lease is, and that is the fortuitous or the accidental thing about it, perhaps the strange thing about our tax laws. If this lease had been 10 years, we could have and would have been required to amortize it over a 10-year period.

Mr. KILDAY. You amortized it over 1 year?

Mr. ROTH. We amortized it over 3 years. The original lease is 2 years, and I would have to check the details, but based upon the fixed term of the lease, you see. Our volume including the concessionaires, and there are about 14 concessionaires, was this:

For the first 4-month period, from September 1, 1946, to January 31, 1947—and the figures are here only to the end of the calendar year, to December 31, 1946—the figures are \$613,226.

From January 1, 1947, to December 31, 1947, it is \$1,215,331.

From January 1, 1948, to December 31, 1948, it is \$1,057,870.

From January 1, 1949, through the end of our occupancy, to the end of the year, December 31, 1949, it was \$944,208.

Now, during that period of time that we were in there, as a matter of fact shortly after we got in, there began and there was consummated a series of reductions in the staff at Oak Ridge which resulted in a very, very terrible diminution of volume, dollar volume, flowing in the town. I think the population reduced; and we do not have those figures, and it would have to come from the Commission themselves, was reduced from about 80,000 to a figure that toward the end of last year we understand was probably close to 27,000 or 28,000.

A large part of the decline in volume, and there was some substantial decline in volume between the 1948 calendar year and the 1949 calendar year, was due to that trend downward in population. Also there are other factors that go into the question of dollar volume in a town. One factor would be the actual total pay roll, the amount of overtime, whether there were any strikes; and in this case particularly the significant fact was that you had a reduction of price per unit in the entire retail field as a result of which your total volume, even if you sold the same number of units, would be dollarwise less.

Now, in the summer of 1949 we were in negotiation with the Roane-Anderson people. We thought that we could do a better job in spite of the fact that a reasonably good job, or we thought an excellent job was being done there, provided they gave us a reduction in the percentage of rental. We were paying 6 percent. We would not attract the best concessionaires in all instances, although strangely enough some of the concessionaires that we had have been retained in other places by the Commission down in Oak Ridge; and we felt that it

would be a much more successful operation all around if we got a reduction in the percentage.

Now, the fact is that the percentage of 6 percent which we were paying has not been equaled in any of the bids that will be turned up here, either the one received of Loveman's or anyone else's, so it is perfectly clear on its face that that percentage we were paying was excessive. It is common knowledge in the department-store field that for this type of operation you cannot operate on a 6-percent basis, and you need a lower figure than that. As a result of the various negotiations we received a short extension of time, and at the same time we received the usual assurances of good faith, preference, priority, that we would be all right, and that extension of time went from September 1, 1949, to January 31, 1950.

It was understood that they would ask for additional bids because now they were in a position to grant a longer term of 5 or 10 years beyond the expiration of our term. But we had no doubt in our mind that our record was good, that we could offer anything that anyone else could offer, and that acting in good faith the Roane-Anderson people would see to it that we got at least a preference, if there was any parity between our bids, although we expected that our bid would be better.

They sent out a notice for bidding, and here is the advertisement.

Mr. HOLIFIELD. What date was that advertisement?

Mr. ROTH. I do not have the exact date, but it was issued sometime toward the end of October, I think, or during November, and I think that it ran on different occasions in different publications.

(The advertisement is as follows:)

AVAILABLE FOR LEASE  
DEPARTMENT STORE

*with*

\$ 2,000,000.00    P O T E N T I A L

Has 192-foot frontage—37,000 square feet, two floors—ample parking facilities—fully sprinklered and heated from central system—top location in Oak Ridge's main shopping district, which serves a population of over 32,000.

Proposals will be received until Thursday, December 15, 1949.

For complete information and inspection of premises, phone, wire, or write immediately.

Commercial Realty Division

ROANE-ANDERSON Co.

P. O. Box 456

Oak Ridge, Tenn.

Phone 5-4361, Extension 195 or 196

Mr. ROTH. I ask the members of the subcommittee to examine the advertisement and see the rather terse and limited character of the statements that they make there. They tell you nothing about the actual requirements, what they really wanted, no details and no specifications, and nothing.

Mr. HOLIFIELD. Were you furnished any additional information at the time you entered into negotiations with them as to what they wanted?

Mr. ROTH. We were not.

Mr. HOLIFIELD. How did this compare with the original negotiations, the manner in which you originally negotiated with them? Were you at that time asking for any special requirements?

Mr. ROTH. Well, there was a long complicated form that was filled out the last time, and I think that the procedure was much more complicated when we first got into it, that is our original lease in 1946. There were many more details that were examined and it was known what was required, and a great many more negotiations took place. I believe that I have a questionnaire which I will be able to produce later that would show what was required of us.

Mr. HOLIFIELD. As of the original lease?

Mr. ROTH. Yes.

Mr. HOLIFIELD. And you make the statement that no such requirement was made on the second time?

Mr. ROTH. All that happened was that you have this thing. Now, after that there were of course discussions between ourselves and Roane-Anderson. At no time did they tell us what they wanted, that they wanted anything substantially different from what we had been doing before.

Mr. HOLIFIELD. There was no indication from the Roane-Anderson people that you had not fulfilled the terms of your obligation, that you were not serving the community with the right kind of merchandise?

Mr. ROTH. Absolutely not.

Mr. HOLIFIELD. Or the right kind of service?

Mr. ROTH. No, and in fact one of our principal points here is that we were lulled into a feeling that nothing else was required to be done that was of any consequence, and nothing that we didn't know, or wanted to do, because it must be recognized that we as merchants ourselves were very anxious to increase the volume in this business as well, since we would make money.

I think that this advertisement itself shows the character of the negotiations, because that is about all that they have indicated that they wanted, just the most general statement to go in there and operate a store, and we were operating a store and we were making money in that store, and we weren't doing too bad financially or otherwise.

Mr. HOLIFIELD. I think that you should qualify that statement with the fact that in the last two lines there it says:

For complete information and inspection of premises, phone, wire, or write immediately.

And it is true that this is a general notification but they do say that they will give more complete information upon inquiry of an interested party.

Mr. ROTH. There is no question about that, and we were in touch with them and others were in touch with them. But I might just say this: It is perfectly clear from everything that has gone before that their position is that we must have known that there were additional requirements.

First of all, as will appear, nobody else offered any more requirements than we did, but we say that as a matter of fact they did not do

so. The sworn testimony will be presented and it has been testified elsewhere to the fact that we were not advised, and on the contrary we felt we were lulled into a point of security on that. We think it was done deliberately, and under the circumstances we have no other inference.

Now, we submitted a bid and a bid was submitted by an outfit called Loveman's.

Mr. HOLIFIELD. You mean another business organization?

Mr. ROTH. Another firm which operates a store in Chattanooga. We do not know the exact details of what their conversations were with Loveman's. We do know that they had negotiations with Loveman's before, and we have information that they had negotiations and discussions with Loveman's even after the bids were in. That will be a matter for testimony, but I think from the facts that are here it will be perfectly clear what happened.

First, let me compare the two bids, which is a thing that is in issue.

Mr. HOLIFIELD. Do you not think that you had better finish your testimony in regard to the manner in which you were treated, and the discrimination which you maintain was used against you, and continue that, and then get into the comparison of the bids?

Mr. ROTH. Well, the discrimination is right in the bids. We maintain that right on the face of the bids, there is no question about the fact that they took the lower of the two bids, and I want to explain that and show you just how that works out.

We have here the Loveman's bid dated December 12, 1949. It is addressed to Mr. Winfrey, the manager of the Roane-Anderson rental department, and I would like to read practically all of it, if I may, with your permission:

We propose to and submit our proposition subject to contractual negotiations in regard to leasing the department store in Oak Ridge now known as Taylor's, we propose to negotiate a contract with Roane-Anderson Co., acting as agents for the United States Atomic Energy Commission, on the basis of 4 percent of sales on the first \$1,000,000, and 3½ percent of sales between \$1,000,000 and \$2,000,000, and 3 percent of sales on over \$2,000,000.

As evidence of our good faith in this connection, we propose to pay a minimum rental of \$25,000 a year, such minimum to be charged against the percentages herein mentioned.

Further as a matter of qualifying ourselves in this connection, we consider the minimum rental as inconsequential and are only using it as evidence of good faith on our part, subject to reaching the proper contractual negotiations with you.

We would like to point out the reason we are offering such a low guaranty is due to the fact that we believe the department store which you have there now is being improperly and unsatisfactorily run for the benefit of the people of Oak Ridge. We would have to give consideration on our part, in establishing the proper facilities there, to the installation of a credit system—

We would have to give consideration to the installation of a credit system—

preferably the chargeplate system which we are using here. This one expense would cost approximately 2 percent of our sales. We would give further consideration—

and this again is consideration—

to the establishment of a delivery system, which would cost us about 1½ percent; and also, we feel that we would have to use advertising and promotion, which will approximate us between 3 and 4 percent of our sales.

I am sure that you will realize as well as we do that the above facilities are not being offered now to the people of Oak Ridge.

Further, we would have to give consideration—

again "give consideration"—

to the establishment of a proper air-conditioning system for the building. So I am sure that you and your associates can see by test figures that on the basis of such percentage, we propose to negotiate a reasonable contract.

Our proposal is made subject to our reaching an agreement on the proper terms and conditions of the lease, and further subject to our reaching some definite agreement by January 1, 1950.

Further, it is understood between us that in the event we are able to get together on the lease, we will be able to occupy the building by March 1, 1950, or sooner.

Now, let me point out these things about this bid: First of all, it merely states that they will give consideration to certain factors, nothing more. There is no commitment and no promise, or nothing. They state that it is conditioned upon reaching some definite agreement by January 1, 1950. The bids, according to our information, were not to be opened and were not opened, as far as we know, until after that; or if they were, we were only notified after January 10, 1950. So there must have been a further agreement, or if there was not, something is wrong. This bid is conditioned upon its being accepted and in force and effect by January 1, and we were notified that the bidding was not concluded until January 10, 1950.

Mr. ELSTON. Your notice is in writing?

Mr. ROTH. It is a telegraphic notice, and there is no question about the fact, we received it around the 12th, and it was issued on the 10th of January. I have the telegrams here, but I do not think that there will be any question from the Roane-Anderson people on that.

Mr. HOLIFIELD. Will you specify again that particular telegram, the purpose of it?

Mr. ROTH. Just that particular telegram, I would like to present it. It was the award, announcing the award. It simply stated:

We are advising you that your bid is not accepted, and that it has been awarded to someone else.

Mr. ELSTON. What is the date of that?

Mr. ROTH. January 10.

Mr. HOLIFIELD. The cut-off date on the applications for the lease was December 15?

Mr. ROTH. Yes, this was in by December 15, according to the testimony, and so was ours in by December 15. There is no question about that.

Now, turning to our bid, if I may I would like to take the time to read our bid, which was dated December 12, 1949:

GENTLEMEN: We are handing you herewith three alternative proposals for leasing the premises on Jackson Square now occupied by us. Our purpose in giving you three proposals from which to choose is to make it possible for you to elect that lease arrangement which will permit us to give the community the type of store which you feel is desirable.

Up to the present time our operation has been circumscribed by two factors: (1) the shortness of our lease, and (2) the high percentage rent which our lease contract called for. These factors precluded our building patronage and prestige through any long-term program, and prevented us from rendering services of the type which cost money but build good will, and further prevented us from obtaining the most desirable tenants. In the past we could have interested better subtenants to operate some of the departments, but were unable to because our lease was too short and the percentage of sales they were asked to pay was too high.

Our present proposals are designed to permit us to get better subtenants by offering lower percentage arrangements and longer leases. Even though we are

now faced with the prospect of competition from the new \$5,500,000 commercial center (we are convinced that the community will not support two department stores), each of the three alternative proposals permits us to perform in varying degree part of the following program, varying from the minimum in proposal No. 1, to the maximum in proposal No. 3, under which proposal we would give Oak Ridge, subject to the limitations imposed by the size of the community, a real community department store.

1. Install air-conditioning.
2. Replace many of the leased departments with national operators whose merchandising ability is superior and mark-up lower than that of the existing leases.
3. Install new improved lighting, both overhead and counter.
4. Revamp, refurbish, and refinish the fixtures.
5. Install a centralized charge-account system for the charge departments.
6. Arrange for limited store delivery.
7. Engage in community-service activities and make our store an integral part of the community life.

Mr. HOLIFIELD. May I just ask you for a moment if you considered these seven points which you have outlined here as being included in any one of the three proposals which you made?

Mr. ROTH. They are all included in all three proposals. It is merely a question of how much money you spend over-all on them.

Mr. HOLIFIELD. In proposal No. 1, you would do all of these things?

Mr. ROTH. We would have done all of them, except that we would have spent more or less money, depending on how much we would have net.

Mr. HOLIFIELD. There was no firm commitment as to how much money you would spend in any instance?

Mr. ROTH. In any particular instance, except under proposal No. 3, we specified, and I will come to that, a minimum of \$50,000 for all of these. That is because proposal No. 3 is, in terms of amounts, the worst one, and I will come to that, and we had taken \$50,000 out of rentals and reduced it in that way, and agreed to apply that. But I will clarify that as we go along.

Mr. HOLIFIELD. In your presentation here, are you going to pick any one of these three proposals in its entirety as being the one you wish to be considered against the Loveman's lease that was let?

Mr. ROTH. We think all three should be considered against the Loveman's lease.

Mr. HOLIFIELD. But each one will have to be considered separately.

Mr. ROTH. Each one separately?

Mr. HOLIFIELD. Each one separately; and you will not pick one thing from one proposal and tie it to something else in another proposal?

Mr. ROTH. No; each one of these proposals is separate, and we believe all three of them are better than the Loveman's proposal.

Mr. HOLIFIELD. Any one of the three is better?

Mr. ROTH. But certainly 1 and 2 are better, right on their face; and 3 requires some analysis in order to come to the conclusion that it is better. But we feel even that one is better.

The term: All of the proposals are for a 5-year term, with a 5-year option on the part of the concessionaire. All of the proposals are to embody a paragraph giving the concessionaire the right to terminate the lease in the event the operation at Oak Ridge is substantially reduced and the new projected commercial center opened.

Here are the proposals—you must bear in mind that Loveman's proposal was a minimum of \$25,000, 4 percent up to \$1,000,000, and 3½ percent on the next million. And I might mention that, according to a report filed by the Atomic Energy Commission in answer to our complaints to Members of Congress and to this joint committee, the Commission mentioned the fact that they projected a maximum potential of \$1,250,000, although the University of Tennessee report talked about the possibility of its being \$2,000,000. They based their figures on page 5 of their summary statement; that is on 1¼ million dollars.

Mr. ELSTON. Was Loveman's bid on the basis of a 5-year lease, too?

Mr. ROTH. Yes; I think it was. I am trying to check to see whether it says so. I don't think that I find in the bid a specific statement to that effect.

As a matter of fact, I think, sir, that you have covered a point there that we have overlooked, which is that the bid itself—and this bid was not made available to us until recently—the bid itself does not contain the term. In fact, we do not even find a term in the bid. It is merely subject to reaching an agreement on proper terms and conditions. There is nothing firm at all about their bid, nothing whatsoever, that is, including the term.

Mr. HOLIFIELD. That is, as far as their letter is concerned. As to what negotiations they had and what they agreed to do in negotiation, you are not, of course, saying?

Mr. ROTH. No. But we are assuming one thing, and this is one of the points at issue. We feel, from all of the facts and all of the evidence that is in there, that it is clear that we were not treated on a parity with Loveman's.

Mr. ELSTON. Your contention is that your bid was absolute and final and the mere acceptance made a contract; whereas Loveman's bid was open to further negotiation, and a contract could not be completed unless they did negotiate and finally come to an understanding?

Mr. ROTH. I do not think that that could have been done legally, but for all practical purposes that was true. Ours was a complete bid in itself, or substantially complete; and theirs was substantially incomplete, and the Government would have had to sign some formal documents, of course.

Mr. ELSTON. The mere acceptance of your bid would have constituted a contract?

Mr. ROTH. Between private parties, it probably would have.

Mr. HOLIFIELD. Mr. Levitt, did you have something to add at this point?

Mr. LEVITT. Yes, sir.

Mr. HOLIFIELD. Will you give your full name for the record, please?

Mr. LEVITT. My name is Stanley Levitt.

Mr. HOLIFIELD. Do you solemnly swear that the evidence or testimony you are about to give will be the truth, the whole truth, and nothing but the truth, so help you God?

Mr. LEVITT. Yes.

#### TESTIMONY OF STANLEY LEVITT, REPRESENTING THE SUBCON- CESSIONAIRES OF TAYLOR'S OAK RIDGE CORP.

Mr. LEVITT. I want to interject one statement here, and I do not want to take any time from Mr. Roth's testimony.

By the sworn testimony of Mr. Winfrey, assistant manager of the commercial realty department of Roane-Anderson Co., and this was sworn testimony before the Federal court of east Tennessee district on February 20, the entire——

Mr. HOLIFIELD. What year?

Mr. LEVITT. This year. The entire Loveman's proposal was encompassed by that letter which was just read to you by Mr. Roth, dated December 12, 1949. Mr. Winfrey was asked: "Are there any side agreements?" by our counsel, and this is what he stated on the stand, and he said, "No, sir."

And he was asked, "Are there any other verbal agreements?", and he said, "No, sir."

The counsel asked him, "Is, then, the Loveman's letter their complete proposal, in fact?" And he said, "Yes, sir."

Those are sworn statements before the court.

Mr. ELSTON. Was a lease later entered into?

Mr. LEVITT. At that time there was no lease, and there had been no lease signed.

Mr. ROTH. We do not know whether one has been signed.

Mr. ELSTON. You do not know whether one has been signed yet?

Mr. ROTH. At any rate, our term is stated:

All of the proposals are for a 5-year term, with a 5-year option on the part of the concessionaire.

Now I might mention this, that, in this letter from Loveman's, they minimize the meaning of the minimum guaranty and state that it is merely an evidence of good faith, and otherwise they would not put it in.

However, our guaranty is a minimum, as it will be seen, ranging from \$25,000 to \$45,000 over a period of 5 years, and we were backing our judgment up with an absolute guaranty, with money. We were willing to do it for a 5-year term and say so, and we didn't equivocate the way the Loveman's bid did, and they didn't say anything at all about the term there.

Mr. ELSTON. Did they make any point in the Federal court that your proposal was for 5 years and they did not want to execute an agreement for that long a period of time?

Mr. ROTH. I don't think that they did; no, sir. I don't think that they were parties to the Federal court proceeding. That was handled by the Government itself.

Mr. KILDAY. Why did you make it 5 years? Was that the information that you had received in the conferences?

Mr. ROTH. We wanted 5 years and they wanted 5 years, and they were told that they could give 5 years.

Mr. KILDAY. You say that they wanted 5 years?

Mr. ROTH. And we were willing to give them 5 years.

Mr. KILDAY. In your discussions, you agreed that you were talking about a 5-year term?

Mr. ROTH. We thought that we were, anyway.

Mr. HOLIFIELD. As a matter of fact, in the negotiations between the Roane-Anderson people and the applicants for leases, that fact was made known that there was a change in policy from the 1-year leases heretofore entered into to a longer-term lease, in order to give more stability to the business people there? That statement was made; was it not?

Mr. HOLIFIELD. As a matter of fact, in the negotiations between the Roane-Anderson people and the applicants for leases, that fact was made known that there was a change in policy from the 1-year leases heretofore entered into to a longer-term lease, in order to give more stability to the business people there? That statement was made, was it not?

Mr. ROTH. Yes; we were advised, and we wanted a longer lease so that you could be more certain of your operation and make plans and expenditures. As you can see from the evidence, we were beginning to operate profitably, in spite of a decline in volume. It is that very factor that has brought this whole thing to a head. We pioneered there and put money in it and worked hard and developed the business so that it was operating profitably, and find ourselves in the position of being turned out just as it turns the corner. That is the basic inequity that is here.

But quite apart from the inequity, we would ask your committee to inquire into the nature of the discussions had between the Roane-Anderson people and Loveman's before this bid was filed. On the basis of other testimony that will be here—perhaps it is hearsay and secondary evidence of one kind or another—there is strong indication that the kind of attention that the Loveman's bid was getting before it was put in was far better than ours was, and we were being lulled into a sense of security that we would get it anyway, and they were being helped to get it. That is our theory. We feel strongly that we would like to know who even drafted the Loveman's bid, but that is a matter for your committee to decide.

Now, coming back to the matter of the bids themselves, here are the proposals:

1. We propose to pay a minimum rental of \$36,000 per annum, payable in equal monthly installments of \$3,000 per month; and, in addition thereto, 4.62 percent of the sales in the premises during each year in excess of \$800,000.

Mr. HOLIFIELD. May I ask you there if your \$36,000 applied up to the \$800,000 level, and then the 4.62 percent took over from there on?

Mr. ROTH. It works out about 4.50 up to \$800,000, and 4.62 above \$800,000. That is about the way it is.

Mr. HOLIFIELD. But your \$36,000 did not apply to 4½ percent under \$800,000?

Mr. ROTH. No. It works out as a little less than that, 4½ percent.

Mr. ELSTON. Let us compare each one as we go along.

Mr. ROTH. I have the schedule here.

Mr. ELSTON. How does it compare? It was 4 percent on the first million; was it not?

Mr. ROTH. They have 4 percent on the first million; and we have 4.50 up to \$800,000 and 4.62 above, from \$800,000 to a million, so that we are better than they are.

Mr. ELSTON. Yes; on those figures.

Mr. ROTH. Now the only comparisons that they themselves make that are worthy of making at all are up to 1¼ million dollars, so from 1 million to 1¼ million dollars we remain at 4.62, whereas they are at 3½. So that right on the face of that bid, there can be no question that as a practical matter, on this evidence right here, we are better all along the line, and there can't be anything else.

Here, for instance, is the list. That is on bid No. 1, for the first year we would have a minimum of \$36,000—and remember, their

minimum is only \$25,000—and we guarantee that, no matter what happens, under No. 1, the Government would get \$36,000; that is, in any event. If the business gets bad, the Government may get considerably more than 4.62. At \$500,000, they are paying \$25,000 and we are paying \$36,000.

At \$600,000, they are paying \$25,000 and we pay \$36,000.

At \$700,000, they would be paying \$28,000 and we would be paying \$36,000.

At \$800,000, they would be paying \$32,000 and we would be paying \$36,000.

At \$900,000, they would be paying \$36,000 and we would be paying \$40,620.

At \$1,000,000, they would be paying \$40,000 and we would be paying \$45,240.

At \$1,100,000, they would be paying \$43,500 and we would be paying \$49,860.

At \$1,200,000, they would be paying \$47,000 and we would be paying \$54,480.

At \$1,250,000, they would be paying \$48,750 and we would be paying \$56,790.

Now there just is no question about the fact that our bid No. 1 is better than theirs; and the interesting thing is that in this report prepared, there is a summary statement, and they categorically ignore our bids Nos. 1 and 2, and put a schedule only with bid No. 3 and state that those are the only bids comparable. There is no question about the fact that the comparable bid is No. 1 or No. 2. As far as we are concerned, this is the most misleading document in that respect that I have ever seen handed to a Government official, and I would think that they have got a lot to explain for it.

Now, coming down to our bid No. 2, or in the alternative proposal No. 1, we propose to pay a minimum annual rental of \$44,000, payable in equal monthly installments of \$3,666.66; and in addition thereto, by computing the rent at such a sum as shall represent 4 percent of the sales on the first \$800,000 of annual business, plus 3 percent on the next \$800,000 of annual business, plus 2½ percent on all sales above that amount.

Now here you have a minimum of \$44,000.

In this case, the way of figuring that proposal is slightly different from the way you figure proposal No. 1. Here you take these percentages and then apply all of the way up, from \$1 up, and you take those percentages and only apply the \$44,000 against it. So that you have a somewhat different technique of computing it from what you have under proposal No. 1.

You take 4 percent of the first \$800,000—\$32,000, and 3 percent on the next \$800,000, and that brings you to \$1,600,000, which is above our figures here. You apply \$44,000; but \$44,000 on the basis of 4 percent, which is Loveman's up to \$1,000,000, brings us way over \$1,000,000 already.

MR. HOLIFIELD. Let me understand you there. Notwithstanding the fact that you sold only \$800,000, you would not compute that at \$32,000, which is 4 percent, but it would go as the minimum of \$44,000, and the Government had that much protection?

Mr. ROTH. That is right, and we would give them a higher guaranty and slightly lower on percentages when it gets into the higher figures, and that is the balance that is involved.

Mr. HOLIFIELD. Have you a comparison of that as you had of the other?

Mr. ROTH. Yes; I have. Now here is the way it figures out:

At a volume of \$500,000, Loveman's would be paying \$25,000, which is their minimum, and we would be paying \$44,000.

At \$600,000, they would be paying \$25,000 and we would be paying \$44,000.

At \$700,000, Loveman's would be paying \$28,000 and we would be paying \$44,000.

At \$800,000, Loveman's would be paying \$32,000 and we would be paying \$44,000.

At \$900,000, Loveman's would be paying \$36,000 and we would be paying \$44,000.

At \$1,000,000, Loveman's would be paying \$40,000 and we would be paying \$44,000.

At \$1,100,000, Loveman's would be paying \$43,500 and we would be paying \$44,000.

At \$1,200,000, they would be paying \$47,000 and we would still be paying \$44,000.

Beginning with about around \$1,200,000—and that is their optimum figure, the maximum, according to their own statement on page 5 of their report—then they would start exceeding us. That is on No. 2, only when they get into those very high figures.

Mr. HOLIFIELD. For the purpose of refreshing my memory, will you give us the gross sales of the 3 years that Taylor's was in business there?

Mr. ROTH. Yes; I can give you that in just a second. We must remember in connection with these sales that they start off during the period of intense activity when you have a population of some 80,000, as compared to maybe 27,000 or 28,000 or 29,000 at the end of this period.

Mr. KILDAY. The advertisement said 32,000.

Mr. ROTH. We have had all sorts of figures, and I have had them as low as 27,000 and I haven't had any recently higher than 29,000. But the gentlemen are here and they will be able to enlighten you on it.

Here are the figures, though:

The first full year of January 1, 1947, that is the calendar year, to December 31, 1947, it was \$1,215,331.

In the second year, \$1,057,870.

In the third year, that is the 1949 year, it was \$844,208. During that time, of course, you not only had the decline in population, but you had the other factors that I mentioned. We do not know how much the real pay roll was in the town, and the overtime, and we understand there was a strike during some period. And again, of course, the reduction in price, the average reduction in price per unit of an article that is bought. That took place in the last 2 years.

Now those are the figures. On a basis of \$1,000,000 we would be ahead of them. Let us assume \$1,000,000. They would be paying \$40,000 and we would be paying \$44,000. It is not likely that these optimum figures are the ones that you should base your opinion on, and they themselves say that those are the highest figures.

Mr. HOLIFIELD. I think the only fair figure that we can avail ourselves of or could use at this time would be an average of those 3 years. Even that might not be fair, in view of the removal of population. That would have to be considered as against your opportunity for increased sales.

Mr. ROTH. That is why our minimum of \$36,000 is very vital.

Mr. ELSTON. In other words, they have to go to \$1,200,000 to pay more than you do?

Mr. ROTH. That is right.

Mr. ELSTON. That is on your second. Now how about your third?

Mr. ROTH. I don't know whether you gentlemen took a look at this page 5 of the report of the summary statement, which is a report that is in your records.

Now I believe that we were considering bid No. 2, and I think I pointed out that we were talking about the \$44,000 minimum and that it was not until we were getting over \$1,250,000 or thereabouts that the Loveman's bid exceeded, in terms of percentage, Taylor's bid No. 2.

And at this point I wanted to mention that this question of minimums is vital. We are in a period of declining retail volumes. There are all sorts of statistics and reports showing how that is taking place. I don't think I need to quote them to the committee, but we can submit a great deal of data on that.

For instance, there is a report that we have received recently, just from that area. There is a gentleman named Brownwell down there, who is a national authority quoted in textbooks, and it is his assertion that retail volume declined from '48 to '49 by some 13 percent.

Isn't that right?

Mr. LEVITT. In the national area.

Mr. ROTH. Now, in a period of declining volume dollarwise, your minimum is vital. It not only shows the character of the interest of the lessee, but it protects the lessor. The Government's interest certainly is going to be served by getting good substantial minimums here. It is the best proof of all of the sincerity of this man in an operation of this kind. And I don't think we can ever ignore the fact in this situation that all that you have here is a firm commitment to pay \$25,000 a year. And, according to this bid, we don't even know for how long, or what cancellation provisions there are, or what other terms there are. But the maximum is \$25,000.

Now, going to our No. 3: No. 3 reads this way:

We propose to pay a minimum rental of \$25,000 per annum for the first 3 years of the term against 2½ percent of sales in excess of \$1,200,000 and \$36,000 per annum for the remaining portion of the term against 2½ percent of sales in excess of \$1,200,000 \* \* \*. In the event said proposal is accepted, we agree to spend not less than \$50,000 for the physical improvements above outlined.

That is merely the physical improvements, air conditioning, installing new lighting, and the other things that are nonphysical in character, merely changes in operations, were general and apply to all; but this was a general guaranty of a minimum of \$50,000.

Now, here is the way that compares with the Loveman bid:

The minimum was \$25,000 for 3 years and \$36,000 for 2 years, assuming a 5-year lease. If we assume that there is a 10-year term involved, because of the option we renew, you would have 7 years at \$36,000. And for the moment ignoring completely the \$50,000, which I will return to, here is the way the figures size up.

On a volume of \$500,000, Loveman's would be paying \$25,000. We would be paying \$25,000 for the first 3 years and \$36,000 thereafter. On \$600,000, the figures are the same. On \$700,000, Loveman's would be paying \$28,000 and we would be paying \$25,000 for the first 3 years, and \$36,000 for the last 2, or \$7,000. But taking it on \$5,000, we would still be paying an average of \$32,700. On \$800,000 they would be paying \$32,000, and we would be paying again an average of \$32,700. On \$900,000, they would be paying \$36,000, and we would be paying again this \$25,000 or \$36,000, an average of \$32,700 on a 5-year basis.

In each instance, on our items, on our rental, taking 5 years, as we calculate it, we would take the \$50,000 and charge it in over the 5-year period, so that our cost would be \$50,000 more, or \$10,000 more each year. But that would be a commitment and would presumably be absolute and be returned to the community and to ourselves in terms of business and profits.

Beginning at around \$900,000 to \$1,000,000, the Loveman's bid, apart from this \$50,000 begins to rise above ours, apart from the \$50,000. If we include the \$50,000, we don't get exceeded until we get above \$1,200,000 or thereabouts.

That is the way these bids compare, as far as figures are concerned. And again I want to say that the most important factor that any businessman, any landlord, would have considered here, would be the minimums. I think that we all have enough experience in business to know that the amount of money that a man is guaranteed to pay over a period of 5 years is the very best proof of what he thinks he can do in the premises. And the minute he is not willing to give a substantial guaranty, or an adequate guaranty, that is an indication of his own qualms and weakness and fear about the proposition.

That brings us to the question of Loveman's own ability to perform.

Mr. ELSTON. Before we get to that, at what figure did you say that the third proposition became less desirable than Loveman's.

Mr. ROTH. It depends upon whether we include the \$10,000 a year.

Mr. ELSTON. Leaving that out.

Mr. ROTH. Leaving that out: At a figure of close to \$900,000, at \$900,000, for instance, Loveman's would be 4 percent. That is \$36,000. And ours would be \$25,000 for the first 3 years and \$36,000 for the last 3 years, an average of \$32,700, I believe.

Mr. ELSTON. Around \$900,000 they would exceed yours?

Mr. ROTH. Around \$900,000 they would exceed ours, at that point, if you exclude the \$50,000 item.

Now, here is an outfit called Loveman's which is a much smaller firm, I believe, than Miller's, which was there before we went into it. We did a better job dollarwise.

Mr. HOLIFIELD. Before we go into that, please, let me ask you this question: At the opening of the bids on December 15, did you at any time attempt to negotiate with the Roane-Anderson people further?

Mr. ROTH. No.

Mr. HOLIFIELD. Did they at any time indicate to you that your proposals were inadequate or that other offers had been made superior to yours?

Mr. ROTH. We didn't hear a thing.

Mr. HOLIFIELD. There were no negotiations, then, between you and Roane-Anderson from December 15 to January 10, or thereafter?

Mr. ROTH. We never heard a thing. We assumed that this bidding was being done substantially in accordance with the statutory requirements; that you had sealed bids; that there was secrecy; that there would be no further negotiations after that—no opportunity for one bidder to come in and expand his business; change it; add to it. And we just waited. That is all.

Mr. ELSTON. You do not contend there was any changing of bids, do you?

Mr. ROTH. Well, there is no question about the fact that there must have been. Because this bid that they accepted expired on January 1, 1950, by its own terms. Now, how could they accept a bid which had expired? And it wasn't even a bid.

Mr. ELSTON. I mean as far as terms are concerned.

Mr. ROTH. As far as terms are concerned, we believe they were. Because those terms are so inadequate on the face of that bid that they couldn't have accepted it. How could they accept a bid like that? There is no term in it. Somebody must have told them how long a period. Now, there it is.

Mr. KILDAY. Is this the only invitation to bid that was put out?

Mr. ROTH. The only one we know of.

Mr. KILDAY. Because it was not an invitation to bid; just an advertisement of the piece of commercial property for rent.

Mr. ROTH. Sir, they are obviously operating on the assumption that the Atomic Energy Commission is exempted from the Federal public bidding provision requirement.

Mr. KILDAY. This is not an invitation for bids. It is definitely an ad for the lease of commercial property.

Mr. ROTH. That is because they must have been operating on that assumption; and they probably were.

Mr. KILDAY. Was the contract signed by Roane-Anderson?

Mr. ROTH. No; but it was approved by the Atomic Energy Commission; and they maintain they are only an agency of the Commission.

Mr. HOLIFIELD. This is quite different, though, from an advertisement for sealed bids.

Mr. ROTH. Oh, it is. But nevertheless we assume that once the bids were in this agency was operating at least morally along the lines of bidding.

Mr. KILDAY. Is this not actually a request to enter into negotiations, just like you got your first contract?

Mr. ROTH. No. They said all bids must be in by December fifteenth.

Mr. KILDAY. Proposals were to be received until Thursday, December 15, and then it definitely states: "For complete information and inspection of premises, phone, write, or wire immediately." So the entire advertisement indicates that it is to be a negotiation to arrive at a contract rather than an invitation for bids.

Mr. ROTH. We were told that these were going to be sealed bids; that they would be kept secret.

Mr. KILDAY. That is something else. You were told that?

Mr. ROTH. We were told that in advance before we prepared our bid.

Mr. ELSTON. Who told you that?

Mr. ROTH. The representatives of Roane-Anderson told us that.

Mr. ELSTON. Who was it?

Mr. ROTH. Mr. Winfrey told us that.

Mr. ELSTON. When did he tell you that?

Mr. ROTH. This is Mr. Gluck, president of the Darling Stores Corp., and if you want to swear him in he will be glad to answer.

Mr. HOLIFIELD. Do you swear that the evidence you are about to give to this committee will be the truth, the whole truth, and nothing but the truth, so help you God?

Mr. GLUCK. I do.

Mr. HOLIFIELD. Give your name to the clerk, Mr. Gluck, please.

### TESTIMONY OF MAX H. GLUCK, PRESIDENT, DARLING STORES CORP.

Mr. GLUCK. Max H. Gluck.

Mr. ROTH. The question is: What happened before?

Mr. GLUCK. Before we made this bid, I went down to Oak Ridge. That was early in December, some time early in December. And we were there about 2 days discussing the bids and what kind of bids we should make.

We arrived at this decision to make three bids, and the way in which we arrived at it was that after discussing it with Mr. White and Mr. Winfrey we asked them whether we were only permitted to make one bid or more, and they suggested that we make more than one bid.

They told us it was a definite bid, not an application, but a definite bid, that would be sealed and opened and decided upon then; that no further negotiations or discussions could be or would be accepted. That is why we went into this and made the bids this way.

Mr. HOLIFIELD. You were under the firm understanding, from what they said, that there would be no further negotiations after opening of the bids?

Mr. GLUCK. Yes. That is correct. Now, we were there, as I say, two full days. I know Mr. Winfrey very well. I made the original lease with Mr. Winfrey. Mr. White wasn't there then, but I met him. We went to a luncheon with him, with these two gentlemen. And we talked most of two full days, and we discussed it thoroughly. We were very much interested in trying to protect this business that we had built up, and they appeared to be sympathetic.

Mr. HOLIFIELD. Did they during those conversations criticize your operation?

Mr. GLUCK. No, sir. They didn't. On the contrary, I would say they approved of them pretty much; generally quite well.

Mr. KILDAY. Was the 5-year term discussed?

Mr. GLUCK. Oh, yes. They were the ones who made it in this form. They said that they were now permitted to give longer periods.

Mr. KILDAY. How about the 5-year option, your option?

Mr. GLUCK. Yes, they suggested we make it on that basis. When I say "they suggested," we didn't propose this without discussing it with them, and I think they said they were now able to accept bids like this, and that we should make it in this form.

Mr. KILDAY. But yours was a definite bid for 10 years at your option?

Mr. ROTH. Five years and an option.

Mr. KILDAY. At your option. So that it would tie them up for a period of 10 years.

Mr. GLUCK. For 10 years; and us for 5.

Mr. KILDAY. And there was no objection from Roane-Anderson?

Mr. GLUCK. On the contrary, that is the way it was suggested it be made.

Mr. ROTH. And I might say that is even doubly important on the question of minimums. If the Government contemplated a bid, being tied up for 10 years, with varying speculative conditions of business over the 10 years, they certainly would be most interested in the guaranteed minimum amount. So it just wouldn't be subject to all these variations on a percentage basis.

Mr. KILDAY. For what term was the Loveman bid accepted?

Mr. ROTH. There was no term.

Mr. KILDAY. Can somebody not tell us, so that we will have a basis of discussion?

Mr. ROTH. We know the bid itself contained no statement of terms. And it said that those terms and conditions are to be agreed upon.

You see, at the very end they say:

Our proposal was made subject to our reaching an agreement on the proper terms and conditions of the lease, and further subject to our reaching some definite agreement by January 1, 1950.

Mr. HOLIFIELD. Of course, that agreement might have been reached. That does not preclude the fact that they might have reached that agreement before January 1, although they did not announce it until the 10th.

Mr. ROTH. If they negotiated with these people—and they must have—in the case of our filing a sealed bid, with the understanding that this was a bidding procedure, without giving us an opportunity to come in and meet the terms, or at least present additional evidence, or anything, then certainly there was rank discrimination. And there was no bidding. The bidding was a farce.

Mr. HOLIFIELD. We will try to bring out those facts later when we get the representatives of Roane-Anderson on the stand and the Commission.

Mr. GLUCK. We did at the time tell them that now we could get a longer term—we discussed this with them very thoroughly—and that if we got a lower percentage we were certain that we could improve our operation considerably. Because we did approach National Chase as subtenants, and couldn't get them interested, because the period was too short for them. It was particularly that. Also, the percentage on sale was too high. But we know quite a number of them whom we felt we could interest in going in now, as we said, and that we could get a secure term, and we discussed that very thoroughly with them.

Mr. ELSTON. When you mailed your bid in, did you mark it a sealed bid, or did you just write a letter?

Mr. GLUCK. I don't remember that, sir.

Mr. ROTH. It is in the form of a letter, sir. It is in the form of a letter, but it was a sealed letter that was sent to them, and it was understood that it was confidential. And as a matter of fact, on a number of occasions the Commission asserts that they keep these bids confidential, that that is their policy, and it was very difficult to get at them, and we only recently were able to get information about the Loveman's bid, and only through the court proceedings.

Mr. HOLIFIELD. Did you request, at the time you were informed that the Loveman lease had been accepted, or that the Loveman proposal had been accepted, that they make known to you the terms?

Mr. ROTH. Yes; we did. We protested it, and we asked for it.

Mr. HOLIFIELD. At what date?

Mr. ROTH. We would have to get you the details of that. There were phone conversations, communications, a number of them, and we will be able to get them for you.

Mr. GLUCK. I am quite sure it was within a few days.

Mr. HOLIFIELD. Within a few days after the January 10 notification?

Mr. GLUCK. Yes, sir; within a few days.

Mr. HOLIFIELD. What was their response to that?

Mr. ROTH. We never could get the information as to what Loveman's could give us until we came down within a week or 10 days after that and arranged a meeting with Mr. Towns of the Atomic Energy Commission and were told, I think, only the percentages, nothing more. We weren't told much about it at all. We were given some indication, and that is all.

Mr. HOLIFIELD. And how did you come into possession of the facts of the proposal?

Mr. ROTH. We finally came into possession because the proposal was filed as an exhibit, I believe, in the court proceedings that took place in Tennessee.

Mr. HOLIFIELD. On what date?

Mr. ROTH. I have the exhibit here. It was in February of this year.

Mr. LEVITT. Congressman, if I may intervene there, I came to Washington representing myself and a majority of the concessionaires in the store.

Mr. HOLIFIELD. On what date?

Mr. LEVITT. It was approximately the 18th or 17th of January, somewhere along there, within a day or so. And I got into contact with the joint committee. They knew nothing of the details, and they requested a report from the Atomic Energy Commission, but also suggested that I go and talk to Mr. Towns and Commissioner Strauss.

Mr. Towns was very congenial, but absolutely refused to give me one bit of information concerning the bid. He said it wasn't within his authority. He said I had no right to the figures and that they were confidential; that the bids were absolutely confidential; and that no one had a right to know what those bids were. And I assumed by "no one" he meant everybody in the United States.

However, I didn't stop with him. I went to Mr. Shugg, who said he didn't have the file. I don't know his reasons for not having the file or not being able to get the file. Mr. Shugg is Deputy Director of the Atomic Energy Commission. It would be a very simple matter for him to get the file. He refused to give me any information regarding the Loveman bid. Our point at that time was that we felt, only felt, that we were high bidder. You recall my talking to you on that same matter.

We were pretty sure of it. You see, the facts verify what we thought.

I don't know why they withheld these figures. After all, it is public property. It is just like anything else that the Government deals with. We can't have secrecy in handling public funds. It is all right for a hydrogen bomb, but not for real estate.

I went to Senator Murray, Jim Murray, of Montana, who is a friend of mine, and Senator Murray requested over the phone from Mr. Brock the figures from the Commission, which he obtained within a matter of, I would say, a few hours, after my efforts to get them. I spent all day not getting them. Senator Murray had them, and he phoned them in to me, and I phoned them in to you, I believe. Those were not complete figures, but we did have something to work with, in that. Before that, we had nothing of the percentages.

Mr. HOLIFIELD. I might say we have a letter here from Senator Murray, in order for the record to be complete.

Mr. ELSTON. What figures were agreed on?

Mr. ROTH. The Loveman's bid is 4 percent up to a million, as it turned out later, and 3 percent on the next, with a minimum of \$25,000. Those are the Loveman figures we have been talking about.

Mr. ELSTON. Then there was not any change from the bid originally submitted by Loveman's?

Mr. ROTH. Not on percentage, no, although I might say that as we got the information orally through Mr. Levitt it was 3 percent, and we were never told what the minimum was.

Mr. HOLIFIELD. Now, when did you come into possession of the facts regarding the Loveman proposal?

Mr. ROTH. The details of the Loveman proposal?

Mr. HOLIFIELD. Yes.

Mr. ROTH. We were only able to get them—when I say “we,” this was in the possession of the Federal court down in Tennessee in a proceeding brought in the United States district court by the Atomic Energy Commission in the name of the United States against us to enjoin us from occupying the premises, and it was brought into evidence in that case. This is plaintiff's exhibit 1. It is marked as of February 6. Actually, with the mass of papers in there, that didn't get into our personal possession so that we could examine it until very recently. For instance, this file was in the hands of the counsel to the Senate investigations committee. It was sent directly up from the court, up there.

Mr. HOLIFIELD. You must have that date in your mind, and I think it is important.

Mr. ROTH. When I got this information?

Mr. HOLIFIELD. Yes.

Mr. ROTH. Actually, I only got this information this morning. Because this was sent directly from Tennessee to Mr. Adelman of the counsel to the Senate investigations committee, whom we asked to look into it. And it was sent directly up there.

Mr. HOLIFIELD. Now, you must have had the information before that, because we have letters here in the files showing that you knew what the provisions were.

Mr. ROTH. The only information we had was this type of information that came from Mr. Levitt, which was all information. On the other hand, this was filed in the court proceeding and was available within the last 2 or 3 weeks.

Mr. HOLIFIELD. On February 6, was it not?

Mr. ROTH. And it was available.

Mr. HOLIFIELD. Mr. Levitt, when did you get the terms?

Mr. LEVITT. I got the terms of \$25,000 and 4 percent from Senator Murray's office on about January 24 or 23. As a matter of fact, I

have it in my notes, here, in my notebook that I had at the time. But we had the main part of the Loveman lease at that time. We didn't have it in writing. I had it by telephone conversation with Senator Murray. Now, the papers we reserved on Taylor's Oak Ridge corporation for the proceeding in Federal court the morning of February 9.

Excuse me. The date is February 6.

Mr. ROTH. It must be February 6.

Mr. LEVITT. We were going to the other court on the sixth. That is why I got that wrong. And we were going to the Federal court on the 10th. I read the Loveman proposal in those papers on the same day, February 6, and I believe Mr. H. F. Levison read them at that time.

Mr. ROTH. These papers were in use in the litigation and didn't really come into our personal possession until this morning. But the fact of the matter is that as soon as we learned from Mr. Levitt roughly what those terms were, not the details of the full proposal itself, we continued to protest. There were wires. We communicated with the Atomic Energy Commission. We filed a reply to their statement. We filed it with them. We filed it everywhere. We protested down the line. There was nothing else for us to do.

Mr. HOLIFIELD. Now, have you substantially finished your statement?

Mr. ROTH. No; I just have a few more points to make, Congressman.

One of the points that has been made by the Commission is as to the question of the possibility of performance on the part of Loveman's.

To begin with, in their proposal they commit themselves to nothing as far as performance is concerned. They merely have a \$25,000 minimum. We do not know what the actual lease, its final terms, is at all; because, as has been pointed out, this is all subject to further negotiation on terms.

I assume that that lease, if it has been prepared and signed, will be made a part of the evidence here.

We have been in there for 3½ years, and our performance is a matter of record. At the time that we came in there, Miller's, a much larger and more successful operation than Loveman's, moved out, and they had done a maximum of \$6,600,000 at the time. We did about half of that, nearly half that much, for the first 4 months, and in the year after that, the first full year, we did \$1,215,000.

Mr. HOLIFIELD. How long was Miller's there?

Mr. ROTH. Miller's was there 2½ years and was paying a much lower percentage than we were, 2½ percent and 3½ percent, and did a volume of—its highest was \$1,600,000 and, the first year was \$1,300,000.

The argument has been made that that was due to the fact that there were some other stores, small stores, out in the camps in the neighborhood, and that there was a shortage in getting merchandise. Actually, prices were high, and while there was a shortage in getting merchandise of some kind, most stores did huge volumes in that period, because prices were high. They didn't find it expedient or profitable to stay.

Our performance was excellent in contrast to Miller's. I don't think there was any question about that. Our rental, for instance,

in the first year, in 1947, was \$72,919. The highest rental Miller's ever paid, before, was \$48,000.

Taylor's developed an average business of something over a million dollars in the period of about 3 years, starting from scratch, in a city with varying population, which is supposed to have a trading area of possibly 45,000. It is considered an isolated trading area as compared with a great city with its suburbs. Loveman's, over in Chattanooga, has retail trading area of at least 10 times the size of Oak Ridge. We don't know their exact volume, but their volume is probably somewhere around 3 or 4 million dollars.

Now, on that basis, they might do a volume of four times as much in a trading area 10 times as large.

Mr. HOLIFIELD. Well, of course, you are ignoring the point of competition in Chattanooga, where there is no competition in Oak Ridge, in the department stores.

Mr. ROTH. There is competition.

Mr. HOLIFIELD. Are there any department stores in Oak Ridge?

Mr. LEVITT. Excuse me. There is one other department store, National Department Stores. They have been operating there for 3 years.

Mr. HOLIFIELD. Of a size and inventory commensurate with the Taylor inventory?

Mr. LEVITT. No; it is a smaller store. It is a two-story store and a smaller area. However, Oak Ridge—and I want to stress this—is a suburb from the standpoint of commercial activity to Knoxville, Tenn. It is 17 miles and about 40 minutes' driving time to downtown Knoxville and being parked and out of your car. As you know, you can't go into Los Angeles in that length of time. In other words, it is no more trouble for an Oak Ridger to shop in Knoxville than it is for some one living in a suburban area or even a residential area close to town in Los Angeles to get to the downtown section.

Now, these are the facts, and they can't be overlooked. We are discussing a suburban operation. We are discussing an operation which is not in a metropolitan city. There is no traffic on the streets. The streets look deserted. They even looked deserted when there were 75,000 people and Miller's was there. And by the way, I wanted to refer again to Miller's. There were 75,000 people employed in Oak Ridge then, with a pay roll of many, many millions of dollars, and no roads to Washington, no gas, a fence around the town, and very little to buy, so that anything they did have they sold outright. Now, we cannot compare this operation to Miller's, and anybody that really brings it up from the standpoint of the comparison is talking about, say, a comparison of the Earth and Mars, because we are discussing two entirely separate times and separate business conditions. Conditions today are not what they were in 1945. We all know that. I think we should let the matter drop. Business has dropped all over the country.

Now, we are a suburban operation. And when you talk about competition, we have the competition of the Knoxville merchants. And no matter who goes into Oak Ridge, they are going to go up against the same competition. Any outlying town near any metropolitan center has exactly the same competition. The Harriman merchants and the other merchants lying within a 30- or 40-mile radius of Knoxville can tell you their experience is that a big portion

of the business goes to the metropolitan centers. So we do have—and I want to interject this—very stiff competition.

Mr. ROTH. I just want to make one point in conclusion, that I want to emphasize. As far as we were concerned, we did business with a firm called Roane-Anderson Co. It was surprising to find a privately owned corporation operating in this town in that sense. We learned afterward that they were supposed to be strictly supervised by officials of the Atomic Energy Commission, but we didn't go over their heads. We were dealing with these men at the operating level. We would have been afraid to go to their superiors. We never did, as a matter of fact. We never communicated with them at all until after our bid was turned down.

As citizens, we think that is a very extraordinary situation, that a vast business operation such as that is handed over, as far as we can see, to private individuals, not civil-service employees. No man is subject to an oath, to removal.

Mr. HOLIFIELD. If you will pardon me, I will say that we will not go into that. That is a fait accompli. That is something which has been approved by the Joint Committee on Atomic Energy, that method of handling the municipal functions of the town and the business functions of the town. There were arguments pro and con, and I do not think that point is to be decided at this time. And in order that we may go ahead, because we are on call to the floor, I think we will leave that point out at this time, if you do not mind.

Mr. ROTH. Yes; I brought that point in as a moral factor.

Mr. HOLIFIELD. Now, have you made the other points that you wanted to make?

Mr. ROTH. I think I have at the moment.

Mr. HOLIFIELD. Mr. Levitt, do you have anything substantially different to this, to offer at this time?

Mr. LEVITT. I would like to read a statement that I prepared.

Mr. HOLIFIELD. How long would it take you, please?

Mr. ROTH. I think it could be read in 10 minutes.

Mr. HOLIFIELD. All right. You may proceed.

Mr. LEVITT. Stanley Levitt owned and operated two departments in the Taylor Department Store at Oak Ridge, known as the book department and the cosmetic department.

The award of the former Taylor Store at 101 Broadway, Oak Ridge, Tenn., to Loveman, Inc., by the Atomic Energy Commission through its agent, Roane-Anderson Co., is not in the best interest or in conformance with the usual policies of the United States Government.

In the first place, Taylor's Oak Ridge Corp. was definite and absolute high bidder; in the second place, Taylor's was the tenant in possession, and had been for 3½ years. They had built-up a fine business and had certainly offered the people of Oak Ridge a very wide variety of merchandise at reasonable and honest prices. The Atomic Energy Commission, in the award of the lease to Loveman's, deprived the Government of many thousand dollars of revenue, based on the guaranteed rentals offered, and even if Loveman's should increase Taylor's volume as much as 6 or 7 percent, which would be definitely against the national trend, Taylor's guarantees and percentages would still return the Government as high as \$10,200 more than Loveman's. Should business drop considerably, and this is more likely to happen

in view of the times, Taylor's minimum guarantee of \$44,000 would enable the Government to receive considerably more than \$10,200 difference between the Taylor and Loveman proposals.

From a study of thousands of Government awards of contracts, it is readily seen that the Government, as a matter of public policy in protection of the public interest and public funds, is interested in obtaining the high dollar for itself. In running this property for a store operation, the Government should first think of getting the most revenue it can reasonably expect from the most reliable operator. The Darling Stores, Inc., owners of Taylor's Oak Ridge Corp., are rated AAA-1 in Dun & Bradstreet's and are highly successful operators of 110 stores throughout the United States. They started from "scratch" with one store in 1929, possibly the worst year in the history of the country to start in business, and from that grew through the depression to a very good position even prior to the war. This clearly demonstrates that their policy since their beginning has been to offer the public merchandise which will standup on the very competitive market place—that it has stood up successfully is clearly demonstrated by the 110 stores which in every case is a credit to the community in which they are located. The same policies which made the Darling Stores so successful were used in the merchandising and managing of Taylor's department store in Oak Ridge, Tenn.

The management of Loveman's in turn, has never operated a chain of stores and, in fact, only operates the one Chattanooga store. They have no experience in operating two or more stores.

Taylor's department store in Oak Ridge was able to do in the past 3 years over two times the volume within its trading area per capita than Loveman's did in the Chattanooga trade. From this, it is clear that Taylor's department store is a more efficient operation than Loveman's. Taylor's offered in its proposal to install a central charge-account system, delivery service, and air conditioning, and in addition to what was stated in the proposal, it is a fact that plans had already been drawn up for completely re-laying out and remodeling the entire store. In the Loveman proposal it was only stated that "consideration" would be given to installation of these services. The term "consideration" is not very binding. However, Taylor's proposal on these services are at least the equal of Loveman's. It must be remembered that the Atomic Energy Commission is giving Loveman's a 5-year lease with a 5-year option, with no cancellation clause whatsoever on the part of the Atomic Energy Commission. This means that Loveman's has a secure lease for 10 years if they want it. On the other hand, Taylor's had only a year-to-year lease from the start of its operation in Oak Ridge, which contained a 30-day cancellation clause on the part of the Atomic Energy Commission that could be invoked without cause at any time. Any thinking person knows that this is an almost insurmountable handicap to stable business dealings and to long-term planning. Certainly, it would be difficult to take on a central charge-account system and have many thousands of dollars on the books when you could be in a position of being thrown out at any moment. As a matter of fact, the AEC did attempt to throw us out on 20 days' notice.

The recommendation for awarding the lease to Loveman, of course originated with the Roane-Anderson Co. In many aspects it was a

vindictive and malicious action against Taylor's on the part of parties who are allowing personal prejudices to enter into the award of a bid on public property. Oak Ridge is not Roane-Anderson's or AEC's public property—it belongs to the United States taxpayer and no one else, and the personal prejudices of certain people in Roane-Anderson's should have no bearing on the matter whatsoever. However, this personal prejudice played a very large part in the loss of the Taylor lease.

Mr. Harold White, manager of the commercial realty division of the Roane-Anderson Co., personally stated to me in September 1949 that he did not like the actions of the real estate agent, a Mr. Hall, who was sent down from New York to represent the Darling Stores in the negotiations for a new lease. It seemed Mr. White had taken a personal dislike to Mr. Hall, and this dislike had reached such a point that Mr. White made a remark to the effect that Mr. Hall thinks he is smarter than we are, but he is overstepping himself, and so forth, and then Mr. White made the following statement, which I quote: "We are going to teach those guys a lesson." It would seem that Mr. White carried out this threat in his recommendations for awarding this lease to another party. Mr. White also told me several times during the latter months of 1949 that Taylor's did not have much of a chance to retain the lease.

The Darling Stores expended roughly \$100,000 in improvements and fixtures when they opened up the Taylor Store in Oak Ridge. Certainly this expenditure was made in good faith and with the knowledge that they would be allowed to continue in business longer than 3 years and 5 months. The store building when they took it over had never been improved and they made it into a store that was a credit to Oak Ridge.

It is not Government policy to push people around—in any case, it is certainly not good Government policy.

The Roane-Anderson and Atomic Energy Commission's action in this case is vicious, arbitrary, unjust and inequitable in its nature. The Atomic Energy Commission must have realized that their action was of this type because in their report to various congressional agencies, in answer to complaints made about the lease, they completely obscured the true facts in the Taylor proposal, and this certainly must have been done for the reason that they wished to deliberately mislead the readers of this report.

The Commission people whom I have talked to during my January trip to Washington felt quite smug about their decision and belittled any attempts to get redress through the Congress.

The Roane-Anderson Co. states that they offered Taylor's a renewal of their lease for 3 years at the present percentage, but failed to stress that they were requesting Taylor's the additional factor of \$40,000 to \$50,000 per year minimum guarantee. This request can be found in the correspondence between Roane-Anderson and the Darling Stores Corp. This offer of a new lease based on these extortionary figures, which they knew would not be accepted, was only a subterfuge in the attempt by Roane-Anderson to get Taylor's out.

"The proof of the pudding is in the eating," and the facts are that Roane-Anderson and AEC awarded the lease to Loveman's at 4-percent rental and a minimum guaranty of \$25,000, which is certainly considerably less than the exorbitant figure of \$40,000 to \$50,000

guaranty and 6 percent asked of the Darling Stores Corp. during the early negotiations. As a matter of fact, Darling Stores Corp. had in several letters during negotiations offered Roane-Anderson Co. considerably more guaranty and percentage than the award was finally made on. Roane-Anderson claimed in August that negotiations were falling through and the only way they could grant a reduction in rent in view of their "standard policy" was to advertise the store as being open to bids from the general public. Roane-Anderson and the Atomic Energy Commission have laid great stress on this "policy." In actuality, they have no policy whatsoever. They have granted reductions in rent without advertising in public for bids to other stores in Oak Ridge. Many of their leases are awarded by private negotiation and not through public bidding, and no one else is allowed a "look-in." Naturally, they claim all their leases are confidential, which may, or may not, be within the scope of the United States Code covering public properties. However, it seems to me that if all public properties and moneys were handled in this confidential manner by private negotiation, things might become very sad for the general public.

Commercial rental space in Oak Ridge is very, very scarce, and it is almost impossible to get another location in this city. It is very simple for the renting agents and AEC to freeze you out regardless of how high you bid, or how efficient and honest an operator you are. They merely state that yours is not the "most acceptable bid." This phrase can cover up a great deal, and the stock answer to a question of what is the most acceptable bid is always that all bids are confidential, and so forth, even after the location has been awarded to some other party. Roane-Anderson seems to have no consistent rental policy whatsoever and there really has been no consistent application of the "high bid" rule or the "most acceptable bid" rule. A bidder never knows which will govern and as a consequence Roane-Anderson and AEC can argue any way they wish to why they awarded any particular bid, since they seem to have no rules to go by.

As a matter of record, the Roane-Anderson attorney stated during a court action in this case at Jacksboro, Tenn., before Chancellor Joe Carden on February 9, that Roane-Anderson can award a bid on any basis it wishes, including whether or not it likes the color of a man's hair. The latter policy is certainly not a very efficient method for awarding leases on United States-owned property.

The fact that Taylor's bid was not being seriously considered, even though it was a higher bid than Loveman's, was demonstrated very forcibly to me shortly before Christmas, 1949. It should be noted that the final date for receiving bids on this store was December 15, 1949. The final decision was not made by the Atomic Energy people until around January 6, 7, or 8.

Now, as a matter of record, the letter from Roane-Anderson to the Atomic Energy Commission making the recommendations as to who the store should be awarded to was stated somewhere between the 4th and the 6th of January. Therefore, it did come after the date by which the Loveman bid technically died, January 1. That is a matter of record. You have that in your file. (Taylor's was not notified until January 10.) So, certainly before Christmas of 1949 the matter was still under advisement by Roane-Anderson, and possibly AEC.

Mr. Harold B. White, formerly referred to as manager of the commercial realty division, was at my book department at Taylor's around December 22, 1949. Knowing that the store was up for bid, and naturally being worried over the position I would be in if we lost the store, I asked Mr. White what he would do with my inventory if he were in my position, and Mr. White's answer was: "I would sell out to the bare walls." My wife also heard this statement and I have her sworn affidavit to that effect. That sworn affidavit is here, and I would like to enter it into the record.

Taylor's department store has been placed in the position of a baseball team that scored the most runs and thought it had won the game when suddenly the umpire decides that he doesn't like the color of the winning team's uniform and awards the win to the team that scored the least runs. To carry this analogy further, we are in about the same position as if we had gotten the most votes, but lost the election.

I ask that this subcommittee, in all fairness and justice, make a recommendation to the full Joint Atomic Energy Committee that the award of this lease to Loveman's be canceled and that a new lease be granted to Taylor's department store, and that very strong representatives to the Atomic Energy Commission be made so that this new lease with Taylor's can be consummated. It is to the best interests of the Government to continue to have a reputable operator like Taylor's in this store inasmuch as the Government will receive a guaranteed greater revenue than can be obtained from Loveman's. Also, Taylor's department store has served Oak Ridge for 3 years and 5 months and is in a very strong position to know just what the vast majority of Oak Ridgers want and will buy. In addition to conducting the Taylor operation on the same high plane as in the past, further improvements and services can be adopted because of having a long-term lease instead of a year-to-year lease, subject to cancellation.

I would like to make an addendum to that testimony. In the conducting of my business, I am in the store quite a lot. From the middle of December on, so many customers came to me suggesting that we were going to lose our lease. Now, I grant you, this is rumor and second-hand information, but it still is a fact that I heard these remarks made to me in my place of business, that Taylor's was going to lose the business, and the business was going to go to Loveman's of Chattanooga. I naturally gave that quite a lot of consideration. I didn't know what position I would be in if I did lose the lease, so around December 30, around the 28th to the 30th, I went to Chattanooga and discussed the possibility of entering into a lease department arrangement with Mr. Richard Moore and Mr. James Moore of Loveman's, Inc., the owners, the president and vice president of Loveman's, in Chattanooga. During the course of the conversation, they asked me several questions about what I thought of Oak Ridge as a business possibility, and they indicated to me that they were in the driver's seat with regard to this lease. Now, mind you, no decision had been made by the Atomic Energy Commission or by Roane-Anderson at that time, who make the recommendations to the AEC.

I would like to read this sworn affidavit. It will just take a couple of minutes, and it concerns these very things.

This is a sworn affidavit to the State court of Tennessee:

On several occasions from the end of August through December 1949, Mr. White stated to me that Taylor's did not have much of a chance for renewal.

I would like to omit the next, which is a repetition of what I had in my statement, here, and I would like to read this:

Shortly before Christmas 1949, not less than 100 customers informed me that it was their understanding that Taylor's had lost its lease. Many of them stated that Loveman's of Chattanooga was being given the lease on the premises.

On the morning of December 28, 1949, I called Harold White, the manager of Roane-Anderson concessions department for the purpose of further verifying whether there was any truth to the statements made to me that Taylor's would lose its lease. I asked him point-blank whether it was true that Loveman's had been awarded the lease on Taylor's premises. He evaded answering this question directly but did state that Loveman's had a "very strong proposal," and had a "strong chance of getting it."

On the basis of his remarks, and because I knew that he was in a qualified position to know what was happening, and because I was naturally concerned about my own position in the matter, on the very same day I traveled to Chattanooga for the purpose of discussing the matter with Loveman's, with the idea in mind that if it was true that Loveman's had the new lease I would attempt to negotiate a lease with them on my own behalf. I was given an audience by Mr. Richard Moore, president of Loveman's, and Mr. James Moore, vice president. I stated my case to them very clearly, stating that I had heard that Loveman's was being granted a lease at Oak Ridge on the premises occupied by Taylor's that I operated the book and cosmetics department in those premises, and that if Loveman's did have the new lease I wished to discuss the matter with them.

James Moore stated that Loveman's was in the "driver's seat" with respect to obtaining a lease on Taylor's premises, and that Loveman's felt they could get the location on its own terms. He further stated that "all we have to do is to say we want it." He advised me that Mr. Winfrey had discussed the matter with them on several occasions, and had "begged us to take the lease."

In further discussing the matter Mr. Moore stated that Loveman's had not intended putting a minimum guaranty in their bid, but were advised by the Roane-Anderson people that this was essential, and for this reason alone a minimum guaranty was set forth in its proposal. Although Mr. Moore did not commit himself to me that he did have the lease, he made the remark that he would consider leasing a few departments at the Oak Ridge operation, which indicated to me that as far as he was concerned, the lease was theirs. A further indication to me that the leasing of the premises by Loveman's was an accomplished fact was Mr. Moore's statement that it was the company's intention to use old fixtures from their Chattanooga operation in the Oak Ridge store. He further stated that for the first 6 months of their operation in Oak Ridge they intended "taking it easy" to see how the operation progressed.

I left my meeting with these gentlemen with the clear understanding that Taylor's was "out," and Loveman's was "in."

I think that is all I have to say with reference to that. I would like to read my wife's statement.

I, Hilda Simmons Levitt, do solemnly swear the following to be truthful and honest statement of facts. A few days before Christmas 1949, Mr. Harold White, manager of the commercial realty department of Roane, Anderson Co. was in the book department in Taylor's. I was standing next to him and my husband. Mr. Levitt was concerned about the continuation of his business in the Taylor location in view of the persistent rumors that Taylor's would lose its lease and in view of the fact that the store was up for bid. In the course of conversation, Mr. Levitt asked Mr. White, "What would you do if you were in my shoes with all this inventory?" Mr. White replied, "I would sell out to the bare walls."

That is sworn to by Hilda S. Levitt and witnessed by Kathryn Dodge and bears the signature of Ethel D. Glenn, notary public.

Mr. ELSTON. I would like to ask: To whom did Mr. White make the statement that "We are going to teach these guys a lesson"?

Mr. LEVITT. To me personally.

Mr. ELSTON. What date did he make that statement?

Mr. LEVITT. It was in the month of September 1949. I don't remember the exact date. It was shortly after the negotiations had reached the point where Roane-Anderson had decided to open the store for public bidding; in other words, advertising the store for public bidding.

Mr. ELSTON. Did he give any reason for that?

Mr. LEVITT. Yes, he discussed Mr. Hall, as I stated in my affidavit. He said Mr. Hall thought he was too smart for the Roane-Anderson people, and the Roane-Anderson people were taking exception to it, or something to that effect, and "we are going to teach these guys a lesson." I gathered the impression that Mr. Hall had rubbed them the wrong way, or something, during the negotiation. I know Mr. Hall, and he is a very normal individual, and very retiring sort of fellow, and still there could be a clash of personalities somewhere over some phase of the bid or lease.

Mr. ROTH. Mr. Chairman, may I just take one more minute on our case, first to insert this telegram dated January 10 advising us of the award to Loveman's? It is a very simple telegram. It says:

Award of department store location was made to Loveman's of Chattanooga. Appreciate greatly your consideration in filing application with us.

It is signed: "Roane-Anderson Co., C. M. Winfrey."

I would like also to have sworn Mr. Stanley Roth, executive vice president of Darling Stores Corp., to complete the record in connection with what happened after that, because I think the chairman is particularly interested in that.

Mr. HOLIFIELD. What would be the nature of his testimony?

Mr. ROTH. Just in connection with the discussions and what happened after January 10, after that award, because there is some indication that the members of the committee were interested in the subsequent happenings.

Mr. HOLIFIELD. All right. Take the chair, Mr. Roth.

Do you swear that the information and testimony you are going to give to this committee will be the truth, the whole truth, and nothing but the truth, so help you God?

Mr. STANLEY ROTH. I do.

Mr. HOLIFIELD. Mr. Roth, will you please make your statement brief; because time is running on, and we want to get to the rest of these people. It may be impossible for us to hold another day's hearing.

#### **TESTIMONY OF STANLEY ROTH, EXECUTIVE VICE PRESIDENT, DARLING STORES CORP.**

Mr. STANLEY ROTH. As the record shows, I am executive vice president of Darling Stores Corp.

Mr. HOLIFIELD. Your testimony will not cover any of the testimony that has been given?

Mr. STANLEY ROTH. No, sir.

Mr. HOLIFIELD. All right.

Mr. STANLEY ROTH. In the course of the communications back and forth with the Atomic Energy Commission and the various Senators, the statement was made two or three times that opportunity was

given to me personally, Stanley Roth, to rediscuss the situation with Mr. Cook, manager of the Oak Ridge operation of the Atomic Energy Commission, subsequent to our being notified that we had lost the lease position in Oak Ridge. The Congressman has asked the question as to whether there was any subsequent conversations or negotiations. I wish to let you know what they were.

I personally called on Mr. Towne, an appointment with whom was made by Mr. Strauss of the Atomic Energy Commission. We had a long discussion. Mr. Roth was present, and also Mr. Marx, our real-estate representative. At the conclusion of that conversation, Mr. Towne told us that we would hear from Mr. Cook, who was the resident area manager for AEC. Mr. Cook, the following day, after my return to New York, did call me up. Now, Mr. Cook said that he would be willing to discuss with me, if I should come to Oak Ridge, this: namely, a possible extension of 30 days or so, to permit a more orderly liquidation of our stocks and investment in the stocks, and investments of the subconcessionaires.

Mr. HOLIFIELD. Was that after you had filed in the local court?

Mr. STANLEY ROTH. This was the 19th of January.

Mr. HOLIFIELD. Was that after you had filed for an injunction against the eviction in the local case?

Mr. STANLEY ROTH. No, sir, it was before we had filed in connection with the eviction, but after we had wired protests.

The provision, however, which Mr. Cook laid down for this conversation which might ensue in Oak Ridge, Tenn., was that we must accept the final decision of the award to Loveman's. I asked him specifically over the telephone if that decision were irrevocable, and he said yes, it was irrevocable. In other words, I was supposed to go, at his invitation, to Oak Ridge to discuss an irrevocable decision, so far as the main body of the problem was concerned, but he would be willing to explain to me why they had made the decision and possibly entertain a suggestion concerning an extension of time in which we might liquidate in a more orderly fashion.

I asked Mr. Cook to confirm his conversation by wire. This is the wire, and I should like to enter it in the record. It is dated the 20th of January and addressed to me:

Info sent to Walter J. Williams, U. S. AEC, Washington, D. C.:

In confirmation of my telephone call this afternoon I will be very glad to discuss with you your feeling that continuation in business at the Taylor location beyond January 31 is necessary for an orderly liquidation. Any agreement reached on such an extension will necessarily have to be covered by a supplement to your existing contract.

The decision on the award of space now occupied by Taylor's to Loveman's has been made and will remain firm. I regret that you have not previously availed yourself of discussions with either Mr. Leroy MacNeal, project manager for the Roane-Anderson Co., agents for the AEC, Mr. Fred Ford, director of community affairs for the AEC, or myself prior to this time.

Understand that you will call either Monday or Tuesday to arrange for a meeting early part of next week, the time being dependent upon when you can have your attorney accompany you.

R. W. Cook, *Manager, Oak Ridge Operations.*

We received another wire from Mr. Cook, dated the 24th of January, also addressed to me:

This is in confirmation of my telephone conversation this date with Mr. Stanley Roth, vice president, Darling Stores, Inc. As you know, Loveman's proposal has been accepted. However, we would be happy to have you come here to

review with us the elements of your proposal and that of Loveman's which received consideration in our decision CMA and the methods applied in the valuation of bids and in determining the proposal considered most advantageous to the Government. I can assure that I shall approach this review of the pertinent facts with an open mind. As I have already advised your Mr. Stanley Roth CMA we are always prepared to discuss with you any time prior to the expiration of your contract on January 31, 1950, the possibility of a limited extension of the terms of your occupancy to permit an orderly liquidation of your operation provided need is shown for an extension. Any agreement reached on extension will require a supplement to your contract.

My reply to that telegram, dated January 25, is as follows:

Re your wire January 24. We are not asking for an extension pending liquidation and never did. You have previously finally reaffirmed your decision with Mr. Towne and we have been so informed. Further explanation by you of your reasons for accepting Loveman's bid is not in issue. We are demanding an absolute extension of time pending full inquiry into all the facts not only as to your reasons but as to the legality, correctness, and validity of the methods which were adopted in this instance. The pertinent facts as to the reasons for the delay in opening the bids, prior communications with bidders, etc., have all been withheld and are all necessary parts of the final determination by all higher authorities interested in this case. No loss would be inflicted on any one by an extension pending a full inquiry which we have demanded from all interested authorities, whereas carrying out your arbitrary determination now can only cause irrevocable loss to Taylor's and 13 subconcessionaries.

Mr. HOLIFIELD. Will you explain, before you leave the stand, what legal steps you took to obtain additional time for the closing out of your merchandise?

Mr. STANLEY ROTH. Legal and nonlegal, if it is all right with you: Our first attempt was to go to the Atomic Energy Commission, a member thereof, Mr. Strauss, whom I happen to know personally, and appeal to him to correct what we considered a gross inequity right at the source, namely, in the Commission. Mr. Strauss was most polite, and he arranged for a meeting with Mr. Towne. Mr. Towne was met by Mr. Eugene Roth, Mr. Leonard Marx, our real-estate representative, and myself, who spent about 3 or 4 hours with him, I should say, and we were given what we considered to be, and which we told him we considered to be, a bureaucratic run-around. We were given a lot of double talk, and we were given no satisfaction as to action whatsoever, except finally, when we pressed for same, we were told that Mr. Cook would get in touch with me. The result of Mr. Cook's getting in touch with me, you have heard in these telegrams.

We then pressed further for action through the Atomic Energy Commission and were as much as told that they couldn't do anything about it.

We then pressed for action through congressional committees, particularly through your committee, and requested most urgently that we be given at least a stay subject to an open and complete investigation of the facts. All we wanted was that the facts be exposed. And at that time your committee was most profoundly engaged, and we were aware of it, on the hydrogen-bomb project, and we felt, quite rightly, that we deserved at least a secondary position to that.

However, we were not given any encouragement that we would have a hearing, and we were only urging that we get a postponement in order that there may be, at your convenience, an opportunity to expose the facts.

Having failed to do so in that matter, we then sought legal recourse, and the story of the legal recourse I should much prefer, if it is all right with you, to have presented by Mr. Eugene Roth.

Mr. EUGENE ROTH. We brought an action in the State Court of Tennessee against Roane-Anderson Co. and secured a temporary injunction.

Mr. HOLIFIELD. Restraining the Roane-Anderson Co.?

Mr. EUGENE ROTH. Restraining the Roane-Anderson Co. from taking steps to evict us. In the meantime, shortly after that, the Atomic Energy Commission brought an action in the United States district court to restrain or enjoin us from continuing in possession of the premises and to restrain us from the other action. The court held in the Government's favor on that action, and we were permanently restrained from continuing by the State action and from continuing possession of the premises, and all litigation was thereby disposed of, before the end of February.

Mr. HOLIFIELD. All right. Now, you had been informed on January 10 that the proposal of Loveman had been accepted. And you were given how many days to close out your business operation?

Mr. EUGENE ROTH. Our business operation was to terminate on January 31.

Mr. HOLIFIELD. Approximately 21 days.

Mr. EUGENE ROTH. We had 15 days more under the agreement, I believe, in which to remove; that is, to sort of liquidate, move out.

Mr. HOLIFIELD. To move out. But you had to close the business as of January 31, as I understand it.

Mr. EUGENE ROTH. Yes. And I believe the 10th was a Friday, and that communication didn't become effective until about the 13th.

Mr. HOLIFIELD. Subsequent to this notice, were you given additional time by the Roane-Anderson people?

Mr. EUGENE ROTH. We were never given one day by them. We got it from the courts.

Mr. HOLIFIELD. You got it from the local court, the Tennessee court?

Mr. EUGENE ROTH. From the Tennessee court, and also I believe the United States district judge there, both in the form of withholding his decision for a week, substantially gave us to the end of the month of February. Around the end of February, we completed our removal, and we were out. We are out.

Mr. HOLIFIELD. You are out.

Mr. EUGENE ROTH. We were out and have been since the first of March. We moved out in conformity with the court's order.

Mr. ELSTON. How much of a hearing was there in the United States court?

Mr. EUGENE ROTH. There was a full hearing, with documents such as these in evidence, and affidavits of different kinds.

Mr. ELSTON. And all the facts presented to us today were presented in that court?

Mr. EUGENE ROTH. No, not all the facts, because they couldn't be marshaled in quite the same way.

Mr. HOLIFIELD. May I ask this question: If the hearing in the Federal court was to determine whether the injunction of the lower court was valid or not? It was not on the merits of the case?

Mr. EUGENE ROTH. We don't believe it was. The main issue is very simple, that is, the right of a State court to enjoin the United States Government through an agent such as this, which, as a matter of established law, seems to be determined, that "you can't do it that way." And on top of that, we had no right to the possession of the premises. It was the only protection we had as to the continuation of business after January 31.

Mr. HOLIFIELD. In other words, your action in the Tennessee court and in the Federal court was not on the merits of the leasing act, but as to Roane-Anderson. It was strictly on the point of obtaining additional time to close out your merchandise, in the first instance, with the Tennessee court, and in the second instance it was a denial by the Federal court that the Tennessee court had the right to give you that type of an injunction?

Mr. EUGENE ROTH. I must clarify that a bit, though, Mr. Congressman. The Tennessee State action was not based merely on the idea of getting the extension in order to liquidate. It was based upon the oral assurances that were given. It was a sort of a general equity action seeking to enforce the idea that we were entitled to priority on the lease and to an extended period of time; but that we had a temporary injunction in that action, a temporary injunction pending a final hearing.

Mr. HOLIFIELD. Yes, sir. Your request to the court was on that basis, but that request was never ruled upon by the court?

Mr. EUGENE ROTH. Never ruled upon. Now, I might say one thing, so that we might have the record clear. The Federal court in the district court action did comment that it ordinarily had no power to examine into the actions of the Atomic Energy Commission. But in this case, the court felt there wasn't enough to warrant interference. There was some attempt there to make a finding, and I think that will be referred to.

Mr. ELSTON. Have you got the opinion of the court there?

Mr. EUGENE ROTH. I think I could find that.

Mr. STANLEY ROTH. May I say in the interim that as a businessman my hope was that we could circumvent this arbitrary designation of too short a time, to get enough time so that this body here might have an impartial hearing before the patient died, so to speak, rather than an autopsy, which we seem to be having at this moment. You see, we are out now. I am told that Loveman's hasn't put a hammer to a nail to get in as yet, but we are out. I hope something will come out of this more than autopsy. We hoped that we might have a review of the situation before the patient was declared dead.

Mr. EUGENE ROTH. Here is the judgment of the United States court [handing]. I do not have anything else at the moment.

(The opinion referred to is marked "Exhibit 2" and will be found in the appendix on p. 106.)

I would like to insert just one further affidavit into the record. It is the affidavit of Ira Cravens, a concessionnaire. This was filed in the State court, an affidavit sworn to on February 9, 1950, and it contains the statement that on December 5, 1949, he had a meeting with Mr. White similar to the meeting that Mr. Levitt testified to, and it was suggested to him that he go out and get himself another location, as early as December 5, even before the bids were in. And he refused to do it. I would like to put that into the evidence.

Mr. HOLIFIELD. It will be accepted.  
(The affidavit referred to is as follows:)

STATE OF TENNESSEE,  
Knox County, ss:

Taylor's Oak Ridge Corporation, Complainant, v. Roane-Anderson Company,  
Defendant. No. —

AFFIDAVIT OF IRA CRAVENS

I, Ira Cravens, do state under oath that I am the operator of the men's department at the Taylor's store in Oak Ridge.

On or about December 3, 1949, I discussed with Mr. Winfrey, the manager of the rental department of Roane-Anderson, the various rumors I had heard with respect to the renewal of Taylor's lease on the Oak Ridge store. I told him that my own lease with Taylor's expired on January 31, 1950, and since I had merchandise of the value of \$40,000 I was naturally concerned with whether or not Taylor's lease would be renewed. I specifically asked him what in his opinion was Taylor's chances of obtaining a renewal of its lease, and what would he do if he were in my shoes. He began discussing a Mr. Hall, who as I understand it, was an employee of the real-estate agents for Taylor's. Mr. Winfrey stated that Mr. Hall was a "smart aleck", and that he disliked Hall. He further stated that Mr. Hall apparently thought that the people at Roane-Anderson were "dumb yokels." He did say that he was very fond of Mr. Max Gluck, the president of Taylor's, and Mr. H. Levison, district manager of Taylor's, and it was unfortunate that one of these two gentlemen had not attempted to negotiate a renewal of the lease instead of Mr. Hall. He said that if one of them had come to Oak Ridge for this purpose instead of Mr. Hall there was no question in his mind but that a new lease would have been granted to Taylor's, and he implied that solely because of his extreme dislike for Mr. Hall, and not because of any legitimate business reason, Taylor's would not be given a new lease on the premises.

In view of my discussion with Mr. Winfrey, on Monday, December 5, I went to see Mr. White, manager of the concessions for Roane-Anderson, and asked him to give me what information he had concerning the renewal of the Taylor's lease. He was extremely evasive on the subject and would give me no information with respect to the status of the Taylor's renewal, but he did in the course of our conversation, suggest that I bid for space in other buildings at Oak Ridge operated by Roane-Anderson. I told him that until I knew I would have to leave my present location I was not interested in discussing the leasing of any other space. However, I felt that his suggestion to me with respect to making bids on space in other locations was his way of telling me that Taylor would lose their lease and that I should make plans to go elsewhere after January 31.

I have been operating the men's department in Taylor's store since September 1946. I have built up good will over the last 3½ years, and I would suffer great financial loss to give up my present operation.

In making this affidavit I understand it may be used in connection with the motion to dissolve the injunction in this case.

IRA CRAVENS.

Sworn to and subscribed before me this February 9, 1950.

WILLIE V. COOPER, Notary Public.

My commission expires October 17, 1950.

Mr. HOLIFIELD. Now, which one of you gentlemen wishes to lead off? Mr. Williams?

Mr. WILLIAMS. If I could, I would like to have Mr. Cook and Mr. Winfrey and I proceed.

I would like to make a short statement myself and then have them put their statements into the record.

Mr. HOLIFIELD. You wish to make a statement at this time?

Mr. WILLIAMS. Yes; a very short statement, just to make clear the lines of authority.

Mr. HOLIFIELD. All right, come to the stand, Mr. Williams.

Do you swear that the evidence you are about to give will be the truth, the whole truth, and nothing but the truth, so help you God?

Mr. WILLIAMS. I do.

Mr. COOK. I do.

Mr. WINFREY. I do.

Mr. HOLIFIELD. Proceed, Mr. Williams.

### TESTIMONY OF WALTER J. WILLIAMS, DIRECTOR OF PRODUCTION, ATOMIC ENERGY COMMISSION

Mr. WILLIAMS. I am Walter J. Williams, Director of Production for the Atomic Energy Commission, and have been assigned responsibility by the General Manager for the general administration of the Oak Ridge operations.

Mr. R. W. Cook, the manager of the operation at Oak Ridge represents the Commission and has authority to carry on the business of the Commission at Oak Ridge. The Commission has decentralized its business and various managers of operations, so that they have broad authority to make decisions without reference to the Commission.

Now, in the case of the concessions, there are quite a few of these that have to be negotiated, and there are very few that ever come to the attention of Washington. They are handled by the local manager, and the contractors under the local manager.

At Oak Ridge we have, I would say, approximately 160 concession agreements that have to be managed, and then we have possibly 180 additional agreements for rental of space for offices, and so on, making a total of over 340 such agreements that have to be entered into and administered.

Mr. HOLIFIELD. Do you have a set over-all policy in regard to the negotiation of these leases, or is that left on a variable status in the hands of your agents?

Mr. WILLIAMS. We have a written long term leasing policy, which was passed on by the Commission and was sent to the managers of operations at our installation.

Mr. HOLIFIELD. Well, now, I realize you have that, but is it uniform, and do you apply the same type of negotiations to each and every concession, or is it variable?

Mr. WILLIAMS. Generally, the policy is uniform.

Now, in the negotiation of the various leases, they might vary some. A manager from Oak Ridge can answer as to any variation he might have at Oak Ridge. We state a broad policy, and expect the managers to work within certain limits without too much discussion with Washington.

I might say that this case which is under investigation by you today is the only one to my knowledge of the many that we handled at Oak Ridge that has ever come to my attention. And Mr. Cook can give you the variations, if there are any, in the leases. Of course, some of these leases run for various periods of time, and at the time of renegotiation they are either renegotiated or advertised depending upon the circumstances.

Mr. HOLIFIELD. Do you consider this a normal way of advertising?

Mr. WILLIAMS. For this type of operation, Mr. Chairman; yes, sir.

Mr. HOLIFIELD. For this type of operation?

Mr. WILLIAMS. Yes; I do.

Mr. HOLIFIELD. Do you know in this particular case whether there were any additional requirements made of the applicants; that is, as to the amount of money they should invest, the type of service they should give, or anything like that?

Mr. WILLIAMS. Well, Mr. Cook can answer in detail. I reviewed the papers which we forwarded to the joint committee, and I am informed to that extent.

Mr. HOLIFIELD. I see.

Mr. WILLIAMS. Of course, my responsibilities do not stop with town management. I am responsible for the entire production of the Commission.

Mr. HOLIFIELD. I realize that.

Mr. WILLIAMS. So that this is one of the minor things.

Mr. HOLIFIELD. Now, Mr. Cook is the next witness that you wish to have testify?

Mr. WILLIAMS. Yes.

Mr. HOLIFIELD. All right, Mr. Cook.

### TESTIMONY OF RICHARD W. COOK, MANAGER, OAK RIDGE OPERATIONS OFFICE, ATOMIC ENERGY COMMISSION

Mr. Cook. If I may, sir, I would like to read a prepared statement that covers briefly the history, and then Mr. Winfrey of Roane-Anderson has a prepared statement that covers this particular case from beginning to end, and I am sure will answer most of the questions that were raised here this afternoon.

Those that haven't been answered, we can handle separately.

I. a. The original concession agreement between Taylor's Oak Ridge Corp. and the Roane-Anderson Co., agent for the Government, as licensee and licensor, provided for an initial 1-year term and two optional 1-year periods of continued occupancy of the premises involved. These options were exercised by the licensee and approved by the licensor.

b. In an endeavor to obtain a lower rental agreement from the Roane-Anderson Co., Taylor's Oak Ridge Corp., through their agent, Marx Realty & Improvement Co., of New York, agreed to and executed a 5 months' extension modification to their expiring contract providing for further continued occupancy of the premises involved from August 31, 1949, the normal expiration date, until January 31, 1950.

c. Taylor's Oak Ridge Corp., through their agent, Marx Realty & Improvement, and by telegram direct from the Roane-Anderson Co., were fully advised and were completely aware of the reasons for granting the 5-month extension. Proposals from all interested parties for occupancy of the subject premises, for the purpose of conducting therein a high-grade department store under the terms of the recently adopted leasing policy, were advertised for and solicited by the agent, Roane-Anderson Co. Repeated requests for preferential treatment, both by the Marx Realty Co. and Mr. M. H. Gluck, of Darling Stores were denied at all times by the agent. Taylor's Oak Ridge Corp., being fully advised of the procedure to be followed, asked for and received from the agent application forms to be used in submitting a proposal for leasing the subject premises. They were fully advised of the dead line of December 15, 1949, which was established as the date

beyond which no additional proposals would be received or considered by the agent, and submitted their proposal in sufficient time to be considered.

d. As a result of the advertising for and solicitation of qualified department store operators, six firm proposals to lease the subject premises were received by the agent, Roane-Anderson Co., acting for and in behalf of the USAEC. The proposals received were submitted by the following companies or individuals, Mercantile Stores Corp., of New York; D. W. Proffitt, of Maryville, Tenn.; Shainberg Dry Goods Corp. of Memphis, Tenn.; John J. Wender of Jellico, Tenn.; Taylor's Oak Ridge Corp., a wholly owned subsidiary of Darling Stores Corp. of New York; and Loveman's Inc.; of Chattanooga, Tenn.

(The proposals referred to and related letters are marked "Exhibit 3" and will be found in the appendix at p. 109.)

Mr. Cook. e. The representative stores of each of the applicants were personally inspected by the representatives of the Roane-Anderson Co. By such inspections, a first-hand knowledge of the type of operation conducted by the applicant, the quality and price range of the merchandise handled, the approximate volume of business done, and the general reputation of the applicants company with the local banks, business concerns and public was obtained by the Roane-Anderson Co. as agent for use in proper evaluation of the proposal received as compared to others.

f. The agent then carefully analyzed the six proposals received on the following basis which had previously been explained to all applicants, that is—

1. Which proposal indicated the highest type department store operation with all of the normal department store's services to customers and community good will building programs for the residents of Oak Ridge.

2. Which proposal offered to lessor the best financial return in the form of rental to be reasonably anticipated through the conduct of the type store deemed desirable for Oak Ridge.

After a complete analysis was made by the Realty Division of Roane-Anderson Co., a joint review was made of the subject proposals between the Roane-Anderson Co. and the Oak Ridge office of the AEC.

It was the unanimous opinion of the AEC and its agent, Roane-Anderson Co., that the proposal submitted by Loveman's of Chattanooga offered:

1. A well qualified operator for the type of business desired in Oak Ridge by reason of their experience and demonstrated ability in this particular field plus their understanding of the local markets.

2. The nearest approach to a complete well-rounded department store operation, offering the services and conveniences found in such stores generally, for the residents of Oak Ridge.

3. The highest anticipated return to the Government by reason of the percentage rate and the volume potential.

After complete agreement between the AEC and its agent was reached as to the most acceptable proposal submitted, the Roane-Anderson Co. recommended the proposal of Lovemans, Inc. The AEC approved this recommendation, and the successful and unsuccessful applicants were immediately notified by telegram.

II. Upon receipt of the information that Loveman's, Inc., had been awarded the lease on the Oak Ridge Store, Messrs. Gluck and Roth of Darling Stores Corp. protested the decision of the AEC and its agent, Roane-Anderson Co., in telegrams to the agent, the AEC, and to various members of the United States Government's legislative bodies.

Every effort was made to fully explain to all interested parties the reasons for the decision reached and the methods used in the determination made by the AEC and its agent.

I personally explained the matter to Mr. Stanley Roth of the Darling Stores Corp. in several long-distance telephone calls. I further offered to meet with Mr. Roth and his associates at their convenience in order to acquaint them with the details of the proposal accepted even though such action was not in accord with general policy.

Mr. Roth did not avail himself of this offer but subsequently obtained a restraining order in chancery court to restrain the Roane-Anderson Co. from further action in recovering the premises or entering into a lease with Loveman's of Chattanooga.

After a hearing was held in chancery court, the court dissolved the injunction against Roane-Anderson Co. The United States district attorney in Knoxville filed suit in the Federal court at Knoxville to recover the premises from Taylor's Oak Ridge Corp. and to collect such moneys as were due the Government by reason of Taylor's continued illegal occupancy of the premises. Judgment was awarded the plaintiff and Taylor's Oak Ridge Corp. was ordered to vacate and return the premises.

Were you given copies of the court opinions?

Mr. ELSTON. No; I asked for the opinion and got the judgment.

Mr. COOK. I have both of them here.

Mr. ELSTON. Let me ask you this question: Was the injunction in the State court before the proceeding was instituted in the Federal court?

Mr. COOK. No; it was not.

Mr. ELSTON. I thought you made that statement.

Mr. EUGENE ROTH. He implied that, but it wasn't correct. It was after the Federal court action was on its way.

Mr. COOK. I said after a hearing was held in chancery court dissolving the injunction against Roane-Anderson Co.

Mr. ELSTON. Is that correct as to the dissolving?

Mr. COOK. The date of the dissolving in chancery court, as I understand it, was after the hearing in Federal court.

May I call on Mr. Ould for that?

Mr. J. WALLACE OULD (assistant general counsel, Oak Ridge). As I understand it, the temporary restraining order issued in the State court was without prior notice to Roane-Anderson Co. or the Government. There was a hearing on affidavits in that proceeding, and as I recall the chancery State court dismissed the Taylor suit about February 20 or 21 but continued the injunction in effect until March 2 in order to allow Taylor's time to appeal if it desired to do so. That proceeding in the State court was begun about January 25, I believe. The proceeding in the Federal court on behalf of the United States against Taylor's was brought after the end of January, about February 6, and the hearing was held about the 20th or the 21st of February. There

was testimony by witnesses, full testimony, and the court announced its opinion on February 23, which was several days after the State court had dismissed the suit that had been brought in the State court.

Mr. ELSTON. Let me ask you this question: Did not the Federal court determine the case on its merits and determine whether or not there was a binding and valid lease agreement entered into between Roane-Anderson and Loveman's?

Mr. OULD. That was my understanding, sir, and as I said there was testimony by both sides, with Taylor's having four or five more people there; although I should perhaps avoid any controversy with Taylor's counsel and direct this to the court's opinion.

Mr. ELSTON. As I remember the decision of the court, the decision of the United States court, it had nothing whatsoever to do with the State court proceeding.

Mr. EUGENE ROTH. It involved enjoining all acts which might refer to possession of the premises.

Mr. ELSTON. The Federal court simply took jurisdiction and went ahead and decided the case as though the State court never made any order at all?

Mr. OULD. That is right. And it further enjoined proceedings in the State court. But in the meantime the State court had dismissed the suit against the Roane-Anderson Co.

Mr. HOLIFIELD. Will you state your full name for the record?

Mr. OULD. J. W. Ould.

Mr. HOLIFIELD. And will you accept his statement as part of your own, Mr. Cook?

Mr. COOK. Yes, sir.

Mr. HOLIFIELD. And to the best of your knowledge, it is true, as to the dates that he gave, there?

Mr. COOK. Yes, sir; Mr. Ould is assistant general counsel for the Oak Ridge operation and attended the hearings, sir.

Mr. OULD. I might add, sir, that we have copies of the opinions.

Mr. HOLIFIELD. Copies of those opinions will be filed here?

Mr. OULD. Yes, sir.

Mr. COOK. Taylor's Oak Ridge Corp., from the very beginning of their effort to obtain a rental reduction in April of 1949, was fully aware of the necessity of placing the premises on the open market in order to determine the current market value of those premises. Furthermore, no assurance was given in any way of their becoming the selected applicant unless they submitted the most acceptable proposal in the opinion of the AEC and its agent.

After careful analysis, both the AEC and its agent considered the Loveman's proposal the best of those received.

It is our opinion that Taylor's Oak Ridge Corp. has been accorded fair and impartial consideration and treatment by the AEC and its agent, Roane-Anderson Co., throughout the entire period of their relationship.

Mr. ELSTON. Were you reading from the opinion of the court?

Mr. COOK. No, sir; the opinion of the court is attached; and I will turn that in to the committee, sir.

Mr. EUGENE ROTH. May I, at this time, call the attention of the Congressman to the opinion, at the bottom of page 8, which I have just found, which says that—

a suit adversely affecting the disposition of the property owned by the United States or in which the United States owns an interest is a suit against the United States (*U. S. v. Alabama*, 313 U. S. 274). In that situation the suit in the State court ought not to proceed.

And it acted and granted this injunction, which had the effect of terminating the suit in the State court.

Mr. ELSTON. That was not the only question before the Federal court, whether or not the State court should proceed, was it?

Mr. EUGENE ROTH. No; the question was whether or not there should be an injunction, under these conditions. And the court did hold there should be.

Mr. ELSTON. But the State court, prior to the decision of the Federal court, as I understand it, had already dissolved its injunction.

Mr. EUGENE ROTH. I think we ought to check that. It may have done that, I will have to check the facts on it.

Mr. ELSTON. What I am primarily concerned with is whether the Federal court went into the merits of the case and determined whether or not the award of the lease to Loveman's was regular or irregular.

Mr. LEVITT. May I speak on that, sir?

Mr. ELSTON. Yes.

Mr. LEVITT. The only case determined in the court was a point of law concerning whether or not we had the right to stay on the premises. There was testimony during the hearing regarding the justice or the inequity, the bad faith shown by Roane-Anderson and the Atomic Energy Commission. There were pros and cons on both sides of that argument. However, the court did not pass on the merits or the justice or the injustice of this termination of the lease. We were brought in there on strictly a show-cause order. In other words, we were asked to show cause why we should not immediately leave the premises. And it was purely a point of law and not a point of equity or justice or anything of that sort. And I would make the statement that the case was certainly not decided upon the merits of the things that we are discussing here today.

Mr. OULD. If you please, sir, at the Federal court hearing, which started about 9:30 in the morning and ended up after the intermission at about 6 o'clock that night, it was held, at the preliminary hearing on February 10—I think a show-cause order was issued to Taylor's on February 6, and then there was a preliminary hearing on February 10, at which time the court set down the case for hearing, as I understood it, on the merits, on February the 20th or 21st. And during that hearing, I am satisfied that the Federal court disposed of all questions before it. This question of whether or not the State court had jurisdiction was merely brought into the case at that time, on February 21, I think it was, by an amendment to the pleadings, but the whole purpose of the Federal court suit was to get a decision on the merits. I am quite certain that the court's opinion and decree both would indicate that that was what was done.

Mr. EUGENE ROTH. May I just interject one statement, gentlemen? The fact is that the court held in substance, regardless of its words, that it could not interfere with the administrative operations of the Atomic Energy Commission, under the facts which happened to be placed before it, which do not happen to be quite as full as we have here. It was brought on quickly, almost suddenly. And all the court

was interested in, in the last analysis, was determining its power to interfere as a Federal court in the workings of an administrative agency.

Now, it is axiomatic that the Government cannot be run if every Federal judge can interfere with the exercise of judgment. It is true, however, as we maintain, that there is not only bad judgment but circumstances of such a character as to warrant an interference by this body. The issue is not whether the court could interfere with it but whether you gentlemen could interfere with it.

Mr. HOLIFIELD. I understand the case as this last gentleman has presented it, that the action of the Federal court was an action which sustained the administrative right of the AEC and of Roane-Anderson to do what it did under the law, and did not go into the equity of the situation as far as judging as to the merits in the awarding of the lease. But it did sustain the action of eviction which was started by the Roane-Anderson and AEC group. Is that right?

Mr. EUGENE ROTH. That is our position, sir. It sustained their right. It more than sustained it. It constituted the eviction action in itself, you see.

Mr. HOLIFIELD. Yes.

Mr. EUGENE ROTH. Because we were in, and this was the order of the court under which we were pushed out.

Mr. HOLIFIELD. And if there were any criminal actions or any civil damages to be obtained by the Taylor group, they must go to the courts to determine that.

Mr. EUGENE ROTH. Yes; we concede that.

Mr. HOLIFIELD. And the fact of their coming to us is for the presentation of damages which they have incurred as the result of misuse of administrative powers. Am I stating that correctly?

Mr. EUGENE ROTH. Yes; we would be in the courts instead of here, otherwise.

Mr. HOLIFIELD. That is the point I wanted to get clear.

Mr. LEVITT. Congressman Holifield, to bear out what you said, the judge, in his memorandum issued when he made his final decision, made the statement—I don't remember the exact words; it was in the paper—that he was not determining the merits of whether we should or should not have the lease. Now, you understand that, and he used the term "fair or unfair." In other words, he was not discussing the things that we are discussing.

Mr. HOLIFIELD. That is the reason I have these two lawyers on the committee at my side.

Mr. KILDAY. The theory of the Federal court indicates that the court went into the whole thing. He recites here the number of people who advertised for bids, and that sort of thing, and then he had something to say about the defendant having no vested right to have his business accepted in preference to others, and so on.

It offered testimony which tended to show that Roane-Anderson Co. had orally promised that defendant would receive preferential treatment as to extension of its concession because of expenditures which defendant undertook to make in adding fixtures and otherwise improving the facilities to be used under the concession agreement. There is marked inconsistency between any promise of that kind and the specific language of the written concession agreement which provided for amortization of those expenditures at the expense of the Government's agent, Roane-Anderson Co. Had there been a promise to give defendant such preferential treatment as to obligate Roane-Anderson Co. to recommend acceptance of defendant's bid regardless of comparative merit, there would have been no bona fide reason for inviting bids from other firms, to say nothing of the objection to such an arrangement on grounds of public policy.

The opinion all the way through indicates that he had all of the evidence with reference to preferential treatment, the equities of improvements made, and that sort of thing.

Mr. EUGENE ROTH. I didn't maintain that that wasn't so.

Mr. HOLIFIELD. I conceive it to be the duty of this committee to proceed and find out whether the manner in which this was handled was fair. In view of that purpose, I would like to ask Mr. Cook:

Do you wish to testify on some of those points, or do you wish to have Mr. Winfrey testify?

Mr. Cook. I would like to have Mr. Winfrey go through his data, and then if there are any questions which are not answered, either he or I can answer them.

Prior to his starting, I would like to insert in the record the Policy and Procedure for Selection of Award of Commercial Leases at Oak Ridge, Tenn.

Mr. HOLIFIELD. That will be accepted and made a part of the record.

(The material referred to is marked "Exhibit 4" and will be found in the appendix at p. 119.)

Mr. HOLIFIELD. Mr. Winfrey, what is your position?

**TESTIMONY OF C. M. WINFREY, MANAGER, RENTAL DEPARTMENT, ROANE-ANDERSON CO., OAK RIDGE, TENN.**

Mr. WINFREY. My position is that of manager of the rental department of the Roane-Anderson Co., agent of the United States Atomic Energy Commission.

Mr. HOLIFIELD. Now, what relation does Mr. White bear to that? Is he your superior?

Mr. WINFREY. He is my superior.

Mr. HOLIFIELD. In the same department?

Mr. WINFREY. He is the manager of the division which handles not only rentals but subcontracts, and so forth. I have largely the rental contracts.

Mr. HOLIFIELD. Then you take full responsibility for the manner in which you handled the lease as far as the Roane-Anderson Co. is concerned?

Mr. WINFREY. I do, sir. I might point out that I originally negotiated with the Darling Stores on the first agreement, at the time it was under the administration of the USED. And I have prepared here a short résumé of the history of that entire operation, if I may read it.

Mr. HOLIFIELD. I wonder if it is entirely relevant. There has been no contest as to that. You may put it in the record, but unless my colleagues here desire to go back into the history of the original leasing I would say in order to save time you might place that in the record, unless you feel it is entirely relevant.

Mr. WINFREY. We feel it is pertinent in this respect, that it carries us through the entire negotiation. It takes up the original negotiation, where there was no inference of a long-term agreement anticipated, and brings it to date through the negotiation with their real-estate agent, the Marx Realty & Improvement Co. And furthermore, to substantiate it, the record, correspondence, and telegrams, are referenced in my statement. It is very condensed, and I believe will

answer most of the questions which you gentlemen might ask. It should not take over 5 minutes.

Mr. KILDAY. Is not the important thing the question of any negotiations and conversations leading up to the question of the renewal? The first contracts were placed in writing, and all the negotiations, of course, were merged in that. So I think you could put that into the record and get down to the matter of renewal.

Mr. HOLIFIELD. I think that is wise, because we will have trouble keeping our committee together unless we proceed rather rapidly at this point.

Mr. WINFREY. May I state this, then:

1. At all times during these negotiation proceedings, beginning as early as April 1949, the referenced concessionaire was fully advised of the procedure necessary wherein any reduced rental payment to the Government was involved in any way whatsoever.

2. The fact that anticipated volume was never reached and that each year's operation materially declined in volume was mutually recognized by both interested parties. It was Taylor's contention that this condition was primarily due to their inability to secure qualified subleases by reason of their short-term agreement. This same reason was advanced as the cause of their reluctance to promote sales and good will by proper advertising and the installation of such normal department-store conveniences as delivery service and charge accounts.

3. In order to overcome these difficulties, the agent endeavored to renew the expiring agreement under the same rental percentage but containing an acceptable minimum guaranty to the licensor for a period of 1 year only. This, in our opinion, would permit the concessionaire to continue in operation until such time as the firm leasing program was officially approved. The concessionaire, however, was insistent upon the inclusion of optional renewal privileges covering three full years for the licensee's benefit only. To this action, the agent was opposed by reason of the performance record of this operation through the preceding 3 years.

4. In August of 1949, official approval was received enabling the agent to execute firm leases under prescribed conditions. The concessionaire's agent was immediately advised of this policy and was offered an extension to his then expiring agreement for a period of 6 months under exactly the same terms and conditions of rental payment. This offer eliminated any provision for payment of a minimum guaranty or any reference to renewal beyond the extended expiration date. The agent for the concessionaire, after consultation with his client, advised this office that such an extension to January 31, 1950, of their original agreement would be acceptable. The Roane-Anderson Co. then executed such a modification with Taylor's Oak Ridge Corp.

5. The Roane-Anderson Co. advised the concessionaire's agent of its intention to advertise the subject premises publicly for rental under the terms of a lease in lieu of a concession-type agreement and to solicit qualified and recognized department-store operators to submit a proposal for entering into such a lease where possible.

6. The basic features to be considered in making a recommendation for awarding the proposed lease were as follows:

a. The general character of the operation proposed, that is, whether or not it envisioned a true department-store operation in the generally accepted sense of the definition, such as Miller's, Inc., S. H. George & Sons, Proffitt's, Loveman's, Inc., Davison Paxon's, and so forth, who operate the store in its entirety with a few subleased departments, such as shoes, photo shop or fountain, or whether it would consist almost entirely of subleased departments with the lessee directly operating only one phase, such as women's and children's ready-to-wear, or whatever it chanced to be.

b. The term of the lease proposed.

c. The percentage offered, the minimum guaranty to be made, and the relationship of these factors to reasonable assumptions of potential volume based on the applicant's past-performance record.

d. The indication of the applicant's aggressiveness in merchandising, such as, but not limited to, the installation of a charge account and daily delivery service, the installation of proper air conditioning, the willingness to promote good will and volume by extensive advertising, seasonal and promotional sales, and so forth.

(The historical résumé of department-store operation at Oak Ridge, Tenn., is marked "Exhibit 5," and will be found in the appendix on p. 126.)

Mr. HOLIFIELD. Now, may I ask you, Mr. Winfrey, if those criteria were given to the applicants?

Mr. WINFREY. To all applicants; yes, sir.

Mr. HOLIFIELD. In verbal form, or written?

Mr. WINFREY. Verbal and written.

Mr. HOLIFIELD. In other words, the criteria by which you judged the lease were given to the Taylor people?

Mr. WINFREY. Yes, sir.

Mr. HOLIFIELD. And Loveman's; the same criteria to each?

Mr. WINFREY. The same to each.

Mr. ELSTON. When were the criteria agreed upon?

Mr. WINFREY. At the time we advertised. We sent letters to 500 stores, and we interviewed them, such as R. H. Macy and Gimbels.

Mr. ELSTON. When was that?

Mr. WINFREY. In October of 1949.

Mr. HOLIFIELD. And the criteria were enclosed in those letters?

Mr. WINFREY. Basically; yes, sir.

Mr. EUGENE ROTH. Could I ask that the record show the communications to Loveman's and to Taylor's Oak Ridge with those criteria in them?

Mr. HOLIFIELD. I think it is in order that that be supplied, if you gave it to them.

Did you make the statement that you gave that in writing, or verbally?

Mr. WINFREY. No, we gave that verbally to Loveman's, because we contacted them and they came up. We gave it verbally to Darling's. We have one letter in the file which refers to that, under date of September, I believe, in which Mr. Sanford requested from Mr. White the method of operation, and that letter is a matter of record.

Mr. HOLIFIELD. And it does contain those criteria?

Mr. EUGENE ROTH. Those criteria; yes, sir.

Mr. ELSTON. You said a moment ago that you gave it substantially, or basically. Did you not have it written out so that it was in the language you have just given us?

Mr. WINFREY. Basically, we went over the entire thing verbally, with people like Mr. Moore of J. C. Penny Co., who was in charge of the real estate, and it is not their practice to put in charge accounts, and it is not their practice to have delivery. And we didn't want to eliminate people of that character who might want to bid, by making it a written part of the proposal, any more than the minimum guaranty. We desired a minimum guaranty. You could submit a proposal with or without. We would consider all proposals received.

Mr. ELSTON. Did you consider the proposals in the nature of sealed bids?

Mr. WINFREY. No, sir; we have never considered them in the nature of sealed bids. We have considered them as proposals which would be submitted to us prior to a dead-line date and reviewed in the light of what they are proposed to do. We could hardly define all of the things that we wanted in a normal form of specification.

Mr. ELSTON. Now, some figures were given to us today which would indicate that the Government is going to lose some money on this Loveman contract, as distinguished from the Taylor contract, in the event they had received it. What have you got to say about that?

Mr. WINFREY. Well, I think, there, that the accent all the way through was placed on the minimum guaranty and the percentage which the Darling Stores offered us, as being the best that we had received. In our opinion the minimum guaranty was nullified in both proposals by reason of the right to terminate, if the population should decline, or if the proposed new commercial center was built. With that right, they could terminate, and we could not, and of what value was the minimum guaranty for a period of 5 years or 10 years? The 3 years before which they increased the minimum guaranty from \$25,000 to \$36,000 is about the approximate time we figured it would take to build a new commercial center if it were to be built. In that event, they had the right of cancellation. We did not. In the event it was not built, the minimum guaranty in our opinion became inconsequential.

Mr. ELSTON. Why did you put it in the lease if it does not mean anything?

Mr. WINFREY. Simply because it has been a policy given to us by the Atomic Energy Commission that they want a minimum guaranty which, in a measure, as fully as possible, covers the Government out-of-pocket expense. By that I mean the furnishing of municipal services, because there are no taxes in Oak Ridge.

Mr. ELSTON. Then the minimum guaranty does mean something, if they are insistent?

Mr. WINFREY. It does in the matter of that coverage, and that is the reason we like to obtain the minimum guaranty.

Mr. EUGENE ROTH. Mr. Chairman?

Mr. HOLIFIELD. We will have to have some order in this hearing. You may make notations, Mr. Roth, of anything you wish to refute, and later on you will be given that opportunity; but we must have order in the way it is presented.

Mr. ELSTON. Mr. Chairman, I want to ask one more question on this. According to the testimony given to us today, Loveman's

would have to do \$1,200,000 worth of business in order to bring a greater profit to the Government than the Government could receive under the Taylor contract.

Mr. WINFREY. I think that is a reasonable assumption, sir, but there are other considerations besides the monetary return to the Government. One of them is that we are charged with the responsibility of providing such services as the AEC feels and the community feels they are entitled to.

Mr. ELSTON. Well, the Government is interested in getting all the money it can, too. It may not be as general a practice as it should be. Well, now, what services did the Taylor Co. not render that they should have rendered?

Mr. WINFREY. In our opinion, it was a lease department operation in which the Darling Stores, ladies' ready-to-wear, was largely a low-priced ready-to-wear merchandise outfit, and not a nationally advertised brand. We were aware that a great deal of volume was going elsewhere. I think it might be pointed out that the volume of \$1,600,000 that the Miller's Store did previously did not take into account any dollar volume whatever except cash purchases. If the purchaser desired to make a large purchase which would be carried over a period of several months or possibly a year, would defer the purchase of a large amount, possibly a fur coat, possibly a dining-room suite, and that was referred to their store in Knoxville and handled as a charge account, and we received nothing on it, and it was not reflected in the volume which they did.

I think it is normal to assume that at the time the Darling Stores came in and they promised us in their letter that in their estimation they should do \$3,000,000 worth of business, we felt that the store was capable of producing that. That would be roughly, I should say, about \$100 a square foot. A good department store will do \$50 a square foot to \$65 to \$70 in recent years. The department store operated there presently was doing roughly about \$28 a square foot, figured on \$840,000 worth of business. We felt that with the change in the times, for the very reasons which the gentleman enumerated before, that there was not the amount of overtime or cash, and that people were perhaps more cognizant of the conveniences of the charge account. In the survey made by the University of Tennessee that was brought out. They liked those conveniences and shopped in Knoxville. In fact, we have been advised by Mr. Clark, vice president of the Miller Store in Knoxville, that they attribute at least a million or a million and a half of their business to Oak Ridge residents, on charge accounts, and I have one myself.

Mr. HOLIFIELD. May I interrupt there, for a question? In the letter of the Taylor's Oak Ridge Corp., of December 12, they offer, in the seven items they outline there, to install a centralized charge account system.

Mr. WINFREY. That is true. They also offer to pay, if they do all of these things covered in the items, two and a half percent.

Mr. HOLIFIELD. Wait a minute. We are not going into the percentage yet on this. That comes up later. You have got their offer, here, that they would install a centralized charge account system. So wherein did that differ from the Loveman offer to do the same thing?

Mr. WINFREY. Well, basically, we feel that the third alternative, there, covers that.

Mr. COOK. May I point out, sir, that their proposal says that "each of the three alternative proposals permit us to perform, in varying degree, part of the following program, varying from the minimum in proposal 1 to the maximum in proposal 3, under which proposal we would give Oak Ridge, subject to the limitations imposed by the size of the community \* \* \*" et cetera. So that the only proposal that they have submitted, that we feel is comparable to the Loveman proposal, is their proposal No. 3, and under that proposal, if you take their volume of sales from \$625,000 up to \$1,250,000, the return from the Loveman's proposals will be greater in every respect for the first 2 years, and we have every reason to believe that they will have no difficulty in reaching a volume of sales greater than \$1,250,000, so that the return that we expect to obtain from Loveman's proposal is greater than Taylor's proposal No. 3.

Mr. HOLIFIELD. Well, that is predicated upon Loveman's doing a business greater than \$1,250,000.

Mr. COOK. No; all the way through up to \$1,250,000 for the first 3 years.

Mr. HOLIFIELD. As I understand it, up through even proposition No. 3, up to \$900,000, and excluding the \$50,000 which they promised to expend on refurnishing the store, that would equal the Loveman proposal.

Mr. COOK. No; for the first 3 years, up through a million dollars, the net rental that we receive from Taylor's proposal No. 3 is \$25,000.

Mr. HOLIFIELD. The first 3 years, \$36,000? Or the next 2?

Mr. COOK. No; the first 3, as I understand their proposal, was a minimum net rental of \$25,000, and the next 2 years \$36,000.

Mr. HOLIFIELD. And that averages around \$32,000, does it not?

Mr. ELSTON. \$29,500.

Mr. COOK. If my figures are right, it averages \$29,500.

Mr. HOLIFIELD. That is without the \$50,000?

Mr. COOK. That is right.

Mr. HOLIFIELD. Excluding the \$50,000. If you add \$10,000 a year to that \$50,000, it would run \$39,500.

Mr. COOK. Yes; but you must recall that the Loveman's are also expending sums of money in this venture equal to anything that has been indicated by the Taylor proposal.

Mr. HOLIFIELD. It does not show that in their letter, does it?

Mr. COOK. No; they state what they will do. They do not give an estimate of the cost, but the cost will be identical almost.

Mr. HOLIFIELD. They say they will give consideration to the installation of facilities for a credit system, and that they would have to give further consideration to the establishment of a delivery system. So they do not commit themselves. They say they will give consideration to it. Is that not right?

Mr. COOK. That is the way the proposal reads.

Mr. HOLIFIELD. Did they make you any subsequent proposal to firm this matter up?

Mr. COOK. We have, with the Loveman corporation a firm, long-term lease, that firms up these things.

Mr. HOLIFIELD. All right, now. When did you enter into the negotiations with them to obtain the firming up of this particular letter?

Mr. COOK. Subsequent to the removal of the restrictions by the chancery court of the State of Tennessee.

Mr. HOLIFIELD. All right. That was subsequent to December 15, when you closed your bids, was it not?

Mr. COOK. Yes, sir.

Mr. HOLIFIELD. Then, as a matter of fact, you did enter into negotiations with them after you had accepted the original proposals, which were terminated on December 15?

Mr. COOK. No, sir. We entered into discussions with them to firm up the conditions of the long-term lease, which were not all included in the proposal that was submitted. Neither proposal included all the things included in the long-term lease, sir, and we met with them to firm those things up so that we could arrive at a mutual agreement of what would be incorporated in the scope of the long-term lease.

Mr. HOLIFIELD. That is right. And did you meet with the Taylor people to give them a chance to firm up their letter after December 15?

Mr. COOK. After the analysis of the bids, a decision was made that the proposal submitted by the Loveman people was the best proposal that we received. As a result of that analysis, they were notified that they were the people that were selected.

Mr. HOLIFIELD. And then you proceeded to get down, point by point, and work out the details, which their general letter of December 12 discussed?

Mr. COOK. That is right.

Mr. HOLIFIELD. But you did not go to the Taylor people and give them the same opportunity?

Mr. COOK. No, the decision to award the facility to Loveman's was based on the information that was received and evaluated.

Mr. HOLIFIELD. But you admit that that information was not complete and that you subsequently had to tie it down?

Mr. COOK. No; I said it was not complete in the many phases and conditions that must be a part of a long-term lease. But insofar as the substance of the long-term lease was concerned, the proposal of the Loveman's as was submitted was incorporated in the long-term lease.

Mr. WILLIAMS. You see, Mr. Chairman, the proposal that was submitted is not a lease.

Mr. HOLIFIELD. I realize that.

Mr. WILLIAMS. And once you determine, by comparing these proposals, what appears to you to be the best business deal, then you must negotiate, or you must at least arrive at the terms of the lease and get it signed.

Mr. HOLIFIELD. Yes; I realize that. You made your determination originally, you tell us, on these two letters. Now, if you did that, it appears to me, as a layman, and reading the Loveman letter, and in reading the Taylor letter, that your Taylor letter was more specific, went into more detail, and made three different proposals, any one of which was just as broad, you might say, as the Loveman letter, and it would seem to me that if you were going to go beyond the Loveman letter and firm up the general statements made in there, or the statements like this, "We will have to give consideration on our part in establishing the proper facilities there for the installation of a credit system." Now, apparently you did that. You may have included that in your lease. And by the way, we would like to have a copy of

that lease for the record. If you did include that in your lease, as part of the agreement to lease, then it was the firming up of a general statement on their part, was it not?

(The Loveman lease referred to is marked "Exhibit 6" and will be found in the appendix at p. 134.)

Mr. COOK. Yes, sir; it was.

Mr. HOLIFIELD. And was it included in the lease?

Mr. COOK. Yes, sir; it was. And if in our opinion Taylor's had been the best proposal received, we would have to do the same thing with Taylor's that we did with Loveman, in arriving at a firm long-term lease.

Mr. KILDAY. In that connection, Mr. Winfrey referred to a stipulation in the Taylor letter that caused you to consider only the third proposal. He stated that "all of the proposals are for a 5-year term with a 5-year option on the part of the concessionaire. All of the proposals are to embody a paragraph giving the concessionaire the right to terminate the lease in the event the operation at Oak Ridge is substantially reduced or the new projected commercial center opened."

Now, was that qualification placed on any of the other proposals? I see it is not contained in the Loveman letter. Was it carried into the Loveman lease, or anything comparable to that? The right of the concessionaire to cancel out?

Mr. WINFREY. That is correct. That was discussed with all of the applicants, due to the very nature of Oak Ridge, whether or not they would have the right of termination in the event the operation was materially reduced, substantially reduced, or in the event that we built a new commercial center which would destroy the value of this particular location.

Mr. KILDAY. Now, as I understood you, Mr. Winfrey, you said that because of the inclusion of this statement in the Taylor proposal you did not regard the minimums provided in the first two proposals as being of any consequence or of any firm nature, because of the lack of canceling out.

Mr. WINFREY. That is correct.

Mr. KILDAY. Now, did you put in the Loveman lease anything comparable to this on cancelation?

Mr. WINFREY. Comparable to that, yes, sir.

Mr. KILDAY. In no more definite language than that?

Mr. WINFREY. In the event of a decrease in population to the extent of 25 percent, they would have the right of renegotiation or termination. In the event that we built a new commercial center and they were offered a lease or they elected to quit, they would have the right of renegotiation then.

Mr. KILDAY. Then what, in that connection, was your view as to the proposals submitted by Taylor's?

Mr. WINFREY. We considered in the proposals submitted by Taylor's that the minimum guarantee and the proposals that we elected to take were equal, that is, \$25,000 a year for the first 3 years. It would take that time for any radical difference in the commercial center to be established or discarded, as may be. In the event that the commercial center was not, then we felt that the minimum guarantee in either case was inconsequential, because they were doing a

much higher volume. We were basing that on the volume we felt a store could produce, of approximately \$50 a square foot, which is \$1,500,000.

Mr. ELSTON. Let me ask you this: Since you anticipated that Loveman's would do an increased volume of business, and you entered into the lease on the theory that they would do it, did you put any provision in the lease requiring that?

Mr. WINFREY. May I have that question again, sir?

Mr. ELSTON. Did you put any provision in the lease requiring Loveman's to do any particular amount of business a year?

Mr. WINFREY. Only the minimum guarantee of \$25,000, which would have been the case in either one.

Mr. ELSTON. I mean, did you put in a provision requiring them to do a gross business in excess of that that has previously been done by Taylor's?

Mr. WINFREY. No, sir; we did not.

Mr. ELSTON. In other words, they could do any amount of business. It does not make any difference.

Mr. WINFREY. We felt that the investment which they are making there, on the basis of spending approximately two to three hundred thousand dollars, to set up and properly equip and stock the store, install the charge account, the air-conditioning unit, and to do the things which they intend to do, would be sufficient to produce the urge on their part to recapture it as quickly as possible by the best job they could possibly do. And I think in their letter of December 12, in that third paragraph, they point that out, where they say:

We would like to point out the reason we are offering such a low guarantee is due to the fact that we believe it is inconsequential.

But they clarify their understanding of what they wanted in a department store, the same as Taylor's clarified it in their third proposal. They say not "we will," but—

we will have to give consideration on our part in establishing the proper facilities there, to the installation of a credit system, preferably the charge account plate, which we are using here. This one expense would cost us 2 percent of our sales. We would have to give further consideration to the establishment of a delivery system, which would cost us about one and a quarter percent.

Mr. ELSTON. Is there any requirement that Loveman's have to come in and spend the amount of money you have just indicated they are going to spend?

Mr. WINFREY. Those services, I believe, are provided for; yes, sir.

Mr. ELSTON. I say there is no requirement. You simply have their promise.

Mr. KILDAY. How about the lease?

Mr. WINFREY. The lease covers the department store, with charge account.

Mr. ELSTON. Does the lease require the expenditure of any amount of money in improvement?

Mr. WINFREY. Not in monetary amounts, but in the furnishing of those services.

Mr. HOLIFIELD. May we have a copy of that lease? Do you have a copy available there?

We are going to continue until 6 o'clock, and then we are going to come together at 10 o'clock in the morning.

While he is looking up the lease, Mr. Winfrey: You made the statement that you never considered the proposals which were received until Thursday, December 15, as in the nature of a sealed bid.

Mr. WINFREY. That is correct, sir.

Mr. HOLIFIELD. And did you consider them in the nature of a final proposal?

Mr. WINFREY. Yes; we did.

Mr. HOLIFIELD. You did?

Mr. WINFREY. To the extent that they knew generally the type of lease that we wanted, and we felt they covered pretty generally the outline, and that we in turn would have to write a lease which would be predicated upon their attorney's approval of that lease, upon our attorney's approval of that lease, and in fact, to that date we had not had an approved form in which the attorneys were in complete agreement. We felt that the basis of the negotiation was established there, and the lease would be written conforming to those negotiations.

That same thing, I think, holds true in the original agreement with Taylor's, in which we wrote down the basis of the contract, and on that basis of contract in which their representative and ours were in agreement, covering 15 articles, we wrote the concession agreement.

Mr. HOLIFIELD. Well, we are faced here with a situation where a business operation has occupied a certain lease for 3 years' time, where they have paid good rentals during that time, where they have made a capital investment of close to \$100,000 outside of their rentals that have been paid out in the way of fixtures and other equipment. And suddenly they are to be removed, apparently. Now, as a matter of ordinary courtesy, do you not think that you should have, after receiving a proposal from these people, indicated to them at that time that their services were inadequate and that they were not furnishing the kind of service to the community that you in your opinion thought should be furnished? And do you not think that in view of the fact that they were the occupants and had this investment and had built up a business there of their own, you owed to them the courtesy of some additional information?

Mr. WINFREY. Sir, I think the record will show all the way through, in our exchange of correspondence, and in this pamphlet, which I intend to inject, that we were well aware of that, that we discussed it with the Taylor operation, that we discussed it with the real-estate people.

Mr. HOLIFIELD. You made complaints?

Mr. WINFREY. That is correct.

Mr. HOLIFIELD. Written or oral?

Mr. WINFREY. Oral.

Mr. HOLIFIELD. They were never so serious as to cause you to write them a letter and ask them to change their operation, or to state that they were not giving you the right kind of thing?

Mr. WINFREY. Now, I am talking primarily on the negotiation of this lease. There are written complaints from the contracting officer, from this office, to the Taylor operation, on the payment of bills, contractual obligations, which are carried in this folder right up to date. And we discussed the matter with their representative, Mr. Sanford, Mr. Marx, and others. They were aware that this was going to be on a competitive proposition, for the type of service which

we wanted. They were also aware that we offered to renew that contract for a period of a year, under the same terms and conditions, without any change in rental, if they wanted to continue, and show the type of operation we were going to have, which they rejected, as they wanted two additional 1-year renewals, which we felt was not right.

We wanted a firm lease, because during the period of that negotiation in August we were authorized to enter into a firm lease. We were also segregating the utility costs, which is an entirely different type of agreement. And their contention all the way through was that they offered us the highest amount of money, which we contend is not true. We have a higher proposal from a man well qualified financially, who had had experience in small department-store operations, who at that time was doing and accounting for a large portion of the volume of the Taylor's operation, who submitted a proposal to us, which was both higher in percentage and in minimum guaranty.

Mr. HOLIFIELD. To whom do you refer?

Mr. WINFREY. I refer to Mr. J. J. Wender.

Mr. HOLIFIELD. Mr. J. J. Wender?

Mr. WINFREY. That is correct.

Mr. HOLIFIELD. But you discarded his proposal?

Mr. WINFREY. We discarded his proposal after due analysis and consideration with the representatives of the Atomic Energy Commission, for the type of department store which he had previously operated, from the fact that he would not bring, in our estimation and in their estimation, the full rounded department store that we envisioned, and we could not help but feel that it was better for the community of Oak Ridge, for the services to be offered, to have that type of store. We were not looking at it solely from the minimum guaranty or the percentage offered standpoints.

That was justified, I think, because in the well-qualified operators, such as Mercantile, such as J. C. Penney, such as Proffitt's, they offered us percentages rather lower than that. And we felt that in order to get the department-store operation which would carry on these services, the conveniences to the public, to become a civic-minded institution and develop some character in Oak Ridge, they would not pay as high as someone else.

Mr. ELSTON. In other words, I take it that down at Oak Ridge there is no such thing as a person going in and leasing a building and operating his business as he sees fit.

Mr. WINFREY. Yes, indeed, sir; there is.

Mr. ELSTON. Well, here, it seems to me you placed all kinds of restrictions on what should be kept in a store, what kind of store it should be, whether it should carry more articles, more expensive articles, and whether it should have a credit system, and a lot of other things. Now, why do you not just lease buildings to people who are in business and let them operate their business the way they see fit? After all, that is the private-enterprise system.

Mr. Cook. At the present time, sir, we have insufficient facilities, and we must to some extent make sure that the requirements of the community are met. However, with the commercial center we feel that we will be able to remove ourselves more from the picture, so that we can approach more normal free enterprise than we have had in the past.

Mr. ELSTON. Well, instead of building up a big commercial center, it seems to me it would be better if the Government got out of the business.

Mr. COOK. Sir, we don't propose to construct the commercial center. We propose to have it financed by private funds. All we are doing is the site development.

Mr. HOLIFIELD. Now, in view of that fact, you do plan to open this commercial center and allow people to come in and build their own buildings there under long-term leases. And does it not appear to you that a minimum guaranty, say, of \$44,000, as is contained in proposition No. 2, there, of the Taylor organization, and a graduated 4 percent on the first \$800,000, 3 percent on the second \$800,000, and 2½ percent on the remainder, would be a very safe operation for the Government to undertake, in view of the fact that this additional competition may be coming in there?

Mr. WINFREY. Oh, very rightly so; if it were not for the fact that they had it in their contract that they proposed to eliminate that when the commercial center was built.

Mr. HOLIFIELD. Let me understand that. You say they would have the right to eliminate it. When this competition came into being, but not before that?

Mr. WINFREY. That is right.

Mr. HOLIFIELD. Well, that is in your Loveman contract also. So we cannot use the argument one way one time, and the other way the other time. If you are going to use it against Taylor in this particular instance, you have to use it against Loveman, too, if you put it in his lease, do you not?

Mr. WINFREY. I think in the Loveman lease and in the Taylor lease, both, considering the third proposal, which was covering the type of store that we felt was needed for the community, we have a cheaper department store there at the present time, the National Stores, featuring lower priced lines. We have practically the same range of prices of Darling Stores, at Knight's, which is a competitive chain, and they operate there. We felt that in giving it, we were getting a well-rounded operation which would give us some of the better along with the lesser.

Mr. HOLIFIELD. Did you make any attempt to impress upon the Taylor people that you wanted a higher class of merchandise?

Mr. WINFREY. Very definitely, sir.

Mr. HOLIFIELD. Orally or in writing?

Mr. WINFREY. Orally, I would say. And then in writing also. To their man, Sanford, on date of about October. We told him the basis of the comparison, the quality of the merchandise, and so on.

Mr. HOLIFIELD. You told them that you wanted them to handle a higher class of merchandise; that the community needed it?

Mr. WINFREY. Not specifically in those words; no, sir.

We indicated that among the factors which would be considered would be the type of merchandise, the quality.

Mr. HOLIFIELD. Yes, but if you did not indicate to them that the type that they were handling was unsatisfactory and that you wanted a different type, how could they know but what their operation had been satisfactory to you?

Mr. WINFREY. Well, I will say that they would know of that by a statement which is a matter of a memorandum to the file from Mr. Marx, in a conversation with Mr. White, in which he stated:

I understand from discussion with Sanford that we are on the bottom of your list in quality merchandise in the operation.

We had told him definitely we wanted a better type store. We felt it would produce greater volume. The better type store had produced greater volume, was continuing to enjoy volume elsewhere, and yet this store was declining in volume each year.

Mr. HOLIFIELD. Well, of course, your decline in volume, now, is a different proposition. As a matter of fact, you know, all over the United States business has been declining in volume in the last 3 years. I operate a men's clothing store in California, and my business has been declining, and I have not changed my brands of merchandise. So you are speaking of something here which is a national trend. It is not altogether a local situation.

Mr. WINFREY. That is true, sir, to a degree.

Mr. ELSTON. If people wanted better merchandise than this store could furnish them, there is not anything wrong with their getting it in Knoxville, going into Knoxville and buying it, is there?

Mr. WINFREY. Not at all, sir. They do.

Mr. ELSTON. It seems to me, though, you are trying to indicate to a department store in Oak Ridge what they ought to handle, what kind of merchandise they ought to handle, and what kind of a system they should put into effect. Now, do you think it is your function to do that?

Mr. COOK. We do in this instance, sir, because it is the only major department store that we have, and we feel that that is what the community wants and needs, and that by putting in a first-class department store, the dollar volume of business that is being spent off the area will be spent on the area and increase the revenue to the Government.

Mr. HOLIFIELD. Mr. Kilday?

Mr. KILDAY. Just glancing through the report, which I have not read, I see that Loveman does agree to install a charge and delivery system comparable to that maintained by other similar businesses.

Mr. WINFREY. Similar to the store in Chattanooga.

Mr. KILDAY. I do not find anything in there requiring them to air-condition it, as far as I have read it. I have only glanced through it.

Mr. WINFREY. I think you will find in there their right of removal of air-conditioning.

Mr. KILDAY. That is right. I do not find that they are required to install it. I do find that if they install it, they shall have the right to remove it at the termination of the lease by placing the premises in the condition in which they were before. But there is no requirement for air-conditioning in the lease.

Mr. WINFREY. Well, no; not in the lease. Not at all.

Mr. HOLIFIELD. Is there any requirement for delivery service in the lease?

Mr. WINFREY. Yes.

Mr. KILDAY. Charge and delivery service are required?

Mr. HOLIFIELD. Charge and delivery service are both required.

Mr. KILDAY. I find that if the population falls below 24,000, then the lease is subject to renegotiation.

Mr. HOLIFIELD. That, in effect, is similar to the proposal of the Taylor people last year, where they say all the proposals embody the right to terminate the lease in the event the operation at Oak Ridge is substantially reduced or the new projected center opened.

And you have substantially that in the Loveman lease?

Mr. WINFREY. Yes, sir.

Mr. HOLIFIELD. We are going to call the meeting to a close at this time, and we will meet here in the morning at 10 o'clock.

(Whereupon, at 6:05 p. m., the committee recessed to reconvene Tuesday, March 14, 1950, at 10 a. m.)

## DEPARTMENT STORE LEASE AT OAK RIDGE, TENN.

**TUESDAY, MARCH 14, 1950**

CONGRESS OF THE UNITED STATES,  
SUBCOMMITTEE OF THE JOINT  
COMMITTEE ON ATOMIC ENERGY,  
*Washington, D. C.*

The subcommittee of the Joint Committee on Atomic Energy met at 10 a. m., pursuant to recess, in room 48-G, the Capitol, Hon. Chet Holifield (chairman of the subcommittee) presiding.

Present: Representatives Holifield, Kilday, and Elston.

Mr. HOLIFIELD. The subcommittee will please come to order.

Mr. Winfrey was on the stand, I believe, when we recessed, and Mr. Cook and Mr. Williams.

**TESTIMONY OF C. M. WINFREY, MANAGER, RENTAL DEPARTMENT, ROANE-ANDERSON CO., OAK RIDGE, TENN.; RICHARD W. COOK, MANAGER, OAK RIDGE OPERATIONS OFFICE; AND W. J. WILLIAMS, DIRECTOR OF PRODUCTION, ATOMIC ENERGY COMMISSION**

Mr. Winfrey, we were discussing the lease which was signed with Loveman's at the time that we concluded our hearings yesterday afternoon. A copy of this lease has not been given to me to study until just the present moment, so I have had no chance to look over it, and we will have to explore this as best we can.

I notice in Loveman's letter they said they would consider special services such as charge accounts, and Taylor's said that it would in fact devote \$50,000 to such services.

Mr. KILDAY. Was it not physical improvements to the extent of \$50,000?

Mr. WINFREY. That is correct, the physical improvements. That was the maximum to which they would go, as stated in their letter.

Mr. HOLIFIELD. Did Loveman's agree to go that high or higher?

Mr. WINFREY. Loveman's agreed to spend more than that in the negotiations; they felt it would take at least a quarter of a million dollars for them to set up—

Mr. HOLIFIELD. Of course, you did not bind them in the lease to spend any of that, except the part that would be devoted to setting up the charge accounts and the delivery service?

Mr. WINFREY. That is true, sir; we did not bind them in the lease.

Mr. HOLIFIELD. To a specific amount.

Mr. WINFREY. We assumed, in making the lease and in making the evaluation, that they would not spend that amount of money

without going the full way to get back their investment. They gave us every assurance that they would operate the same quality and caliber of store in Oak Ridge that they did in Chattanooga, and that was the basis of our whole negotiation—handling the same line of merchandise, nationally advertised.

Mr. HOLIFIELD. Had you at any previous time requested the Taylor people to handle that type of merchandise?

Mr. WINFREY. We told the Taylor people exactly the type of store we wanted. We told them that we felt we were not getting the return on the square footage we were entitled to. We told them to submit a proposition which would as nearly envision the kind of store that we had outlined to everybody else, which was a true department store with charge accounts, because we felt that that was very important, and we have evidence that a great many dollars go off the area simply on that account.

Since our lease was a percentage lease, the volume obtained was the most important factor. We felt that in the cheaper type of operation we had a certain percentage of that volume in the National stores. We had approximately three other specialty shops. We had no true department store. Hence, that would be additional volume which we would get.

Does that answer it, sir?

Mr. HOLIFIELD. What was the purpose of having bids and a deadline date in the first place, if so many of these matters were not covered in the bids and if later negotiations were going to be necessary?

Mr. Cook. In receiving proposals for commercial activities, we try to follow the same procedure we follow in the procurement contracts or in our lump-sum contracts. We feel that by that method we can assure that everybody that is interested in submitting proposals knows what is wanted.

By setting a deadline date beyond which the receipt of proposals will not be considered, everybody has an opportunity to meet that date. Then after that date, no further negotiations are conducted with anyone, and the review and award of the successful proposal is made on the basis of the proposals we have received as of that date.

Mr. HOLIFIELD. No conferences were held with any of the applicants between the date of December 15 and the date of the award?

Mr. Cook. There were no conferences held regarding their proposals, sir, but representatives of our agency, Roane-Anderson Co., did visit the various stores of the people that submitted their proposals so that they could compare their type of operation with the other operators.

Mr. HOLIFIELD. At the time you visited these stores, did they confer with the owners or managers of these separate stores in regard to any points covered in their respective applications?

Mr. Cook. No, sir; they did not.

Mr. WINFREY. I can answer that. I want on the inspection trips. We talked to the manager of the store only as to how he operated, as to the price of the merchandise that he handled, as to whether or not he subleased all of his departments or just a small portion of them, what his general type of operation was; which was corroborated then by the banks with which he did business.

We also inquired from other merchants in the town as to the feeling of the competitive merchants as to the type of operator they were; as

to what, in their estimation, the general community feeling was; how much volume they did; and all pertinent facts as to the type of operation.

We did that in Memphis and we did that in Nashville and in Chattanooga, and in Maryville and in Jellico—all of the stores that submitted bids.

Mr. HOLIFIELD. After you made the announcement of the award on January 10, did you immediately enter into negotiations with the Loveman people as to firming up their letter of application?

Mr. WINFREY. Yes; I would say we did.

Mr. HOLIFIELD. And you continued in conference until you agreed upon the terms of the lease?

Mr. COOK. Except for that period under which we were enjoined by the State from having further negotiations or discussing it with them.

Mr. HOLIFIELD. In view of the fact that you entered into these negotiations to firm up what was, after all, a very general letter on the part of Loveman's, you felt no moral obligation at all to enter into negotiations with the occupants of the premises, the Taylor people, as to what they would do or how they would firm up their particular application?

Mr. WINFREY. If we had done that, we would have been in a position, in our opinion, of putting the thing on an auction basis, because if they had increased their proposal, then we would have gone back to Loveman's, presumably, and we would have gone back to others.

Mr. HOLIFIELD. Now, wait a minute. You cannot have a final closed-bid arrangement as of December 15, and have a bid plus negotiations afterward, in fairness to all concerned, unless you extend to all the same privilege.

Mr. COOK. That is exactly our position, sir. If we had gone back to Taylor's to see if they would meet Loveman's proposal, we would be in essence opening this thing up to an auction block, and we would have had to go back to everybody else interested, to see if they would want to increase their proposal. And if Taylor's met Loveman's proposal, we would have to go to Loveman's to see if they could increase their proposal.

We feel that we must have a closing date on the proposals that are received, and analysis and award must be based on the information submitted as of the closing date. Otherwise, if we go through a procedure like that just once, we would never be able after that date to interest anyone in coming in and submitting a proposal at Oak Ridge.

Mr. HOLIFIELD. That makes it all the more important, it seems to me, that you should have had a firm advertisement which would have delineated exactly what you wanted beforehand, or at least given that information in written form to the respective bidders and obtained their reaction on each one of these different points, before you announced the winner. It seems to me like it was all the more important that you have not such a general term of operation as you had before the December 15 deadline.

Mr. WINFREY. Now, may I point out to you, sir, that in all six of the proposals which we received, every phase of it was gone over carefully in verbal discussions with them. All were cognizant of it and all six visited the area; and a number of them visited the area and were

aware of the type of operation that we wanted, but did not submit a proposal. All six who did were fully aware, from the type of store that we wanted, of the volume expectancy that we felt could be had from it. It was established that the store had a potential volume, if properly merchandised and developed, of somewhere between \$1,500,000 and \$2,000,000. We made everyone aware of that. That is the thing which we were shooting for—it was the increased volume. And for that reason we explained to each one why we felt all of these things were necessary, but they were not obligatory to them sending in a proposal, as in the case of Mr. Moore of the Penney Co. He sent in a proposal in which he eliminated entirely any reference to delivery, any reference to charge accounts. This is against the policy of their company, and since they are recognized merchants we were very glad to have a proposal from them, even though they withdrew it at a later date prior to the 15th.

Mr. HOLIFIELD. As a matter of fact, after you had announced that the lease would be awarded to Loveman's, was there not still a possibility that your negotiations with Loveman's would fall through; that they would fail to agree to the specific terms of the lease?

Mr. WINFREY. We did not believe so; no, sir.

Mr. HOLIFIELD. You did not believe so?

Mr. WINFREY. We did not.

Mr. HOLIFIELD. But there was that possibility, of course?

Mr. WINFREY. There was that possibility.

Mr. HOLIFIELD. In other words, you could not consider their letter as a legal basis for forcing them to sign a lease with you; could you?

Mr. WINFREY. May I point out one factor to you that I think is apparent, and that is that our discussions all the way through, with the exception of Taylor's, were with the officers of the company, in which they gave us a letter of intent covering generally their understanding of the situation in Oak Ridge, and that they would be willing to pay a certain percentage, and would be willing to pay separately for electric current and water, and they would expect a certain amount of warehousing space; and they would give us, or would not, a minimum guaranty. The only proposal which was written by a real estate agent and an attorney was the proposal written by Taylor's. It was the only proposal which was submitted to us that had three alternatives. Everyone else was on the basis that we had discussed with them and on the basis that we had discussed with Taylor's. I think that there is probably some lack of clarity due to the fact that the proposal was not written by their attorney but was written by their president, with whom we had negotiated.

Mr. HOLIFIELD. You are speaking of the Taylor proposal?

Mr. WINFREY. I am speaking of the Loveman's proposal as versus the Taylor proposal; and I think that that same thing is true of all of the other proposals which were received from Proffitt, and from Mercantile, and from Shainberg.

Mr. HOLIFIELD. What is the point that you make of that?

Mr. WINFREY. The point that I am making is that the Taylor proposal was so worded that they were bidding or proposing three different types of operation.

Mr. HOLIFIELD. That was acceptable; there was no prohibition against making alternate proposals, was there?

Mr. WINFREY. There was never any suggestion of an alternate proposal. The only thing that we left open entirely was the type of operation that they were to submit.

Mr. HOLIFIELD. But it is customary, in making proposals, to submit alternate proposals, is it not, in commercial leasing?

Mr. WINFREY. Yes.

Mr. HOLIFIELD. You are not criticizing the fact that they submitted three proposals?

Mr. WINFREY. I am trying to explain the apparent lack of clarity to you gentlemen in the proposal from Loveman's as against the proposal from Taylor's, inasmuch as you had not negotiated and had the intent, or had seen the store, or had been assured that they would conduct identically the same type of store within the space limitations.

Mr. HOLIFIELD. Well, is it not true that when you are an agent for a Government operation such as this, that you would be on much safer ground if you conducted your negotiations in writing rather than in verbal exchanges and telephone conversations, of which there is no record and which later on no Government official can inspect or investigate?

Mr. WINFREY. The intent of all our telephone conversations is covered pretty well in memoranda in the file, and I think most of the letters exchanged were pretty clear.

Mr. HOLIFIELD. And you also make the statement that you made no contact with the Loveman people between the date of December 15 and the date of January 10 in regard to the terms of the lease?

Mr. WINFREY. Absolutely not.

Mr. ELSTON. What was the statement about you begging Loveman's to take over the store? The statement was made yesterday that you personally made that statement; is that correct?

Mr. WINFREY. That is incorrect, sir. I pointed out to Loveman's, and their board of directors as I pointed out to Miller's, Inc., the possibilities that we felt existed, and to Gimbel Bros., Mr. Gardner, the vice president, and to Mr. Jaeckels, the president of the Southern Division of R. H. Macy, and in fact he drove from Atlanta to Oak Ridge and spent 2 days investigating our properties, the potential that we believed existed. We said that we wanted a good store that could develop that potential, and which would pay us the proper rental.

Mr. ELSTON. You were satisfied sometime before that——

Mr. WINFREY. We were soliciting but not begging.

Mr. ELSTON. That Taylor's were not measuring up to your expectations?

Mr. WINFREY. Very definitely.

Mr. ELSTON. I am wondering why you asked them to even bid at all. You knew that you were going to get rid of them.

Mr. WINFREY. We did not ask them to bid.

Mr. ELSTON. You gave them the opportunity.

Mr. WINFREY. Certainly; we gave it to everyone, and 500 others.

Mr. ELSTON. And at the very time that you received it, you knew that you were not going to give them an extension of a lease or a new lease, did you not?

Mr. COOK. That is not right, sir.

Mr. WINFREY. Not at all.

Mr. COOK. If, in our opinion, Taylor's had submitted a proposal complying with our specifications of the type of operation that was desired, and if, in our opinion, their minimum plus their percentage of the gross would have exceeded that offered by Loveman's, we would have made the award to Taylor's.

Mr. ELSTON. I do not see anything in Loveman's lease where there is any guaranty.

Mr. COOK. There is no guaranty in the other. For instance, in our initial negotiations with Taylor's, when they first took over the operation, they estimated in their initial correspondence that they could do a gross of \$3,000,000. Later on when we arrived at a concession agreement with them, the approximate figure of \$2,000,000 was placed in the lease. You cannot hold a firm to what they estimate they will approximate in their gross volume, but you can tell by the type of operation that the person conducts whether or not there is a reasonable expectancy of him achieving that volume.

We feel that there will be no difficulty on the part of Loveman's to achieve a volume of  $1\frac{1}{4}$  million dollars, and that is the reason we used those figures in the letter that we presented previously to the joint committee.

Mr. ELSTON. They will have to achieve  $1\frac{1}{4}$  million dollars to even bring in to the Government the same amount of revenue that Taylor's agreed to bring in.

Mr. COOK. No, sir, that is not correct.

Mr. ELSTON. Well, as I understand these figures—we went over them several times yesterday, and I do not think it is necessary to repeat them—Loveman's will have to do \$1,250,000 worth of business to equal the second proposal of Taylor's, or \$900,000 to equal the third proposal.

Mr. COOK. Sir, the only proposal submitted by Taylor's that is competitive with the proposal submitted by Loveman's is their alternate No. 3.

Mr. ELSTON. Which you were privileged to accept if you wanted to?

Mr. COOK. That is right. And when you compare the revenue to the Government based on Taylor's proposal No. 3 against Loveman's, Loveman's proposal will net a higher return to the Government through \$1,250,000 estimated volume of sales. On that basis, for the first 3 years, Taylor's proposal No. 3 will net \$32,250, and Loveman's net rental on that basis will be \$48,750.

Mr. ELSTON. That is all, predicated on the theory they will do a larger volume of business, and you have no assurance whatever that they will ever do it.

Mr. COOK. On that basis, on \$900,000 volume, which can be reasonably expected, Taylor's proposal for the first 3 years is \$25,000 minimum, and the net rental from Loveman's will be \$36,000.

Mr. ELSTON. I am getting back to my other question. You have no assurance that they will ever do that volume of business?

Mr. COOK. We have no assurance.

Mr. ELSTON. And there is nothing in your lease that requires it, and you have no provision in the lease that gives you the opportunity to cancel the lease if they do not do that amount of business?

Mr. COOK. We have this assurance, sir, that we know what the volume of business has been that has been conducted in the store before, and we know the type of operation that Loveman's is operating

in Chattanooga, and we know that he would not come in there and invest the money that he is in that operation if he could not reasonably expect to attain a volume of more than 1¼ million dollars a year.

Mr. ELSTON. Now, answer this question: Did you give Taylor's the opportunity to do that same type of business that Loveman's were carrying on in Chattanooga?

Mr. COOK. Yes, they could have conducted it.

Mr. ELSTON. Did you ask them to?

Mr. COOK. In our initial concession agreement with them——

Mr. ELSTON. At any time?

Mr. WILLIAMS. Isn't it true, Mr. Elston——

Mr. ELSTON. I would like to get an answer to that.

Mr. COOK. There was no prohibition, and we desired in our original concession agreement with them that they conduct a high type of operation.

Mr. ELSTON. What specific complaints did you ever make to them?

Mr. COOK. We have a record of complaints here, sir, if you desire to go over them, or we can submit them for the record.

(The material referred to is marked "Exhibit 7" and will be found in the appendix at p. 146.)

Mr. ELSTON. Give us your best judgment about what they were, and you can put them in the record, too.

Mr. COOK. May I ask Mr. Winfrey to do that? He is more acquainted with that.

Mr. KILDAY. Do you not think it would be well if we had some of the complaints, and submit them so that we can discuss them here, and Taylor's would have an opportunity to reply here.

Mr. HOLIFIELD. All right.

What do you have prepared, Mr. Winfrey? Do you have a list of complaints which your department has made to Taylor's, and the dates that you made them, and so forth?

Mr. WINFREY. Not in that form except in written form on contractual obligations. We have had a complaint from the various sub-concessionaires there to the commanding officer at the time, and we were aware that there was a great deal of discord in the store, and we were aware that in the time they were there they had at least four managers, and we were aware that the volume tendency all of the way through was going down, and we were aware that they had not made any effort to install credit or to give people services which they normally had expected, and it was cash on the line.

Mr. HOLIFIELD. I am not interested in what you were aware of; I am interested at that time and Mr. Elston's question was as to specific complaints which you made to Taylor's regarding these things that you were aware of.

Mr. WINFREY. Yes, sir.

Mr. ELSTON. What complaints did you have, and what complaints did you transmit to them, and what did they do about it? That is simple enough.

Mr. WILLIAMS. We could enter some figures in the record while he is looking them up. We have some figures on the population and the amount of business done in the town of Oak Ridge, if it is agreeable, sir.

Mr. COOK. There were some figures quoted there on the population, sir, and we would like to put in the correct figures.

Mr. HOLIFIELD. Would you like to quote them and read them to the committee?

Mr. COOK. Yes. I will first read the population figures: January 1, 1947, 39,994; and July 1, 1947, it was 36,099. On January 1, 1948, it was 35,616; on July 1, 1948, it was 35,136. On January 1, 1949, it was 34,231; and July 1, 1949, 31,971.

Our employment figures: On January 1, 1947, it was 25,424; and on July 1, 1947, 20,351. On January 1, 1948, 21,021; on July 1, 1948, 20,850. On January 1, 1949, 19,024; on July 1, 1949, 18,777.

Now, our sales volume for the fiscal year 1947—that is the period July 1, 1946 to July 1, 1947—was \$18,595,000. For fiscal year 1948, \$15,568,000. For fiscal year 1949, \$16,975,000.

Mr. HOLIFIELD. What are you referring those figures to, the gross business of all of the businesses in the town?

Mr. COOK. Yes, sir.

Mr. HOLIFIELD. In view of that fact, that you have shown a decrease in population and a constant decrease in gross sales?

Mr. COOK. No, sir; the gross sales went up on fiscal year 1949 over 1948.

Mr. HOLIFIELD. In 1947 it was \$18,000,000, I believe, and in 1947 it was \$15,000,000, and in 1949 it was \$16,000,000, so—

Mr. COOK. It was almost \$17,000,000. So the drop is from \$18,500,000 to \$17,000,000.

Mr. HOLIFIELD. There has been a general decrease in the over-all business during that period.

Mr. COOK. That is right.

Mr. HOLIFIELD. Does it seem unreasonable, then, to suppose that Taylor's should have increased during that time rather than decreased along with the other businesses?

Mr. COOK. It doesn't seem right that they should have the drop that they did from approximately \$1,600,000 to \$844,000, which is a 50-percent drop, contrasted to this low percentage here.

Mr. HOLIFIELD. The point you make is that they decreased in their business more than the general average decreased in the community?

Mr. COOK. Yes.

Mr. HOLIFIELD. Now, is that not true throughout the Nation, in department stores and clothing stores and jewelry stores and other special types of business, that their decrease has been much greater than the average decrease?

Mr. COOK. That is true as an average, as I understand it, throughout the Nation, sir, but my understanding also is that the business in Knoxville has increased.

Mr. WINFREY. The specialty shops have been down 25 to 30 percent, but the department stores are practically level with last year and the year preceding.

Mr. KILDAY. Are those Federal Reserve figures?

Mr. WINFREY. I think so.

The question that I was asked: Under date of November 14, 1946, which was 3 months after the execution and the occupancy of the store, we wrote to Darling Stores Corp.:

The writer has attempted on numerous occasions to contact you personally, and everybody advised that you were out of the city and unavailable to be reached and whereabouts unknown.

In explaining my request to your executives, I have been advised that the signed contract was forthcoming immediately; Mr. Dorman had finally agreed and Mr. Gottfried would take it up immediately, and various and sundry promises, but to date no results have been accomplished.

Conforming a long-distance telephone conversation with your Mr. Gottfried on Wednesday, November 13, 1946, the agent now formally demands immediate compliance by you with the terms and intent of the concession agreement entered into with your company. This is to be accomplished by a date of not later than November 20, 1946, and shall cover the following items:

1. A properly executed and signed agreement returned to this office, and same having been in your possession for weeks.

2. Properly attested and sworn-to statements of the previous month's gross business delivered to this office by the 15th of the month. Repeated requests designating proper procedure have been made to your office, but statements received are still lacking proper affidavits.

3. A sworn statement covering actual net costs to you of all fixtures and fixture installations made by your company in the store presently known as Taylor's of Oak Ridge, Tenn. This statement must contain receipted invoices for materials and labor and complete inventory of all fixtures covered by the repurchase clause in the concession agreement. Ample time has elapsed for completion of this statement, and the agent has been most patient in these matters, but cannot accept further delays in the fulfillment of the United States Government contractual obligations on the part of the concessionaire. We anticipate your immediate compliance with our repeated requests, in order that administrative action may be avoided.

Mr. ELSTON. That was way back at the time the original agreement was entered into?

Mr. WINFREY. Yes.

Mr. ELSTON. And they did comply with all that you requested?

Mr. WINFREY. Eventually.

Mr. ELSTON. Well, sufficiently to warrant you in going ahead and executing a lease with them; is that right?

Mr. WINFREY. Yes; I would say so.

Mr. ELSTON. Let us have something more recent. What other complaints did you have about the operation of the store?

Mr. HOLIFIELD. May I interpose a question right there?

This complaint that you have made there is in regard to certain contractual obligations. It has nothing to do with the operation, or a complaint against the operation of the store as a merchandising venture. If you wish to be responsive to the committee's questions, it seems to me that you would bring up an instance where you have complained to them of the operation of the store from a merchandising standpoint in its relation to the community.

Mr. WINFREY. We pointed that out very clearly to their real-estate representative, Mr. Hall, to Mr. Sanford, as to the complaints originating; and Mr. White called some specific complaints of the treatment that his wife had been accorded; and we called specifically the points that the Red Cross was denied usage of a window at one time; and that they had not created goodwill, and they had taken no part in the civic administration; and that they were, as they state in their own letter, operating departments with, we would say, sub-standard leases. They were aware of that, and that was the reason for the negotiation, to try to get a proposal which would give us a regular department store which is largely an institutional set-up. They build goodwill.

Mr. ELSTON. Now, the witness is still just dealing in a lot of generalities. Now, get down to some specific complaints that you made to them, and their response to those complaints. Do you have anything there or do you not?

Mr. WINFREY. We don't have it in writing.

Mr. ELSTON. Well, what were they?

Mr. WINFREY. That the volume was going down, that they had done nothing to increase it.

Mr. ELSTON. I am wondering why you care whether the volume goes down or not, so long as they pay their rent.

Mr. WINFREY. Primarily because the return to the Government is based on the percentage of that volume, and we had no guaranty other than a percentage. We were, under the terms of their agreement, furnishing them all utilities, heat, and structural maintenance, and we were very interested.

Mr. ELSTON. They had a short-term lease, and if you were not satisfied with the terms of the lease, you could insist on other provisions in the next lease. Those were all short-term leases. If you were not satisfied, why did you not change the form of your lease?

Mr. WINFREY. We have changed the form of our lease, sir.

Mr. ELSTON. You did not change it until you executed this lease with Loveman's.

Mr. WINFREY. We had no authority to enter into long-term leases, prior to that time.

Mr. ELSTON. They were willing to enter into those or agree to those same terms and conditions, were they not?

Mr. WINFREY. Of the short-term lease, you mean?

Mr. ELSTON. When you came up to the execution of the long-term lease, Taylor's were also willing to enter into the same terms and conditions that Loveman's entered into?

Mr. WINFREY. No, sir.

Mr. ELSTON. In what respect was there any difference?

Mr. WINFREY. They offered a minimum guaranty comparable for the first 3 years, of \$25,000, and then going to \$36,000.

Mr. ELSTON. We get back to those figures, and I am not talking about the figures now; we get back to those same figures now which we have been over over time and again.

What else and what other conditions would they not agree to?

Mr. Cook. I will answer the first question, that our long-term leasing policy was not developed or approved until early this spring, I should say in August of last fall. Prior to that time we had no authority to enter into a long-term lease, and all of the arrangements made with the operators were on concession agreements.

Mr. ELSTON. You got authority to put anything you wanted in a short-term lease, did you not?

Mr. Cook. If I understand your question right, I think the answer is "Yes."

Mr. ELSTON. Well, did you change the form of their lease because of any of their deficiencies, or because of their methods of operation?

Mr. Cook. No. We had a 3-year concession agreement with their firm for 1 year, subject to renewal each year for the following 2 years, but we did not change any of the terms or conditions of their lease.

Mr. ELSTON. Let me ask you—

Mr. Cook. You can't do that unilaterally; you must have their permission.

Mr. ELSTON. What was the trouble between Mr. Winfrey, or some one else down there, and Mr. Hall, their rental agent, that the witness spoke about yesterday?

Mr. COOK. I would rather have Mr. Winfrey answer that, sir. To the best of my knowledge, there was no trouble.

Mr. ELSTON. They seem to think that it was that controversy that made you decide you would not renew their lease. Now, let us have your version of that.

Mr. WINFREY. There was no controversy with Mr. Hall by myself at any time, or with Mr. White, to my knowledge, at any time. I think that I talked to Mr. Hall all of the time Mr. White talked to him. They tried to read into the testimony in the trial, I believe, that I had said that Mr. Hall was a smart aleck. That was completely untrue. The only reference I made to Mr. Hall and to the Marx Realty Co. was in my opinion they were smart operators, and I think that they are smart operators, thoroughly versed in real estate. They endeavored to obtain a rental reduction on a negotiated basis, and we told them that we could not do that.

As far as the Marx Realty Co., Mr. Hall, Mr. Marx, or Mr. Sanford, the three men we dealt with, I have the utmost respect for them, and I have never said anything derogatory and I do not feel that way. I think that that same thing applies to Mr. White.

Mr. ELSTON. Is Mr. White here?

Mr. WINFREY. He is here. He is not in the room just now. He is out, but he will return.

Mr. ELSTON. When did you make up your mind you did not want these people to have another lease?

Mr. WINFREY. I would say we made up our mind when we made the decision after the 15th of December, and the only reason for that was that we felt the other proposal was better.

Mr. COOK. One thing I would like to point out, sir, is that the decision on the award to Loveman's was made January 10 in my office, approximately at 3:30 or 4 o'clock in the afternoon, and that the final approval was given by the Commission at that time, so that there could have been no information regarding the approval of that award prior to that time. The notices to the successful proposal and the other people that submitted proposals were made after the Roane-Anderson people left my office that afternoon.

Mr. WINFREY. I might further point out that the inference seems to be that we had some vindictiveness against the Marx Realty Co. or against the Taylor Co. We did not have. And furthermore, the award is not on the basis of any one man's decision or feeling. It is the composite picture in which our entire division goes into it, in which the project management enters into it if it is of sufficient size or there is any closeness in competitive proposals, and we make only a recommendation to the AEC, which they in turn scrutinize very carefully. So that I don't believe any personal feeling, if such personal feeling had existed, would have had any import whatever.

Mr. ELSTON. Well, there is nothing in your rules or your regulations or the law, that would preclude you from denying a lease to someone against whom you did have some personal feeling?

Mr. COOK. We have never operated that way, sir.

Mr. ELSTON. I say, there is nothing in the law or your rules or regulations that would preclude it. You have absolute discretionary authority to give a lease to anybody that you see fit, regardless of the fact that somebody else may be willing to pay the Government more money.

Mr. WINFREY. Only on the basis of the best anticipated return to the Government and the services to the community.

Mr. COOK. I would say this, that we have never operated in that way, and the basis of our authority at Oak Ridge requires us to obtain the concurrence of the Washington office prior to making an award of the type that you just mentioned; and we have never asked for that concurrence and we have never made such an award—

Mr. ELSTON. Did you submit to the Washington office the bids of all of the persons who had submitted bids to you?

Mr. COOK. Prior to the award?

Mr. ELSTON. At any time.

Mr. COOK. Yes; we did, sir, after the award but not prior to the award. The decision on the award was within my delegated authority, and it was made at Oak Ridge.

Mr. ELSTON. You had already decided to give a lease to Loveman's before you submitted it to Washington?

Mr. COOK. Oh, yes.

Mr. ELSTON. You were simply reporting to Washington what you had done?

Mr. COOK. The action that was taken.

Mr. ELSTON. The lease had already been signed by that time, had it not?

Mr. COOK. No; it had not.

Mr. ELSTON. It had been agreed upon, had it not?

Mr. COOK. That is right, sir.

Mr. HOLIFIELD. Now, on that point—

Mr. WINFREY. May I interject one thing, and I would like to have the letter, not from the agents but from the contracting officer, who is our superior under whose office we operated, directed to the Roane-Anderson Co., Box 456, attention F. W. Cook, division manager, dated February 18, 1947:

GENTLEMEN: Regarding concession agreement RA-24-C, Taylor's, Inc., in consideration of the reports and complaints originating from local creditors of the above-captioned concessionaire and the resulting time and effort imposed upon the agent and representative of the contracting officer in an attempt to require the concessionaire to pay its local obligations promptly, and with further recognition of the concessionaire's apparent disregard to meet the requirements of the agent and the Government, your office is directed to inform the concessionaire's corporate office of the undesirable conditions herein related.

You should further inform the concessionaire's corporate office that their prompt reply to the request of this office that arrangements for payment of local obligations by the local representative be supplied.

Yours very truly,

WALTER C. ROTHMER,

*Duly Authorized Representative of the Contracting Officer.*

Mr. HOLIFIELD. What local obligations were you speaking of there?

Mr. WINFREY. The telephone bills, the various contractors who supplied various things to them, and we had complaints originating to the agent at all times. This one originated through the AEC and they called it to our attention.

Mr. HOLIFIELD. You spoke of advertising previously, and one of your complaints was that the Taylor's people did not advertise in the customary manner of department stores. Will you please give us some information on that?

Mr. WINFREY. I don't believe that I quite understand that, sir. How do you mean, the customary manner of department stores?

Mr. HOLIFIELD. It is well known in the trade that department stores do quite a bit of advertising.

Mr. WINFREY. That is true.

Mr. HOLIFIELD. And I notice in the Loveman's proposal that they did propose to consider spending from 2 to 3 percent in advertising.

Mr. WINFREY. Yes.

Mr. HOLIFIELD. What was the record of the Taylor's Co. in regard to advertising?

Mr. WINFREY. I would say that their record was a very limited amount, a fractional part of 1 percent.

Mr. HOLIFIELD. Did you at any time complain to them that they were not advertising in the customary manner?

Mr. WINFREY. Yes; we discussed it with their manager.

Mr. HOLIFIELD. And what was their attitude on that?

Mr. WINFREY. That they would advertise; but they never did.

Mr. ELSTON. I would like to ask this question: Here is a company that operated 119-some-odd stores. Apparently they had to be successful to operate that many stores that long.

Now, do you not think that they are the best judges of what kind of advertising will bring business to them, and do you not think that their natural inclination would be to advertise as long as advertising would bring business to them? I have never heard of a company not wanting to advertise, if advertising would bring business to them.

Now, who in Oak Ridge is in a better position than the company itself to determine that question?

Mr. WINFREY. I think the company has determined the question by not advertising, regardless of its reason. You say that they operated 119 stores. Could we point out that there is a difference in the specialty shop operation and a department store operation, and the Taylor people, the Darling Stores, are essentially specialty shop operators. They do a minimum amount of advertising, and they try to locate in locations generally close to heavy traffic. Department stores do a maximum amount of advertising. I would say that there is a difference in the operation there, not questioning the financial ability of the company, and I don't think that that has ever come into the thing. It is just the type of operation for the amount of square footage that they were occupying, and the manner in which they were trying to run it.

I will say that the Statler Hotel chain and the Milner Hotel chain are both good chains, and both financially responsible, but there certainly is a lot of difference in their type of operation.

Mr. ELSTON. They are both pretty successful.

Mr. WINFREY. They are both successful in their fields, and our contention was that Taylor's was out of his field, and in fact —

Mr. ELSTON. What advertising did you want them to do that they did not do?

Mr. WINFREY. We wanted them to become a part of the community, to advertise daily, to put on sales, to do the usual advertising that was being blanketed over Oak Ridge by S. H. George Co., by Miller's, Inc., because they were taking business which we would like to have retained and gotten the percentage on for the Government.

Mr. ELSTON. You wanted the Government to compete a little bit more with private industry?

Mr. WINFREY. I wanted the Government to lower its subsidy on operating the store, and to reduce the expense to the minimum for the municipal operations in Oak Ridge. That is our sole interest in the thing, is to reduce that to the lowest possible cost, and we can only do that by rental.

Mr. HOLIFIELD. Mr. Winfrey, I wish to get certain dates fixed in my mind. On January 10 you announced the award of the lease?

Mr. WINFREY. That is correct, sir.

Mr. HOLIFIELD. You also served upon these people a notice to completely sell their stock out and be out of the store by January 31, is that correct?

Mr. WINFREY. On January 10 we notified all of the applicants, the Darling Stores included, all of them, and we notified Loveman's; and on the following day, I think possibly the next day or the second day, we received this long telegram in which Mr. Gluck stated that he was astounded by our announcement, and he was protesting it, and he would go to all lengths to retain it.

Then after that, we notified him that we would expect him to abide by his contractual obligations. Normally he would have had to the 31st of January and 15 days thereafter.

Mr. KILDAY. He had 15 days after the expiration of the lease?

Mr. WINFREY. That is right.

Mr. HOLIFIELD. He had to complete his sale of his merchandise by the 31st of January, and he was then given 15 additional days to remove his fixtures and other effects from the premises?

Mr. WINFREY. That is correct.

Mr. HOLIFIELD. Now, on March 7, the Commission was notified that this committee would hold hearings on this subject, and on March 11 the lease with the Loveman's was signed, although it dated from March 1; is that correct?

Mr. WINFREY. That is correct.

Mr. HOLIFIELD. Was there any causal relation between the fact that this committee had announced that it would hold hearings on the 7th, and the signing of the lease on March 11?

Mr. COOK. None whatsoever, sir. We just continued in our normal procedure to try to arrive at a definitive long-term lease as soon as possible.

Mr. HOLIFIELD. Why was there a delay of from January 10 through the balance of the month of January and all of the month of February and up to March 11?

Mr. COOK. We had a court order restraining us from further negotiations.

Mr. HOLIFIELD. When was that court order lifted?

Mr. COOK. On March 2.

Mr. HOLIFIELD. And you proceeded immediately thereafter to sign up the lease?

Mr. COOK. Yes.

Mr. HOLIFIELD. In regard to your method of handling this, I realize that you owe an obligation, certainly, to the Government to try to make the best lease possible, and there is no complaint on my part or on the part of the committee of your guarding the Government's interests. But is there any legal obligation to go through this bidding and dead-line exercise which you have used in this manner?

Mr. COOK. There is no legal obligation that we know of. We feel it is the only proper method to proceed so that we will have fair treatment of all concerned, and everybody is advised of what we want and how the procedure works; and the data on which the final analysis and award are made are factual, and we can substantiate any action that we take in this regard.

Mr. HOLIFIELD. Do you not think that your procedure is a little bit faulty, in view of the fact that your advertisement—it is a combination of so-called secret bid arrangement and a negotiation arrangement—and do you not think that you could have achieved just as good a purpose by direct negotiations with the people, without your dead-line requirement of submitting proposals?

Mr. COOK. Well, I think by the procedure that we have followed, everyone feels that they are accorded fair treatment, and the treatment is uniform; and if any question is raised on how the award was made, we have full facts to substantiate it.

I do believe, however, that in the past we have been lax in one respect, and that is that we have covered to a considerable degree the requirements of the type of operation we desired by verbal conversation.

Mr. HOLIFIELD. Are you content to let your procedure in the future rest on this type of verbal arrangement?

Mr. COOK. No, sir; we are not. We are now on all of our subsequent leases requiring that a written statement be prepared and furnished each person making the bid, so there is no doubt in anybody's mind what the conversation was about. Although we will have verbal conversations still, they will follow the pattern set up in the statement.

Mr. HOLIFIELD. In future leasing, do you intend to submit a list of minimum requirements to applicants in writing?

Mr. COOK. Yes, we do.

Mr. HOLIFIELD. Why was it that you refused to all the unsuccessful applicants access to the Loveman's proposal once the award had been made?

Mr. COOK. We feel that the people that submit proposals cover in that proposal information that is of a confidential nature. In their normal dealings with real estate operators and rental agents, they are in the habit of having that information considered as confidential for this reason, that in stores that cover several operations, they do not desire to have other real estate agents with whom they are doing business know what percentage of the gross they are paying for different facilities, and in our conversations with many of the large department stores, several of them were very pointed in their statements in that regard.

Mr. ELSTON. Do you not think any taxpayer ought to be able to come in and find out what the terms are that their Government has entered into with a lessee?

Mr. COOK. I think in this type of operation, it is quite a bit different from the normal type of operation where you can write a clean-cut specification, receive bids on that specification, and abstract and announce the award and make that information available.

Mr. ELSTON. The ordinary lease has to be recorded. Are your leases recorded?

Mr. WINFREY. They will be; yes, sir.

Mr. ELSTON. Are they recorded?

Mr. WINFREY. They are not required to be recorded under Tennessee law.

Mr. ELSTON. I want to find out if they are recorded or not.

Mr. WINFREY. I do not know of any that have been recorded to date.

Mr. ELSTON. So you are in a different position than the average lessor and lessee. Lessee's long-term leases are generally recorded at the courthouse, so that anybody can tell what the terms and the conditions of the lease are.

Mr. KILDAY. That is not true in my State.

Mr. ELSTON. It is true in some States.

Mr. HOLIFIELD. That is protection, I think, for the person making the lease, rather than the owner of the building, is it not?

Mr. ELSTON. Where the Government is a party to a lease, it seems to me that any taxpayer has the right to know what the terms and conditions of the lease may be.

Mr. WILLIAMS. I have had some experience in Government dealing. I was in the Army for a long time, about 13 years, doing contracting work on construction work, and for a while I was assigned to the Quartermaster Corps, and of course we purchased staples and items where you could put out specifications, get in a lot of bids, abstract them, have a public opening and number your bids, have the interested bidders who wanted to know the terms of the bids present at the opening, and the abstract was available if people wanted to see it, but only with the interested bidders did we discuss any of the bids. That was the general policy and still is through the Government, that you discussed with the interested bidders these contracts, but you do not discuss what the price of the bid was with any taxpayer that might want to drop in. You might have a great deal of confusion if you did so. That is not saying that the taxpayer or this Congress does not have the right to check into this, but it would create a great deal of confusion if all of our Government officers were subject to going over with any taxpayer that wanted to drop in at any bid that he wanted to look at.

Mr. HOLIFIELD. You do not have every Government department operating cities like the Atomic Energy Commission. I do not know any other that operates a city, and performs all of the functions of a city.

Mr. WILLIAMS. If I had my way, I would not be connected with the operation of a city, either.

Mr. HOLIFIELD. If I had my way, they would not be operating a city either.

Mr. WILLIAMS. The operation of this city, I would like to make clear, is one of the requirements in order to get our job done. If we can figure out any way to meet our objective, and you gentlemen are thoroughly familiar with the importance of getting this thing done, we will certainly get out of the town operation. We have devoted a great deal of study and a great deal of time to this problem. I have devoted more of my time to this particular study and to this particular problem of these town operations (I have both Hanford and Oak Ridge), trying to figure some way to get out of as much of the requirement on my time as possible.

Mr. HOLIFIELD. Do you not think you would be better off out of it, that private industry could go in and operate the stores better than this way?

Mr. WILLIAMS. If we could meet our objective of supplying homes and the accommodations for the people who are required to operate these very intricate plants that we have, and the type of people we have to have, if we could do that, I certainly would not go through this problem time after time in arguing about town operation.

Mr. HOLIFIELD. Let me ask you a question right there. Have you in your books some set-up that you can tell us whether or not the Government makes a profit on this lease, or sustains a loss? Do you have them set up that way?

Mr. WILLIAMS. On any particular lease I feel that they can. I would like for the manager to speak to that, because he has that.

Mr. COOK. The contracts are set up so that we can determine that.

Mr. HOLIFIELD. Does the Government make a profit on this lease or sustain a loss?

Mr. COOK. I would have to check that. I am not familiar with that detail.

Mr. HOLIFIELD. How about the over-all operation of Oak Ridge?

Mr. COOK. The over-all operation?

Mr. WILLIAMS. Including the schools.

Mr. COOK. Including our community services, schools, bus, our deficit for our next fiscal year is about 3½ million dollars.

Mr. ELSTON. Three and one-half million?

Mr. WINFREY. I would say that the commercial operations, if they could be taken separately, would show a handsome profit, if they could be taken separately, I repeat, and also if you could apply a normal tax rate against those properties, as against the cost and the rental return, they would show a very excellent profit.

Mr. WILLIAMS. This is shown in our budget that we submit; we show the revenue.

Mr. HOLIFIELD. We will have to move along.

I would like to return to my specific question, please, if you will answer it, and that is, why the occupants of this store, the Taylor people, having an equity in certain vested interests in their operation there, and quite an investment, why they were not immediately given the information as to why they were not the successful bidder.

Mr. WINFREY. They were given that information, with the exception that when Mr. Cook talked to Mr. Roth, we did not quote the percentage given. Then we obtained permission to do that, and Mr. Cook informed him then that we would review with him the proposals received and the basis of the award to Loveman's.

The point I wanted to bring out, if I may, sir, at this time, is quite a lengthy, rather vehement statement made by Mr. Levitt as to his contact with Mr. Moore of Loveman's, and to the fact that I had begged him to take the operation and I believe further stated that he could have it on his own terms.

We have in the file here from Loveman's a letter addressed to the Roane-Anderson, attention Mr. Winfrey:

It has come to my attention that one Mr. Stanley Levitt has gone out of his way to prevaricate and entirely distort a conversation he had in our offices the latter part of December. Mr. Levitt walked into our office unsolicited and told us that he understood we were being favorably considered and being granted the

privilege of leasing the store now being operated by Taylor's in Oak Ridge at the expiration of their lease. This was the first news that we had had to this effect. And it is my understanding that he stated this week that when he was here, we told him that we definitely had the lease, which of course was not true. In fact, we have in our files a letter from Mr. Levitt dated January 11 congratulating us on being awarded the lease and asking for permission to sublease the book department in the Taylor store. We understood that Mr. Levitt also made other statements that were without any foundation, and which we do not even feel are worthy of refuting. We did say to Mr. Levitt that if we were awarded the contract that it was our intention to give to the people of Oak Ridge a first-class department store with charge accounts, delivery facilities, and many other services, to which we felt they were entitled, and which have not been made available to them in the past.

We feel that you know also that we are not interested in any short-term gains, but want to become a part and grow with the community of Oak Ridge. We feel that our operation of this one store will justify an enlargement of our operation in the event of any new shopping centers being opened. We might add at this time that we are in possession of several hundred congratulatory letters, wires, and telephone calls, etc., welcoming us to Oak Ridge, and that we in turn are enthusiastically looking forward to becoming a part of the Oak Ridge community with a hope that it will result in a mutual benefit of all.

With kindest personal regards,

JAMES L. MOORE, *Vice President.*

Mr. ELSTON. What is the date of that?

Mr. WINFREY. January 22, 1950.

Mr. ELSTON. Is that unsolicited?

Mr. WINFREY. Unsolicited. It was in the newspaper as to the visit here.

Mr. HOLIFIELD. Do either one of you gentlemen have any additional questions of this group?

Mr. KILDAY. How many departments did Darling Stores operate in Taylor's?

Mr. WINFREY. Only one.

Mr. KILDAY. What was that?

Mr. WINFREY. The ladies' ready-to-wear, I think, the ladies' and misses' ready-to-wear.

Mr. KILDAY. The other departments were all leased?

Mr. WINFREY. Yes.

Mr. KILDAY. Were they leased to Tennessee people or New York people?

Mr. WINFREY. Mostly to Tennessee people, I would say. They were small concessionaires to whom they gave space.

Mr. HOLIFIELD. Their operation then is not that of a unified department store.

Mr. WINFREY. Not in any way; no, sir.

Mr. HOLIFIELD. It was more of a subleasing arrangement with how many concessionaries?

Mr. WINFREY. I think 14, sir.

Mr. HOLIFIELD. Fourteen?

Mr. WINFREY. It varied from time to time. They were constantly changing.

Mr. KILDAY. How about Loveman's operation in Chattanooga? Is it essentially that?

Mr. WINFREY. Essentially a wholly operated department store. The only thing I think they have under sublease at all, which is customary in most department stores, is the beauty shop, and I believe their shoe department is also subleased. I think that is true in the case of Miller's at Knoxville, and a customary practice.

Mr. HOLIFIELD. One more question I wanted to ask before you leave the stand and that is, in regard to the proposition No. 2 of the Taylor people, with \$44,000 minimum, 4 percent on the first \$800,000 gross sales, 3 percent on the second \$800,000, and 2½ percent on the remainder; the testimony that was given us by Mr. Roth was that this was a better deal for the Government up to 1¼ million dollars in gross sales. Do you disagree with that, or agree with it?

Mr. WINFREY. I disagree to this extent. There is nothing in there that states that there will be 1¼ million dollars of gross sales, and in our opinion the \$44,000—

Mr. HOLIFIELD. Wait a minute. There is nothing in Mr. Loveman's proposal that says that that guarantees that his sales will be a million and a quarter, either, is there?

Mr. WINFREY. No, but I would say that the bulk of, the preponderance of the evidence is this, that Loveman's was doing \$6,000,000 a year, and in no single store anywhere are they approaching that kind of volume. I would say that the store operated in Oak Ridge, so far as volume is concerned, in Taylor's of Darling Stores, is probably one of their largest outlets.

Mr. COOK. The only proposal submitted by Taylor's that we considered competitive with the Loveman's proposal was their proposal No. 3.

Mr. HOLIFIELD. Why did you eliminate the No. 2 which did have the highest minimum guaranty, and the highest, next to the highest range of percentages? Did you eliminate that because in your opinion the Taylor's proposal which enumerated the seven additional services did not apply to one and two; was that your thinking?

Mr. COOK. No, sir. The way Taylor's proposal reads is part of the following program varying from the minimum in proposal 1 to the maximum in proposal 3, under which proposal we would give Oak Ridge, subject to the limitations imposed by the size of the community, a real community department store.

We felt that the proposal No. 3 that offered those services was the only proposal that was responsive to the type of operation that we desired and competitive with the Loveman's proposal.

Mr. HOLIFIELD. In other words, they said themselves that their maximum offer was in proposal No. 3.

Mr. COOK. No, sir.

Mr. HOLIFIELD. Did they not?

Mr. COOK. No, sir.

Mr. HOLIFIELD. That is the way I read that.

Mr. COOK. They say the following program varying from the minimum in proposal No. 1 and the maximum in No. 3 is the seven items they have listed.

Mr. HOLIFIELD. You considered that applies only to No. 3?

Mr. COOK. No, sir. We consider that only in No. 3 will all of them apply to the extent that we will have a first-class department store, and a proposal which was competitive with proposal submitted by Loveman's. If we had been looking for the maximum guaranteed return, we would have accepted Wender's proposal that had the highest minimum guaranty and 6 percent of the gross. But we did not consider that the type of store that was proposed by Wender was a first-class department store.

Mr. WINFREY. May I add that this was developed in the Federal-court trial, that they brought as a witness Mr. James Lee Clark, who operates and is vice president of Miller's, Inc., doing an annual volume of ten to eleven million dollars, one of the outstanding stores in the South, and he testified that to the best of his knowledge he felt the store was capable of doing at least a minimum of a million and a half, and more, that their experience with that store had indicated that clearly to him, and that a minimum figure acceptable in the department-store trade was based on approximately \$50 to \$65 a square foot per annum of selling space.

We felt and the Loveman's felt that they would do that kind of a volume without any question, or they would not have been interested in coming to Oak Ridge. They are doing \$6,000,000 where they are. On the basis of square footage and return on that, on a percentage basis, the present operator is doing approximately \$26 a square foot in his total operation. For that reason we felt that monetarilywise the opportunity of return to the Government was greater by far in the Loveman's proposal and we had every reason to believe from past experience that the minimum suggested in Taylor's second proposal was also the maximum.

Mr. HOLIFIELD. If there are no further questions at this time, I would like to place in the record a telegram from quite a number of business stores in Oak Ridge, approving the decision of the Atomic Energy Commission, and their agent in the selection of the Loveman's lease, and also one from Mr. Don J. McKay, publisher of the Oak Ridge newspaper, to the same effect.

(The telegrams referred to are as follow:)

Representative CHESTER HOLIFIELD,

*Chairman, Subcommittee of Joint Atomic Energy Commission,  
House Office Building, Washington, D. C.:*

As citizens and businessmen of Oak Ridge, we want to go on record as upholding the decision of the Atomic Energy Commission and their agent in recently awarding the local department-store bid. We feel that their decision was vitally important to the commercial life and well-being of our community. The successful bidder, we believe, will perform the function so necessary in the operation of the progressive department store.

Carl M. Harmon, Owner, Williams Drug Store; C. C. Brill, Manager, M. F. Flenniken Co.; Howard Hotper; Leon Cummings, Manager, Bootery Shoe Store; Mary L. Rose, Tots to Teens Shop; Bill Pollock, Jr., Owner, Pollock Sound Service; Lois Sutton, Owner, Sutton's Sporting Goods; Stewart Seagull, Manager, Royal Jewelry, Oakridge; Phil Anderson, Manager, Midwest Dairy Products Corp.; Stanley Roberts, Owner, Pinevalley Pharmacy; J. H. McMahon, Manager, Service Drug Store; Carl Bruner, General Food Market; R. L. Smith, Quality Market; M. A. Fry, Ridge Auto & Home Supply; W. Mike Brown, Central Service Station; Mrs. T. E. Lane, Mrs. C. E. Centers, Mrs. Miles Leverett.

Hon. CHET HOLIFIELD,

*House Office Building:*

Appreciate your obligations to investigate recent Taylor-Loveman department-store deal. However, most emphatically feel agent acted in best interest of both Government and people in concluding with Loveman's. Taylor did not provide services required, did not have good will of people, had negative effect on retail business in Oak Ridge. Firmly feel Loveman's will do right job here for entire community. Their policies should result in greatly increased return to Government.

DON J. MCKAY, *Publisher, The Oak Ridger.*

Mr. ELSTON. What is his complaint, that he did not get enough advertising?

Mr. HOLIFIELD. I would not know. That will be all for the present, gentlemen.

Mr. WINFREY. May I make one more statement?

Mr. HOLIFIELD. Yes, sir.

Mr. WINFREY. In this whole hearing, it seems to me rather pertinent that the agent for Taylor's, Inc., the negotiator that conducted negotiations with us from April of 1949 on, was not represented. He has made no statement under oath as we have made as to what we told him. We feel that is very pertinent.

Mr. KILDAY. Who is that?

Mr. WINFREY. Either Mr. Leonard Marx, Mr. Sanford, or Mr. Hall, of the Marx Realty Co., who were fully authorized to act in behalf of Darling Stores Corp. and Taylor Oak Ridge Corp.

Mr. HOLIFIELD. Are any of those gentlemen present in the room?

Mr. WINFREY. I do not know.

Mr. ELSTON. What could that add that has not been testified to?

Mr. WINFREY. I think there was some lack of clarity that the Taylor operation understood the kind of store that we wanted, the volume we expected, and the type of operation which was clearly discussed with their negotiators. I think they give preface to that in their letter of intent:

We recognize that we have not had a good store. We have been circumscribed by certain conditions.

Mr. ELSTON. My complaint about that whole thing is that you did not tell them that. If you felt that way about it, you should not have let them bid at all. If they had come in with a proposition which would have been acceptable to you from the financial standpoint, you would have permitted them to go ahead with the same type of operation; would you not?

Mr. WINFREY. No, sir; we would not, because we endeavored to develop volume that would give us some return on the property.

Mr. ELSTON. In other words, you had decided before that time that you were not going to have them; is that not right?

Mr. WINFREY. Not at all. If they could give us the operation, we would have had them. We considered their proposal.

Mr. ELSTON. What assurance would you have had that they would give you that type of operation if you had given them another lease?

Mr. WINFREY. I think in their particular case we would have the assurance well written into the lease.

Mr. ELSTON. Did you write it in the Loveman's lease?

Mr. WINFREY. We did not feel that it was necessary in the Loveman's lease.

Mr. ELSTON. Although you had never done business with Loveman's before?

Mr. WINFREY. We investigated very thoroughly the banks, we investigated their competitors, we took the testimony of Mr. Clark and Mr. Jonnergan of the George Co., that they were recognized as outstanding operators in the trade. We felt that that was a very, very high testimonial.

Mr. KILDAY. How far is Oak Ridge from Chattanooga?

Mr. WINFREY. Roughly 100 miles; something like 98 miles.

Mr. ELSTON. How far from Knoxville?

Mr. WINFREY. Roughly 24 miles.

Mr. HOLIFIELD. That will be all at this time.

Mr. WINFREY. Thank you.

Mr. HOLIFIELD. We have promised Mr. Frank Wilson an opportunity to testify at this time. Is Mr. Wilson in the room?

Mr. Wilson, will you give your name to the clerk, and the people that you represent, if any.

### TESTIMONY OF FRANK W. WILSON, OAK RIDGE, TENN.

Mr. WILSON. My name is Frank W. Wilson. I am a private attorney in Oak Ridge, Tenn., and county attorney of Anderson County. I am here representing the Oak Ridger newspaper, and Mr. Carl Harmon.

Mr. HOLIFIELD. What was the last one?

Mr. WILSON. Mr. Carl Harmon, of Williams Drug Store.

Mr. HOLIFIELD. Will you be sworn?

Do you swear that the evidential testimony that you are about to give will be the truth, the whole truth, and nothing but the truth, so help you God?

Mr. WILSON. I do.

Mr. HOLIFIELD. You may proceed.

Mr. WILSON. Gentlemen, I do not know anything about the respective merits of the proposal made by Taylor's Corp. or by Loveman's Corp., other than what I have heard in the hearing here today. I do know something about the background and the type of operation which we have had in Oak Ridge in Taylor's, and I feel if that could be made clear to you here today you would say and you would decide definitely that almost any operator that would come in there would do a better job than Taylor's have done.

Taylor's Department Store has been one of the worst types of absentee operation in ownership since they came into Oak Ridge. Let me tell you what I mean.

They came to Oak Ridge in the summer of 1946. At that time they had about 17 subdepartments. They got most of their subdepartments there locally—they were not able to get them nationally—and I think I know why they were not able to. I think you gentlemen will, too, when I explain to you what happened.

They told departments to come into the stores—the 17 subdepartments. They opened business on September 5, 1946. They said, "Now, submit us a proposal of what you will pay." Let us take, for example, the electrical department. The electrical department came in and said, "We will pay 10 percent." They said, "All right; get your merchandise in here and let us get going. We haven't time to discuss leases or anything else with you on this. You bring the department here and then we will work out the details of it."

The electrical department is only one of some 17, and all of the rest were almost identical. They came in. Those people invested their money in there, they stocked up the store, and after they got started operating, then Taylor's came out with a lease, and if you think, gentlemen, that the Government is strict in any of their leases, you should see the proposal that they made.

When the electrical department got done paying Taylor's they were paying 25 percent of gross, not 10 percent. They were not only paying the 10 percent—that was just the beginning. After that they had to pay for the fixtures, and for the bookkeeping, after that they had to pay for the cashier, after that they had to pay for the advertising, after that they had to pay for any other number of other services, and the electrical department, for example, alone, if I have those figures, and I think I do—well, I know for the month of September and the month of October of 1946, the electrical department alone paid 25 percent of gross to Taylor's, and the result was that that department went bankrupt eventually.

Gentlemen, I have here a statement signed by 10 of the subdepartments in Taylor's Department Store. There was a letter of complaint sent to Col. Philip Kromer, dated October 17, 1946, signed by 10 of the subdepartments in there, complaining about the type of operation that Taylor's was operating.

Mr. HOLIFIELD. Who is Colonel Kromer?

Mr. WILSON. He was at that time the Director of Oak Ridge under the USED. I will be glad to introduce this in the record.

(The letter is as follows:)

OCTOBER 17, 1946.

From: Concessionaires in Taylor's, Inc.

To: Col. Philip F. Kromer, Jr., through Concessionaire Division, Roane-Anderson Co., Oak Ridge, Tenn.

It is the desire of the undersigned, department heads at Taylor's Department Store, Jackson Square, Oak Ridge, Tenn., to bring to your attention a matter which not only seriously concerns us as individuals, but which we feel is prejudicial to the best interests of the entire community of Oak Ridge and highly detrimental to the interests of the United States Government. That matter relates to the conditions existing at Taylor's, Inc., and operations as presently conducted there.

The services which the store was contemplated to have rendered and which it is capable of rendering are not being rendered. We feel that the reasons causing this condition are as follows:

1. Taylor's Oak Ridge Corp. was organized as a Tennessee corporation for the sole purpose of operating a department store at Oak Ridge, Tenn. However, the major portion of all bookkeeping, accounting, office operations, and management are being conducted away from Oak Ridge and in New York City. This is resulting in great confusion and seriously delaying and hampering all business operations.

2. Many, if not the major portion of all departments operating in Taylor's, are operating under very unstable and temporary contractual arrangements. This situation is leading to endless confusion and dissension between the various departments and the management, thereby seriously impairing the operation of the store as a unit.

3. The business policies of Taylor's have thus far been such as to greatly jeopardize the continued operation of the majority of the departments in the store and to greatly restrict the services of which the departments are capable of rendering. As a result the continuance of existing conditions may cause the termination of operations of a majority of the departments.

We therefore respectfully submit that for the protection of the interests of the United States Government and of the inhabitants of Oak Ridge, this matter should be immediately investigated by your office and appropriate action taken.

Beauty Salon, Joseph Weir; Flower Shop, Josef F. Huwyler; Photo Shop, George Huyens; Town and Country, Gertrude Curtis; Electrical Department, Eva Watkins; The Hobby Shop, Louis Sochron; Cosmetic Department, C. W. Yancey; Edyth's Yarn Shop, Edyth C. Spolding; Shoe Repair, G. A. Kirk; Spears; Sport Shop, J. R. Pickering.

Mr. WILSON. It is just interesting to note that out of the 10, 6 of these departments have folded up one way or the other. Only four of them have managed to pull through.

Mr. KILDAY. What is the date?

Mr. WILSON. October 17, 1946, is the date. At that time we made every effort—I represented 17 of them at that time—to work with Taylor's to work out something.

For example, they required under their lease that every department turn in their gross receipts to Taylor's and it be sent to New York every day, and it would not be returned until the 15th day of the following month. That meant for the first 45 days they operated the departments could not get a dime back. They had to restock their complete operation. That is the reason part of them went under. That was typical of the manner in which they operated.

Mr. HOLIFIELD. You mean they sent their total gross receipts?

Mr. WILSON. Their total gross receipts.

Mr. KILDAY. The lessees did?

Mr. WILSON. They sent them to New York and they could not get a dime back. The store did advance a few of them, paid some c. o. d.'s on stuff shipped in, in order to keep them operating. That is the kind of operator you had down there. That is what we have been struggling with.

The reason I am here today is to persuade you gentlemen if we can't get a decent type operation in there in the way of a department store, then we might give up trying to operate a commercial community down there.

Their side has been this: That Taylor's Department Store has lived off the other stores that have been there. They have driven trade away from Oak Ridge, and I think I can prove that, too, by citing a few figures.

Mr. HOLIFIELD. Proceed.

Mr. WILSON. For example, the University of Tennessee came in there and made a survey in 1948. We knew we were not getting the amount of business we should get. We knew if we were going to be self-sustaining and paying for our own community, we are only getting \$17,000,000 to \$19,000,000 in retail trade, and some \$30,000,000 is going off the area, in women's clothes alone, which is supposed to be their specialty. Taylor's Department Store did only 17 percent of the retail trade in Oak Ridge. And Miller's Department Store over in Knoxville did 26.6 percent of the trade from Oak Ridge.

Gentlemen, that is where our dollars are going.

Mr. KILDAY. Where did you get the figures?

Mr. WILSON. Made by the University of Tennessee.

Mr. HOLIFIELD. What date?

Mr. WILSON. At the time I was president of the Oak Ridge Business Association, which is equivalent to the chamber of commerce.

Mr. HOLIFIELD. What date, please?

Mr. WILSON. That was made in January, along about December of 1948, when these figures were compiled, and the situation is much the same today. Over 50.2 percent of the entire trade in women's clothes was going to Knoxville and only 34 percent of it was staying in Oak Ridge.

Gentlemen, there are grocery stores on each side of Taylor's Department Store which are doing almost as large a gross business as Taylor's is doing. It is the grocery stores that are bringing in two-thirds of the traffic that comes into that community, rather than Taylor's, and we feel that is running a lot of that trade to Knoxville. When women

have to go to Knoxville to do their buying, they do much of their other shopping over there. We are losing about 50 percent of their retail trade.

For example, in men's clothing, Taylor's Department Store did only 5.6 percent of the trade in men's clothing which was done by Oak Ridge shoppers, whereas Miller's was doing 13.6 percent. They were getting that of the entire Oak Ridge trade. Sears were doing 9.2 percent. George's over in Knoxville was doing 4.6 percent, as much as Taylor's. That is where our dollars were going. That is why we could not become a self-supporting community.

For example, in furniture, another item, Taylor's was doing 2.8 percent of the gross sale of furniture in Oak Ridge. Sears, Roebuck over in Knoxville was doing 17 percent. Sterchi's, over in Knoxville, was doing 11.9 percent. The reason that I came up here was to attempt to give you some picture of the type of operation they have run down there.

Something has been said about how difficult it was to collect bills. If you could just see the court record to see how many times it has been necessary to sue them to collect their bills. They required all of the departments to pay in so much for a period of 24 months to pay for those fixtures and then the title to those fixtures remained in Taylor's Department Store.

It just so happened that Royal Jewelers were willing to buck them on it, and the filed a replevin and got the fixtures when they pulled out of there. The other departments were not that strong, and were not able to do it.

We have tried to deal with them. They have taken no interest in the community whatsoever. They have taken no part in community activities. A few of the subdepartments have. A few of them are certainly entitled to credit, but the main store itself has done nothing.

These gentlemen today from Taylor's have spent more time, and I don't think this is very much of an exaggeration, here in this committee meeting than they have spent in Oak Ridge, in the 24 hours here, than they have in 4 the years in Oak Ridge.

Mr. HOLIFIELD. You mean in the community work?

Mr. WILSON. In Oak Ridge. I have never seen one of these gentlemen except Mr. Levitt before today, and I have been there, I have been active in all of the business affairs of that community, and that is what we have had to operate with. That is the reason we can't build a town down there.

We feel it is extremely important that we get a type of operation in there which will bring business in, that will mean rental not just on the department store itself, mean an increased volume in all of the rest of the business there in Oak Ridge, because the department store is they key to the situation. If we can hold that department store trade in Oak Ridge, we can get the rest of the trade, and if we can get the rest of the trade in there, the Government, instead of drawing rent on \$17,000,000 gross down there, we will get it on \$38,000,000. Instead of a deficit of \$3,000,000 we will make up a good part of that deficit to operate the town.

That is the situation. That is as we see it down there.

Mr. HOLIFIELD. Is that all, Mr. Wilson?

Mr. WILSON. I believe that is it.

Mr. HOLIFIELD. Are there any questions?

Mr. ELSTON. Are you attorney for Loveman's?

Mr. WILSON. No, sir; I am not. The only thing I know about them is what I have read in the paper and after I came in.

Mr. ELSTON. What assurance is there that they will spend more time in Oak Ridge?

Mr. WILSON. I don't have any assurance, sir. I don't have any assurance. The only thing that I have is that I know what the Taylor's operation has been in the past, and I know what we can expect in the future. I know that practically every businessman in Oak Ridge one time or another has talked with me about the situation with reference to that.

Mr. KILDAY. You are county attorney of Anderson County. Is that the county in which Oak Ridge is located?

Mr. WILSON. Yes, sir.

Mr. KILDAY. This is election year.

Mr. WILSON. Yes, sir.

Mr. KILDAY. We run, too.

Mr. WILSON. Yes, sir.

Mr. KILDAY. I feel sure you feel you represent the majority sentiment in Oak Ridge.

Mr. WILSON. No question about it. I am running for Congress down there.

Mr. KILDAY. Against the city member?

Mr. WILSON. The city of Knoxville is involved in it, too, gentlemen. We realize that we may be taking trade away from Knoxville. What we are trying to do is to build a community that is self-supporting, 95 percent, at least that much. There is no question of the sentiment in Oak Ridge that we should and we will have to have another department store in there if we are ever going to build a commercial community that can be self-sustaining. I am a director of the chamber of commerce there. Mr. Carl Harmon is the president of the chamber of commerce.

Mr. ELSTON. If you build up business in Oak Ridge for a department store, you necessarily take it away from Knoxville, do you not?

Mr. WILSON. That is correct. We see no reason in the world why Oak Ridge should be a suburb of Knoxville, and we do not think it is. We think Oak Ridge is one of the most important cities in Tennessee, and we know that it is the fifth largest city in Tennessee, and see no reason in the world why over 50 percent of our trade should go to Knoxville.

Mr. ELSTON. It is unique because the Government runs Oak Ridge.

Mr. WILSON. We are anxious to get them out of operating.

Mr. ELSTON. The people of Knoxville run their own city.

Mr. WILSON. We are very anxious to get them out of there. We know this, that as long as it is necessary for the Government to subsidize the operation of Oak Ridge that we are not going to have free enterprise down there completely. We are as anxious to get that up to where the city supports itself as anybody.

Mr. ELSTON. You mentioned some figures a moment ago. If you got a proper department store in there, you would increase the volume of business from 17 to 38 million dollars?

Mr. WILSON. It is not at all beyond the possibility to increase the volume of business from Oak Ridge. I don't know that the department store itself will do all of that. I don't think it will. But

I do think that the department store can certainly do as much business there and draw as much traffic as a grocery store can.

Mr. ELSTON. I am interested in your method of calculation. How are you going to increase business from \$17,000,000 to \$38,000,000, if the department store comes in there, and according to their estimates only does a business of perhaps between a million and 2 million dollars a year?

Mr. WILSON. Gentlemen, if Miller's Department Store in Knoxville, 24 miles away, can do 26 percent of the business, do almost twice the amount of business that Taylor's Department Store does——

Mr. ELSTON. You have no figures on how much Miller's business comes from Oak Ridge?

Mr. WILSON. That is exactly what I am quoting.

Mr. ELSTON. How much money was spent in Miller's by the people of Oak Ridge?

Mr. WILSON. They spent almost twice as much, the people of Oak Ridge, in Miller's in Knoxville, as they spent in Taylor's.

Mr. ELSTON. Have you any assurance that all of that money will come to Oak Ridge?

Mr. WILSON. No, but we want to try to get it.

Mr. ELSTON. The people of Oak Ridge necessarily do a lot of their shopping in Knoxville because they have more of a choice of stores there.

Mr. WILSON. One reason, one big reason they gave in this survey was because they did not have a decent department store they could shop in.

Mr. ELSTON. That is the opinion of a few people. But it is obvious that if you put a department store in Oak Ridge, I do not care what type it is, there are a certain number of people that will go to Knoxville to do their shopping. That is natural and human.

Mr. WILSON. That is correct.

Mr. ELSTON. You indicate by your figures that you will increase business from \$17,000,000 to \$38,000,000, by having a department store there.

Mr. WILSON. No, no, I am sorry if I gave that impression. I did not intend to do that. That is our goal. We think we can accomplish it, and we think this is one important step toward accomplishing that, a very important step toward accomplishing it, because the department store is the key, the department store is that which attracts and draws the other trade in, and if we can get a department store there which will serve the needs of the community, then all of the other businesses in town will benefit, all of them around Jackson Square.

I do know that 90 percent of all of the Jackson Square people have talked with me, and it is their consensus of opinion that Taylor's is hurting their business by running trade to Knoxville.

Mr. ELSTON. Does not a lot of business come in from the outside into Oak Ridge?

Mr. WILSON. No.

Mr. ELSTON. Why would the people of Oak Ridge be more apt to buy from a grocery store because you have another department store there? They have the grocery stores now. They have the others.

Mr. WILSON. That is correct, sir.

Mr. ELSTON. Just explain why the addition of a department store will make them buy more groceries.

Mr. WILSON. When a woman has to go to Knoxville to buy the dress, she will buy the other things over there. She will do all of her shopping over there. And these figures show that she does. They get the furniture and men's clothing over there in Knoxville. When they go over, when it is necessary to go to Knoxville to do the department-store buying, then they do the rest of their buying in Knoxville and this is the thing that it seems to me that we need.

Mr. HOLIFIELD. Thank you, Mr. Wilson, for your testimony.

Mr. WILSON. Thank you.

Mr. HOLIFIELD. We have 20 minutes until 12, and at this time the committee will recognize Mr. Roth, to make a statement on behalf of the Taylor people, that is, to make any rebuttal that you wish to make.

Mr. ROTH. I would like Mr. Stanley Levitt to make a short partial rebuttal to Mr. Wilson, if he might.

Mr. HOLIFIELD. We will not have much time.

Mr. ROTH. You better proceed. We will put this in the evidence.

Mr. ELSTON. Before we close, I think we should have a statement from Mr. White whether he did or did not make the statement that was attributed to him.

Mr. HOLIFIELD. Is Mr. White in the room? Will you come forward at this time? Excuse me, Mr. Roth, and we will take care of this.

Mr. White, will you swear that the evidential testimony you are about to give will be the truth, the whole truth, and nothing but the truth, so help you God?

Mr. WHITE. Yes, sir.

#### TESTIMONY OF HAROLD B. WHITE

Mr. ELSTON. I ask you whether or not you said to Mr. Levitt, "We are going to teach these guys a lesson," or words to that effect?

Mr. WHITE. I did not make that statement or words to that effect, sir.

Mr. ELSTON. That is all.

Mr. HOLIFIELD. I want to ask a question.

Do you support and subscribe to the statement which has been made by your subordinate, Mr. Winfrey, the statements which he has made before this committee?

Mr. WHITE. Yes, I do, sir.

Mr. HOLIFIELD. Do you verify that to the best of your knowledge that they are factual?

Mr. WHITE. Yes, sir; I do.

Mr. HOLIFIELD. Are there any further questions?

That is all, sir.

Did you have a statement you wished to make?

Mr. WHITE. I have a sworn statement specifically denying these points that he brought out.

Mr. HOLIFIELD. We will accept that, and it will be inserted in the record. Please give it to the clerk.

(The statement referred to is as follows:)

Mr. Stanley Levitt, former book and cosmetic subconcessionaire in Taylor's Department Store, Oak Ridge, has stated that on various occasions I have made statements expressing:

1. A personal dislike for Mr. E. L. Hall, representative of Marx Realty & Improvement Co., New York, agents for Darling Stores Corp., New York.
2. That I stated that "I wanted to teach them a lesson."

3. That I stated that they did not have much of a chance.

4. That I advised Mr. Levitt to sell to the bare walls.

I unqualifiedly deny having made any of the above statements.

It is true that on several occasions, where I was shopping in Taylor's Store, Mr. Levitt came to me and asked the status of the department-store award. In each instance I stated that no final decision had been made. It is also true that Mr. Levitt asked me on several occasions what I thought he should do under existing conditions. In each instance I told him that he would have to use his own judgment.

Regarding the statement of Mr. Ira Cravens, also a former subconcessionaire in Taylor's Department Store. It is true that Mr. Cravens came to my office in early December and asked about the status of the department-store award. As no decision had been made, I told him so. He expressed concern regarding his business future in event the award was made to a company other than Taylor's and seemed very worried. I told him that if he wished he could inspect some of our other locations and at the proper time make a proposal, in competition with others, for whichever location he desired.

HAROLD B. WHITE,  
Manager, Commercial Realty Division,  
Roane-Anderson Co., Oak Ridge, Tenn.

I hereby swear the above is a correct statement.

HAROLD B. WHITE.

WASHINGTON, D. C., March 14, 1950.

Signed and sworn to by Harold B. White.

TRUMAN WARD, Notary Public.

(Additional information furnished by Frank W. Wilson is marked "Exhibit 8" and will be found in the appendix, p. 161.)

Mr. LEVITT. May I say something?

Mr. HOLIFIELD. Mr. Levitt, for what purpose?

Mr. LEVITT. In the first place, Mr. White did make those statements to me. He absolutely and unequivocally made the statements. I want to put that in the record.

I have a telegram here. Mr. Wilson, as he says, is running for Congress, made a very fine political speech here in defense of the poor people of Oak Ridge who by some mysterious way are going to raise the volume of business from 17 to 38 million dollars. Discussing the financial responsibility of the Darling Stores Corp., which is rated AAA-1 in Dun and Bradstreet's, they are ridiculous statements, absolutely ridiculous.

Mr. HOLIFIELD. The committee will be a judge as to that, Mr. Levitt. Please have your testimony conform.

Mr. LEVITT. Mr. Wilson said he had a letter from a certain number of concessionaires to the Darling Stores. This letter was sent in 1946, that is over three years ago, Relations smoothed themselves out considerably. It was a new operation, and naturally there were some things that had to be ironed out. You can understand that. Just to show you that certain of these concessionaires that were probably signatories to that letter felt that they ought to stay in Taylor's and felt that their relations were good with Taylor's they sent this telegram to David Lillienthal, Senator McKellar, Senator Hickenlooper, the chairman of the House Business Committee, Senators McMahon and Kefauver.

We, the undersigned, are subconcessionaires in Taylor's Department Store in Oak Ridge, Tenn. Mr. Stanley Levitt is our representative before you now, If we are forced out of business we not only lose our business and means of livelihood but lose our homes as well. We only ask just and equitable treatment. Since we have been here 3½ years we feel that it is to our interest as well as the public's that renegotiations be opened with Taylor's.

That is signed by the men's department, Ira E. Cravens; greeting cards and candy, Lucille Hamrick; Town and Country, Sehlagh Nunn; yarn shop, Lysbeth Blackburn; shoe repair, M. Rains; alterations department, Ellen Crawford; books and cosmetics, Stanley and Hilda Levitt; photo shop, J. D. Foster; and jewelry department, M. Bucov.

Mr. HOLIFIELD. Will you submit that for the record also?

Mr. LEVITT. Yes, sir, that represents the majority of the concessionaires in Taylor's at the time we lost out.

Mr. HOLIFIELD. What is the date?

Mr. LEVITT. Sent January 19, 1950. That is all I have to say.

(The telegram referred to is as follows:)

OAK RIDGE, TENN., January 19, 1950.

DAVID LILIENTHAL,  
Senator KENNETH MCKELLAR,  
Senator B. HICKENLOPPER,  
*Chairman, House Small Business Committee,*  
Senator BRIEN McMAHON,  
Senator ESTES KEFAUVER,  
*Washington, D. C.:*

We, the undersigned, are subconcessionaires in Taylor's Department Store in Oak Ridge, Tenn. Mr. Stanley Levitt is our representative before you now. If we are forced out of business we not only lose our business and means of livelihood but lose our homes as well. We only ask just and equitable treatment. Since we have been here 3½ years we feel it is to our interest as well as the public's that renegotiations be opened with Taylor's.

Men's Department, Ira E. Cravens; Greeting Cards and Candy, Lucille Hamrick; Town and Country, Sehlagh Nunn; Patrick Yarn Shop, Lysbeth Blackburn; Shoe Repair, M. Rains; Alteration Department, Ellen Crawford; Books and Cosmetics, Stanley and Hilda Levitt; Photo Shop, J. D. Foster; Jewelry Department, M. Bucov.

Mr. HOLIFIELD. All right, Mr. Roth.

Mr. ROTH. I will try to be as brief as possible.

Mr. Wilson just testified rather glibly about several things, and because it is fresh, I want to refer to it.

His statement on the figures is unequivocally untrue. We don't know where he got it. We paid for the fixtures and no one has paid us for them. There is no question about that. We don't know where he got that misinformation or how he dare make it.

Here is the president of the Darling Stores and he states that as a fact. Mr. Stanley Levitt is one of the concessionaires. They were never asked to pay for fixtures. They paid the rent which was to leave them a small profit or large profit depending upon their efficiency, and the total rent we were asked to pay was 6 percent, far in excess of any figures that have been mentioned for the new lease for the longer period.

And in each case our subconcessionaires received a reasonable rental. His categorical statement as a lawyer that we asked excessive rental must be disregarded.

Mr. ELSTON. It is obviously hearsay. This committee will weigh the testimony and decide how much credence shall be given to it.

Mr. ROTH. We will be glad to show the leases and examine the rentals.

Mr. HOLIFIELD. What is the arrangement of your sublease percentages.

Mr. GLUCK. Ten percent. It may have been a little above that, at the most possibly 11, but for that we supplied all of their services, all of the porters and the maids, and window trimmers and cashiers, and

everything else, for the difference between the 6 we pay and the 8 or 9 or 10 that we receive.

Mr. KILDAY. Did that include the fixtures?

Mr. GLUCK. That included the fixtures, yes, sir, and the money was deposited in Oak Ridge.

We did have, I am not familiar enough to say we had adjustments with them, but the money was deposited in Oak Ridge, upon the payment of bills, we have a record, and there is no use of my going into that we are in business over 20 years, we are rated AAA-1, which you may know, unless we pay our bills promptly we could not have a No. 1 rating, I am sure you know that.

Mr. ROTH. Here, for instance, is a letter<sup>1</sup> from Mr. Winfrey, dated January 12, 1950, to Mr. Marx, and we will be glad to produce him:

\* \* \* sincerely feel that Mr. Gluck did an outstanding job in meeting the early emergency deadline in opening Taylor's, Inc., and presenting a very creditable appearing operation serving the purpose at the time. In the department operated by Darling a very reasonable volume has been consistently maintained. \* \* \*

Mr. HOLIFIELD. What departments have you maintained, have you operated there, Mr. Gluck?

Mr. GLUCK. We operate women's clothes, suits, dresses, sportswear, underwear, brassieres, pocketbooks, millinery.

Mr. HOLIFIELD. That is one department. You are enumerating the items?

Mr. GLUCK. It is many departments, the same as Loveman's will have. Each one of these will be a separate department. And the same with children, we operate all children's wear, coats, dresses, sportswear, and everything else for children. Most of the others I guess were subtenants, most of them local, and we did have many others, but because of the shortage we were unable to get them to come in and take over. Had they taken them, they would have been operated very professionally, and certainly as well I think as the local department store could.

Mr. ELSTON. Did you have any trouble getting concessionaires?

Mr. GLUCK. We had trouble getting the type that we would like to have gotten in there.

Mr. ELSTON. But you always were able to get people who were willing to come in and sublease?

Mr. GLUCK. Yes, sir. I was there with Mr. Marx for 2 days, one of these gentlemen asked where Mr. Marx was, I was with him for 2 days before we made our proposal, and we went over this thoroughly, with these two gentlemen, Mr. Winfrey and Mr. White.

Mr. ROTH. Did he suggest the proposal?

Mr. GLUCK. It was agreed upon more or less by consultation with these two men. He was present and had part in preparing these proposals.

Mr. ROTH. There is some reference to this University of Tennessee survey which I think had about as much credit as some of the Gallup polls we have had. So far as Miller's Department Store is concerned, the evidence is they did as much as a million six back when the population was 80,000, and you will notice in the testimony of Mr. Cook, how carefully he avoids going back to the time when the population

<sup>1</sup> The full text of the letter referred to by Mr. Roth will be found in Exhibit 7 of the appendix on p. 151.

was 80,000. He starts at the time the population was down much lower than that, in '47, but forgets entirely the population was 80,000 and under different conditions, under intense activity. And the question of pay roll is ignored.

Mr. HOLIFIELD. What was your first year's operation?

Mr. ROTH. What was the total?

Mr. HOLIFIELD. What was the gross?

Mr. GLUCK. We did about \$700,000 in 4 or 5 months.

Mr. ROTH. Our first full year was \$1,189,000, that is it—well, it was our fiscal year, little different from theirs. I have it listed as the other way as well. It was about a million two.

Mr. GLUCK. In round figures, the first year.

Mr. HOLIFIELD. In 3 years your operation has gone down from \$1,189,000 to \$850,000.

Mr. ROTH. Close to \$900,000.

Mr. HOLIFIELD. About 25 percent reduction.

Mr. GLUCK. Yes, sir; in round figures.

Mr. ELSTON. There has been a decrease of population of about 5,000?

Mr. ROTH. Yes.

Mr. GLUCK. May I mention that in the last year they removed the gates, that there was no longer an enclosed city and it attracted trade. Instead of coming into Oak Ridge, that permitted them to go out freely. That was the situation.

Mr. ROTH. You had a different situation. You didn't have the same kind of town, same restriction.

On the question of the total volumes in the town, Mr. Cook said \$18,000,000 in '47, \$15,000,000 in '48, and \$16,000,000 in 49. He forgets to mention the innumerable cars that must have been bought in that town, cars became available in that period for '47 and '48, and that has accounted for the decline, for a differential between hard goods and soft goods that every merchant understands today, and in certain places that becomes very, very marked.

Mr. ELSTON. I do not know whether it is in the record or not; what was the total pay roll in this last year?

Mr. ROTH. I think it is in the record. Mr. Cook mentioned that it was \$18,000,000.

Representative ELSTON. \$18,000,000, and then it went down to \$16,900,000, did it not?

Mr. ROTH. The last figure of pay rolls.

Mr. COOK. Those are not pay-roll figures. They are gross sales of all of the operations in the community of Oak Ridge.

Mr. ELSTON. Can you tell us what the pay roll was in Oak Ridge?

Mr. COOK. I don't happen to have them here.

Mr. ELSTON. About what were they?

Mr. HOLIFIELD. You gave the number employed in your testimony.

Mr. COOK. That is right.

Mr. HOLIFIELD. The decrease in employment.

Mr. ROTH. It was down from 19,000 to 18,000. In 1947 it was 25,000, and it is down to 18,000 now.

Mr. HOLIFIELD. So your employment decreased proportionately with the decrease in your gross sales.

Mr. ROTH. Roughly, but we had other factors, of course, unit volume, and the perimeter being gone, and things of that kind.

The most important thing to look at is to see what happened before we were in there. The maximum before we were in there with a million six, by this great department store, Miller's with a population of 80,000. By this huge department store, which is able to do the biggest job in Knoxville, is one million six. Mr. Cook very carefully when he mentioned the decline in our volume started it at a million six, and said it was a million six, and we did \$800,000 last year, forgetting that it was 80,000 population then.

Mr. KILDAY. Why did Miller's leave?

Mr. ROTH. They left because they had another nearby store and did not feel that the operation was worthwhile.

Mr. KILDAY. Did not the evidence indicate that they were shunting a good deal of business out of the Oak Ridge store into Knoxville where they would extend the credit and not pay the percentage that was due the AEC under the lease?

Mr. ROTH. They were only paying a very insignificant percentage, and we do not know what caused them to do it. They should not have been allowed to channel it out. That struck me as unauthorized and an evasion. The Government should have gotten the percentage.

Mr. KILDAY. That was my attitude also. I was wondering if that was the reason they left?

Mr. ROTH. They were not doing as well as they might have is probably the reason.

Our position, gentlemen, is simply this. You have looked at all of the facts. So far as we are concerned, we believe that the members of the AEC, at the top level, have been misled by these men who have testified here on this matter, misled on issues of fact, and that when they went ahead after January 10 and as late as March 7, and signed that document, it was after they had already informed their superiors, including Admiral Straus, and I believe Mr. Dean, as to certain facts in connection with this situation which we feel were misrepresented to the Commission.

I just want to give you an idea of some of the thoughts just as they appeared right here. For instance, when you asked Mr. Winfrey about this question of fixtures, he said, well, the maximum that we were going to spend, Taylor's, was \$50,000. Well, actually our bid says the minimum we will spend is \$50,000. If you will look at it, it says, proposal No. 3, "In the event said proposal is received, we agree to spend not less than \$50,000"—not less than \$50,000—"for the physical improvements above outlined."

Whether that was deliberate or not, I don't know. I can't imagine it could be anything else.

Take for instance the situation with respect to the \$250,000 in fixtures that Loveman's is supposed to have promised to put in here. First of all, I understand Mr. Winfrey himself testified in the Federal court that outside of this letter of intent, as he calls it, December 12, from Loveman's, which says they will consider this and consider that, outside of that, there was not one agreement with Loveman's at the time, and they said they had no negotiations between December 15 and January 10. So that that letter must stand by itself. He had no agreement with them to put up \$250,000. The facts show beyond doubt that if we were going to go in there and do the same things they were, it should cost us the same, but as a matter of fact, under these circumstances it will cost them less than us for the simple

reason they are busy buying our fixtures for some \$12,000. It is well known that they have planned to refixture their own store in Chattanooga, and use the old ones over here, and that this thing will cost them an insignificant amount of money, and that is why it is not in there.

If they were going to put up \$250,000 or \$50,000 or any other sum, they would have put it in there. They did not put anything in there. The report to the AEC so far as we are concerned is misleading, incorrect, and untrue. That report on the basis of which we were told indirectly by Mr. Dean and directly by Admiral Straus that the Loveman's bid was higher than ours, and that was the basis of it, is founded on this summary statement. This summary statement, it is in your files, and in the files of the AEC, takes the position that our proposals Nos. 1 and 2 have nothing to do with it. It puts a schedule showing only proposal No. 3. There is just no basis whatsoever in the record for saying our proposals 1 and 2 must be ignored, and not be compared to the Loveman's bid.

First of all, the Loveman's bid is no proposal at all. It has not even got a term in it. It has not a commitment of any kind. It does not tell you how long the lease will be. It does not tell which one of these services they will perform. All that happened analogously in our bid is that we said, and this is what they lay stress on, and it has the opposite effect, even though we are now faced with the prospect of competition from the new \$5,500,000 commercial center, and by the way, you will recall how difficult it was for you to extract the fact that he had originally based his opinion on the fact that we had that cancellation provision if the center is built, and then it turned out that that was also in the Loveman's lease, and yet he maintained that because of that provision in our proposal, which was not in the original Loveman's proposal, that that was why he based his opinion, that is why he said our lease was not firm, and yet he did not ask for a firm lease from Loveman's.

Each of the three alternative proposals permit us to perform in varying degree part of the following program varying from the minimum in proposal No. 1 to the maximum in proposal No. 3. The minimum and maximum refers to the degree to which over all we might be able to perform all of these things. We do not say that anyone will be selected as against the other. We merely say the degree to which they will all be performed. If there was any ambiguity in this document—

Mr. HOLIFIELD. That would be a matter of determination at the time the lease was signed, the same as the specific items were determined for the Loveman's.

Mr. ROTH. Right.

Mr. HOLIFIELD. Between the time of the award and the time of signing of the lease.

Mr. ROTH. Yes. But we were prepared, and the only reason for No. 3 is that we were prepared to specify a minimum expenditure, which apparently Loveman's was not, and for that reason we made, attached that to our worst proposal in terms of percentages, and minimums. But that did not preclude the fact that all under 1 and 2 we are to do all of those things as well, but perhaps not spend as much money. We don't know how much it took, but we said, but a commitment to spend \$50,000, and even if it takes \$250,000, is some-

thing that is very important. You put your money and promise on the line.

They misstated our bid completely, and naturally in their report to the AEC, they misstated the facts, they misstated the Loveman's bid in this report, because it is not even outlined. They merely state that they had a bid of percentages, and then concealed the fact that they had no bid and they concealed this bid from everybody practically until it got into court.

Mr. ELSTON. Did you advise the AEC to the contrary?

Mr. ROTH. When you say "to the contrary," do you mean contrary of what?

Mr. ELSTON. Contrary to their statement indicating what your version of it should be?

Mr. ROTH. We didn't know this. We never knew this until well after the court proceedings were out in February and we were lost.

Mr. ELSTON. Did you then?

Mr. ROTH. Then we were in litigation, and we were before these committees, and we tried to get this committee, and we tried to get the investigations committee to move, and we did the best we could to get this information before them and we had this sent, for instance, the only copy we got of this was sent from the court records to Mr. Adelmens of the expenditures committee, and I got this from him yesterday. I had reports of what was in it, but I was only able to get hold of it from him yesterday. This is basically our position then and I say this unequivocally, that the testimony of Mr. Winfrey as it appeared before you with all of these oral agreements, with these contradictions, with this business of a determination based on a bid that is not a bid, constituted a course of conduct that internally administratively in the AEC was misleading, and if I were to characterize it, as a lawyer, I can only say fraudulently, because his superiors don't know the facts, and Mr. Cook, insofar as he does know the facts, is a party to it.

There are a number of other things that might be brought before the committee. For instance, the simple question of the Loveman's operation as compared to ours. We had tested the demand for our merchandise in that place. We are out to make as much money, we were, as anyone could make there. We are not interested in making as little money. Our operation is as good as anybody's in the field.

Mr. KILDAY. Inasmuch as the testimony here is that they inspected other operations and commented on your operation, how many stores did you say Darling runs?

Mr. ROTH. We run about 110. He apparently depended upon this one.

Mr. KILDAY. So we may have some idea here, do you operate in Washington?

Mr. ROTH. We do not have a store in Washington.

Mr. KILDAY. Cincinnati or Los Angeles?

Mr. GLUCK. We are in Detroit, Pittsburgh, Boston, we are all throughout the South, Birmingham.

Mr. KILDAY. What I was attempting to get is one that we might be able to compare with.

Mr. GLUCK. New Orleans, Little Rock.

Mr. KILDAY. Under what names do you operate?

Mr. GLUCK. Generally the Darling Shop.

Mr. HOLIFIELD. Your operation in those places is a specialty operation and not a department store operation?

Mr. GLUCK. Generally they are specialty shops with some subtenants in them.

Mr. KILDAY. Primarily women's clothes and accessories?

Mr. GLUCK. Women's and children's. In Salt Lake City, we have a department store operation, Wallace's Department Store, in Salt Lake City, a larger operation than this one.

Mr. ROTH. We operated this for 3½ years. We did a volume that was substantial. We have subconcessionaires who are local people and the majority of them were satisfied, anxious to stay in and were making a living. This was not a case of absentee operation, and by the way, examination of Loveman's will find that they themselves are out offering about seven subconcessions in departments as well. They, too, are not a full integrated department store. There is a very serious question as to whether that kind of operation is better than this.

We know Mr. Levitt, running his book and drug department, and drug department and book will work day and night, and hire a man in his place in the department store and see whether you are sure of getting that kind of service. There is a very serious question whether our technique of concessionaires is better for the town, quite apart from fostering a good old American concept of small independent businessmen which we are interested in.

Mr. ELSTON. Mr. Wilson made the statement that you were sued a number of times down there.

Mr. ROTH. I never heard about any suit down there. I am general counsel. Why did he not produce the records? He comes in here and testifies and says the court records are full of them, and does not produce one. Is his testimony worth anything? Why didn't he bring the court record in here?

Mr. ELSTON. As counsel for your company, you have no recollection of any suits?

Mr. ROTH. Never heard of one, and it may very well be that there have been disputes of one kind. Remember, at the very beginning of this thing we were putting together a business, and it was done, and it went through a period of jelling. Maybe there were and they were paid promptly. Some delays for questioning a bill. We have had experience in outlying people where people have sued us unfairly and improperly because they could take advantage of a rich New York company.

Mr. ELSTON. That is nothing unusual but the impression he attempted to give was that the records down there were replete with suits against you.

Mr. ROTH. He is a member of the bar, and he knows better than to say that without coming here and producing 1 or 20 or 50, if he can do it. I don't know about that. I never heard of him as general counsel of the company, and I have been for 15 years.

The question boils itself down to one of action. We feel very strongly that the action of this group of men in signing this lease, this Loveman's lease, and right to this minute we have not seen it, in signing this lease on March 11, when they knew on March 7 that

there was going to be a hearing here, was not in good faith. We would have to be very naive to assume that just to say they were not in the ordinary course of business. On January 10 they made this alleged decision. That was no decision comparing these two documents, and by the way, our bid was not prepared by a lawyer, by me. Contrary to what he says, he does not know that it was prepared by a lawyer. If it was, it would be different from what it is. It was not prepared by a lawyer.

The Loveman's bid must have been prepared by a lawyer because it has all of the outs in it that a lawyer would put into it. If I had prepared it, it would be like the Loveman's periods, that we were considering this and that and the other. They were not restrained until around the 1st of February. The local court in another county issued a restraining order. It was over a week end and that was not served on them for a few days. They had 10 or 15 days, 20 days possibly in which to execute this lease. They didn't do it. All of the complaints poured in. As a matter of fact, they were not restrained from executing the lease. They were restrained from kicking us out, or agreeing on the terms.

Now, then, the restraining order was removed on March 2. Between March 2 and March 7, they could have signed the lease. I don't think that we as people of common sense have the right to assume anything but that a hurried action like that was in bad faith, and for the purpose of precluding anything on the part of this committee to take action.

We feel that these hearings should not be closed, that Loveman's should be brought here, that members of the AEC before whom we put this matter should be brought here, and that the fraud that has been perpetrated on the committee itself, on the Commission itself, should be investigated, and that on that basis, the top level members of the Commission have a right to and a duty to withdraw from this lease, throw the matter open again for reexamination and study, and let us go in there and fight it out as a matter of sound business sense.

Mr. HOLIFIELD. We are going to have to close. The House is in session at this time, and we have no authority to meet while the House is in session.

The committee will take under consideration the testimony that has been given before us the last 2 days, and will make a statement tomorrow as to whether this investigation will be closed with this meeting, or whether additional evidence is desired.

At the present time we do not have time to have an executive session and discuss this matter, but we will try to make available to you gentlemen a statement from my office by 5 o'clock this afternoon as to whether additional hearings will be held in the meantime.

Is there anyone present from Oak Ridge other than those that have testified who wishes to testify on this matter?

(No response.)

Mr. HOLIFIELD. We will consider that all that have testified at this time, and that wish to testify, have been heard, and close the hearing at this time.

(Whereupon, at 12:15 p. m., the hearing was closed.)

## APPENDIX

## EXHIBIT 1

(Referred to on p. 3)

CONCESSION AGREEMENT BETWEEN TAYLOR'S OAK RIDGE CORP.  
AND ROANE-ANDERSON CO.

ROANE-ANDERSON COMPANY

CLINTON ENGINEER WORKS

P. O. Box 456, Oak Ridge, Tenn.

DECEMBER 23, 1946.

War Department Contract  
W-7401 ENG-115Subject: Concession Agreement RA-24C  
Taylor'sTAYLOR'S OAK RIDGE CORPORATION,  
*c/o Darling Stores Corporation,*  
*370 Seventh Avenue, New York, N. Y.*

DEAR SIR: Enclosed please find your signed copy of Concession Agreement RA-24C covering the operation of a Department Store at Oak Ridge, Tennessee.

Also enclosed is your signed copy of Rental Agreement RA-24C-ER1, covering Government-owned equipment on rent which was signed by your Mr. Frank J. Skurka. Copies of executed Schedules "A" to be attached to the agreement in future will be mailed to you.

Yours very truly,

ROANE-ANDERSON COMPANY,  
(Signed) A. Cater,  
(Typed) A. CATER,  
*Division of Concessions.*AC/km  
Enc.

[Copy No. 3]

[Penned notations:]  
VMB 10/21/46  
AC 10/21/46  
CMW. 10/21/46  
FWC 10/24Prime Contract No. W-7401-eng-115  
Concession Agreement No. RA-24C  
Dated: July 9th, 1946

## AGREEMENT FOR CONCESSION AT OAK RIDGE

Agent: Roane-Anderson Company, Oak Ridge, Tennessee.

Name and Address of Concessionaire: Taylor's Oak Ridge Corporation. Incorporated under the laws of the State of Tennessee and trading at "Taylor's", of Oak Ridge, Tennessee, a wholly owned subsidiary of Darling Stores Corporation, a New Jersey Corporation, whose address is 370 Seventh Avenue, New York City, N. Y.

Type of Concession: Department Store.

Premises: Group 2, Building No. 4, Shop No. 101 on Broadway, and warehouse space consisting of the former E. A. T. Store Building, Baltimore and Miami Avenue, Gamble Valley, Oak Ridge, Tennessee.

Consideration: Six (6%) percent of the gross receipts of all business transacted at said locations.

This agreement, made and entered into this 9th day of July, 1946, between the Roane-Anderson Company, a corporation organized and existing under the laws of the State of Tennessee, of Oak Ridge, in the State of Tennessee, hereinafter called the "Agent", executing this agreement, and Taylor's Oak Ridge Corporation, incorporated under the laws of the State of Tennessee, (with the Darling Stores Corporation, a New Jersey corporation, whose address is 370 Seventh Avenue, New York 1, N. Y., as guarantor) trading as "Taylor's" of Oak Ridge in the State of Tennessee, hereinafter called the "Concessionaire";

Witnesseth that:

Whereas the Agent has heretofore, to wit, on the 14th day of February, 1944, effective as of the 23rd day of September, 1943, entered into a contract, herein-

after called the "Principal Contract", with the United States of America, herein-after called the "Government", to grant concessions for the operation of community retail sales and service establishments, among other things, at Oak Ridge, Tennessee, for the Government, and

Whereas the Agent is authorized under the aforementioned contract to enter into this Agreement and to permit the Concessionaire to use certain part or parts of Government-owned buildings and utilities.

Now, therefore, the parties hereto do mutually covenant and agree as follows:

1. *Term of Concession.*—The Agent grants to the Concessionaire, for the period commencing on the 1st day of September, 1946, and ending on the 31st day of August, 1947, the privilege of conducting a General Retail Department Store for the sale of ready-to-wear, shoes, millinery, dry goods, notions, novelties, and such other departments for the sale of items usually sold in department stores, in the premises described as Shop 101, Building 4, Group 2 on Broadway, and the building formerly known as the E. A. T. Stores located on Baltimore and Miami Avenue, Gamble Valley, two Government buildings at Oak Ridge, Tennessee, as outlined in red on the plans attached hereto (marked "Appendix A" and "Appendix C" respectively) and made a part hereof. It is understood and agreed that the building located in Gamble Valley shall be used for warehouse space only.

2. *Consideration Statement.*—The Concessionaire agrees to pay the Agent as compensation for this concession Six (6%) percent of the gross receipts (exclusive of excise and luxury taxes), from all sources derived from the operation or maintenance of said concession, and every part thereof, at the close of business on the last day of each and every month during the term of this Contract. Gross receipts are defined to mean gross receipts less refunds to customers for merchandise returned and shall not include any luxury, excise or sales tax levied by either the Federal, State or local Government, and collected separately from the customers. The Concessionaire shall, within fifteen (15) days of the close of business on the last day of each and every month during the term thereof, state, render and deliver to the Agent a statement in writing, sworn to by the Concessionaire, showing in detail the gross receipts derived from the Concession during the month preceding the delivery of such statement. All sums due hereunder shall be paid to the Agent in the form of Cash, a United States Money Order, Certified Check, or Cashier's Check, made payable to Roane-Anderson Company.

3. *Records, Accounts, Inspection and Audit—Payment.*—The Concessionaire shall at all times during the term of this Agreement, keep at the said premises accurate books, accounts, records and receipts showing the gross sales and gross receipts of the Concessionaire's business conducted on the premises, and he shall preserve the same until final adjustment hereunder shall have been made. The Agent, the Government, or both, shall at all times have the right to inspect and audit said books, accounts, records and receipts of the concessionaire. Default on the part of the Concessionaire to state, render and deliver sworn statement of gross income, and to make payment of compensation, as herein provided, within fifteen (15) days from the date such statement and payment are due, shall be sufficient grounds for the revocation of this agreement by the Agent.

4. *No Warranty as to Profit.*—The Agent does not by this Agreement warrant or assure the Concessionaire in any way whatsoever that a profit can be made hereunder.

5. *Stock, Services and Prices Therefor.*—The Concessionaire shall keep in stock for sale sufficient quantities of merchandise used in the conduct of his business as in the opinion of the Agent shall meet the requirements of the residents of Oak Ridge, and the Agent shall have the right to regulate the quality and prices charged for the merchandise and services to such degree as may be necessary to prevent excessive charges to said residents. The Concessionaire shall submit to the Agent when requested by him, samples of the merchandise sold or to be sold and his records and accounts for examination and audit. In general, the prices charged by the Concessionaire for the various items sold or services rendered by him, shall not exceed the prices charged by similar establishments situated in Knoxville, Tennessee. The Agent shall have the right to regulate prices within the limits indicated above and shall also have the right to deny to the concessionaire the privilege of selling any specified articles whose sale is deemed inimical to the public welfare, or to restrict the classes of merchandise to be either handled or sold, or both, by the concessionaire. Failure on the part of the concessionaire to comply with the requirements as provided herein shall be sufficient grounds for the immediate termination of this Agreement by the Agent.

6. *Stock, fixtures and equipment to be installed.*—

A. The Concessionaire shall install all stocks, fixtures and equipment necessary, in the opinion of and approved by the Agent, to establish, operate and conduct the business aforementioned in the said premises, and shall operate and conduct said business at least Eight (8) Hours of and on each generally recognized business day.

B. It is understood and agreed that the Concessionaire shall install fixtures at a minimum expenditure of \$50,000. Fixtures as used herein are defined to mean show cases, racks, wall pieces, carpets, lighting fixtures (other than those installed by the Government), chairs, divans, tables, furniture and similar items usually found in department stores. The Concessionaire agrees to carpet the premises in those sections of the store specializing in women's and children's ready-to-wear, a "French Room" or salon, and a shoe department.

C. In the event that this agreement is terminated prior to the expiration of 24 months operation, for any cause beyond the control of the Concessionaire, the Agent agrees, upon request of the Concessionaire, to purchase said fixtures, in part or in whole, subject to the following terms and conditions:

1. Upon the completion of the installation of the fixtures by the Concessionaire in the premises, a sworn statement together with proper receipts shall be delivered to the Agent establishing the actual net cost of said fixtures to the Concessionaire. An inventory of the fixtures shall be attached to said statement.

2. A depreciation charge of four and one-sixth (4 $\frac{1}{6}$ %) percent of the net cost of the fixtures shall be deducted each and every calendar month up to a total of 24 months. The purchase price to be paid by the Agent for said fixtures shall be determined by multiplying four and one-sixth (4 $\frac{1}{6}$ %) percent of the net cost by the number of months required to bring the total of operating months to 24.

3. On August 30, 1948, the entire fixture cost shall be assumed to have been amortized by the Concessionaire and no further obligation to purchase shall be considered by the Agent.

7. *Insurance.*—The Concessionaire shall carry a public liability insurance policy, in such amount and with such carrier as shall be approved in writing by the Agent covering injury to person or property, or death to persons who may be injured or killed in and about the space used by the Concessionaire. The Concessionaire shall also be required to comply with the statutory requirements concerning workmen's compensation insurance. Such liability and workmen's compensation insurance policies shall not be cancellable without 10 days prior notice in writing to the Agent.

8. *Police and fire protection.*—The Government and the Agent shall use reasonable diligence in providing police and fire protection for the property of the Concessionaire, located at Oak Ridge, but shall not be liable for loss or damage to any of his property from any cause whatsoever.

9. *Sewage Disposal—Water, Heat and Electric Current.*—Subject to the limits of available supply, interruptions while making necessary repairs, changes or installations, and conditions over which the Agent has no control, the Agent shall supply to the Concessionaire necessary sewage disposal, water, heat and electric current. Heat for the premises described as the former E. A. T. Stores building, Baltimore and Miami Avenue, Gamble Valley, as used herein, is defined to mean the heating unit only. The operation of the heating unit and the furnishing of fuel for said Gamble Valley Building shall be the responsibility of the Concessionaire.

10. *Alterations, Additions and Improvements.*—

A. The Concessionaire shall make no alterations, additions and improvements in the premises without a prior written approval of the Agent. All alterations, additions and improvements which may be made by either the Concessionaire or the Agent, or other party or persons and which are in any way attached to the floors, walls, or ceilings, shall become the property of the United States, and shall remain upon and be surrendered with the premises as a part thereof without disturbance, molestation or injury at the expiration or earlier termination of this agreement.

B. An entrance door shall be placed in the northeast corner of the premises, which entrance shall conform to the present entrances of other stores on the street at no expense to the Concessionaire. The exterior of the premises shall be painted by the Agent at no expense to the Concessionaire. The interior of the premises shall be painted with one coat of white paint by the Concessionaire. The cost of such interior painting shall be credited to the rental account of the Concessionaire upon the submission of receipted bills to the Agent. In no event shall the sum credited to the rental account of the Concessionaire exceed the sum of Twenty-five Hundred (\$2,500.00) Dollars. Any other alterations shall be the responsibility of the Concessionaire.

11. *Occupancy.*—If the Concessionaire shall be unable to enter into and occupy the premises hereinbefore described, by reason of the said premises not being ready for occupancy or as a result of any cause or reason beyond the direct control of the Agent or the Government, the Agent or the Government shall not be liable in damages to the Concessionaire therefor. It is the intent and understanding of the parties hereto that should a scarcity of merchandise or other cause prohibit the prompt opening of all departments specifically stated in Section 1 hereof, on or before September 1st, time shall be granted to the Concessionaire by the Agent in which to open the said unopened departments.

12. *Concessionaire Not a Lessee.*—It is expressly agreed that said part, parcel, building, structure or space in Oak Ridge, is not leased to the Concessionaire; that he is a licensee and not a lessee thereof; that his right to occupy the same and to operate the concession hereby granted shall continue only so long as each and all the undertakings, provisions, covenants, agreements, stipulations and conditions, rules and regulations herein contained on his part are strictly and promptly complied with, in case he shall default in the performance thereof, or any of them the Agent may immediately or at any time after such default, close up and take possession of said part, parcel or space in Oak Ridge, and of any or all buildings and structures created thereon, and the concession and the license to the Concessionaire shall thereby be forfeited, together with all privileges to occupy or use any part of said part, parcel, building, structure or space in Oak Ridge.

13. *No Assignment of Rights.*

(a) The Concessionaire shall have no right, authority or power to sell, mortgage, assign or parcel out this agreement or the concession hereby granted to him, or any interest therein, nor any right, power, or authority to allow or permit any other person or party to have any interest in or use any part of the premises, building space, or spaces covered by this concession for any purpose whatsoever without the written consent of the Agent; it being the purpose and spirit of this agreement to grant said concession and privilege solely to the Concessionaire and neither directly or indirectly to any other person or party. Neither this agreement nor any interest created thereby shall pass to any trustee or receiver in bankruptcy or to any other receiver or assignee for the benefit of creditors, or to any other person or otherwise, by operation of law.

(b) Permission is hereby granted to the Concessionaire to operate or to sublet, subject to the prior written consent of the Agent, the operation of the various departments as set forth in Section 1 hereof, provided that the Concessionaire shall pay to the Agent at the time, place, and in the manner prescribed for the payment of other consideration due the Agent, an amount equivalent to six (6%) percent of the gross receipts, exclusive of excise and luxury taxes, realized from all sources by the department and/or the departments so subleased under this provision, and provided further that in the event said operations are sublet the Concessionaire will assume the responsibility for the operation in accordance with the terms and conditions of this agreement.

14. *Liens.*—In the event the Concessionaire shall grant any lien upon his or its stock of goods, fixtures, equipment or property used in connection with this concession, or in the event he or it shall suffer or permit any lien to attach or be imposed upon said stock of goods, fixtures, equipment or property, or in the event such stock of goods, fixtures, equipment or property shall be seized, levied upon or attached, or subjected to garnishment process or be imposed with or subjected to a lien of any kind, that in the opinion of the Agent is detrimental to the interests of the Agent or the Government, this Agreement and the license of the Concessionaire hereunder may immediately be terminated by written notice from the Agent.

15. *Removal on Termination of Contract.*—The Concessionaire shall within fifteen (15) days of the termination of this contract, remove from Oak Ridge all his stock, personal property, goods and effects; and on his failure or neglect to do so the same shall either become the absolute property of the Government, without liability of any kind to the Concessionaire, or the Agent, may cause such removal to be made and such stock, property, goods and effects to be stored at the cost and expense of the Concessionaire, and the Agent shall have a lien thereon for the cost and expense of such removal and the storage of such stock, property, goods and effects, and no claim for damages against the Government or any Agent or officer thereof shall be created or made on account of such removal or storage; provided, however, that the Concessionaire shall not remove from the said premises any fixtures, furnishings, stock, property, goods and effects at the expiration or termination of this agreement; until he shall have made full settlement with the Agent of all sums owing by him to the Agent and received a release therefor from the

Agent; and should he fail, refuse or neglect to make such settlement within fifteen (15) days after the expiration or termination of this agreement, then the Agent, subject to the prior approval of the Contracting Officer, may sell or otherwise dispose of such fixtures, furnishings, stock, goods and effects or so much thereof as may be necessary to discharge such indebtedness of the Concessionaire, and the Concessionaire shall have no claim or cause of action against the Government or any officer thereof, or the Agent, by reason of such sale or disposal.

16. *General Conditions, Rules and Regulations.*—The Concessionaire agrees to be bound by the general conditions, rules and regulations set forth in "Appendix B", which is annexed hereto and made a part hereof; and the Contracting Officer shall have full power to construe, amend or add to these general conditions, rules and regulations; to issue others, and any such interpretation, amendment or addition when made and brought to the notice of the Concessionaire shall be and become a part hereof in the same manner as though set forth at length herein.

17. *Inspection.*—The Contracting Officer and the Agent reserve the right to enter upon the place of business of the Concessionaire at all reasonable hours, for the purpose of inspecting the premises, the operation of the business and ascertaining the receipts therefrom.

18. *Continuity of Operation.*—In the event the Concessionaire shall fail to operate the concession for a period of three (3) consecutive days, except as herein otherwise provided or as approved by the Agent or Contracting Officer, this Agreement and all rights of the Concessionaire hereunder may, at the option of the Agent subject to the written approval of the Contracting Officer, be deemed terminated.

19. *Notices.*—All notices and orders given to the Concessionaire may be served by mailing the same to him at 370 Seventh Avenue, New York (1), New York, or by delivering a copy thereof to him in person or by leaving it, addressed to him, at his place of business in Oak Ridge, with any person then in charge of the same. Notice required to be served on the Agent shall be served in person, or by mailing same to its office.

20. *Permits and licenses.*—The Concessionaire shall be required to furnish, at no cost to the Government, or the Agent, all permits and licenses governing the operation of his concession; to obey and abide by all applicable laws, regulations, ordinances and other rules of the Government of the State, Territory, or political subdivision thereof, wherein the services contracted for are to be performed, or of any other duly constituted public authority.

21. *Renewal.*—It is the intent and understanding of the contracting parties that the Concessionaire shall have the right to continue its operations in the premises for a full term of one year and shall have the option at the expiration of said one-year term, to renew it for an additional term of one year and a further option at the expiration of the renewal term to extend this contract for one more year, provided notice of intent to renew be given in writing to the Agent at least Sixty (60) days before this agreement, or any renewal thereof, would otherwise expire.

22. *Termination.*—In the event the Government shall substantially reduce or close down entirely the project at the Clinton Engineer Works at any time prior to the expiration of this agreement, or any extension thereof, by reason of the failure of Congress to appropriate sufficient funds for its operation and maintenance, or for any other reason or cause resulting from legislative enactment, either party hereto may terminate this Concession Agreement at any time by giving sixty (60) days' prior written notice to the other party in accordance with Section 19, hereof. Such termination shall affect only the term of this concession agreement and shall otherwise be without prejudice to the right of the parties hereunder.

23. *Similar concessions.*—The Government and the Agent reserve the right to enter into additional agreements for furnishing similar business or services at the discretion of the Government or to operate such business or service itself should the facilities afforded by the Concessionaire prove inadequate to properly supply the public need.

24. *Misrepresentation in application.*—Upon proof of any misrepresentation by the Concessionaire in his application dated June 26, 1946 (No. 2640) and/or letter of intent dated June 25, 1946, which are on file in the office of the Agent and "Basis of Contract" statement dated June 28, 1946, signed by a duly authorized representative of Darling Stores Corporation, guarantor of this agreement, as attached hereto marked Appendix "D" and made a part hereof, this Agreement may be terminated by written notice to the Concessionaire.

25. *Disputes.*—All disputes concerning questions of fact which may arise under this Agreement, and which are not disposed of by mutual agreement, shall be decided by the Contracting Officer whose decision shall be final and conclusive upon the parties hereto.

26. *Officials not to benefit.*—No member of or delegate to Congress or resident commissioner shall be admitted to any share or part of this agreement or to any benefit that may arise therefrom, but this provision shall not be construed to extend to this agreement if made with a corporation for its general benefit.

27. *Covenant against contingent fees.*—The Concessionaire warrants that he has not employed any person to solicit or secure this agreement upon any agreement for a commission, percentage, brokerage or contingent fee. Breach of this warranty shall give the Government the right to annul this agreement, or in its discretion, to add to the agreed charge, or consideration of this agreement, the amount of such commission, percentage, brokerage or contingent fees. This warranty shall not apply to commissions payable by the Concessionaire upon agreements or sales secured or made with bona fide established commercial or selling agencies maintained by the Concessionaire for the purpose of securing business.

28. *Antidiscrimination.*—The Concessionaire, in performing the work required by this agreement, shall not discriminate against any employee or applicant for employment because of race, creed, color or national origin.

Note: The foregoing clause, prohibiting discrimination against workers because of "National Origin" is construed as prohibiting discrimination based on non-citizenship as well as discrimination based on country of origin.

29. *Assignment to Government.*—This agreement, and all terms and provisions hereof, is assignable to the Government at will and in the event of such assignment to the Government, this agreement shall continue in full force and effect, and the Government reserves the right to assign to others to act as Agent.

30. *Protective security.*—Concessionaires and their employees shall be required to comply with all Protective Security Regulations now in effect or as may be promulgated from time to time by the District Engineer, Manhattan District. The Concessionaire shall comply with and shall enforce compliance of employees and potential employees with the following provisions:

All employees or applicants for employment shall accomplish such forms, fingerprinting, and photographing as the Agent may direct, all expense in connection with such personnel identification to be borne by the Concessionaire.

The Agent reserves the right to refuse to allow the employment of any person, if, in its opinion such employment would be prejudicial to the Government. Should the continued employment of any person in the Concessionaire's organization be deemed by the Agent to be prejudicial to the interests of the Government, that person shall be immediately removed from the work.

31. *Approval.*—This agreement shall be subject to the written approval of the Contracting Officer, and shall not be binding until so approved.

32. *Definitions.*—The term "Contracting Officer" as used herein shall mean the Contracting Officer who executed the principal contract on behalf of the Government or his duly appointed successor or his duly authorized representative as the case may be.

33. *Hold Harmless.*—It is understood and agreed that the Concessionaire shall save harmless the Agent and/or the Government of and from any and all liability resulting from the operations under this contract. If any suit, action or legal proceedings shall be brought against the Agent or the Government on account of the operation of the Concession, the Concessionaire agrees to assume the defense thereof, pay all attorneys' fees, costs and expenses in connection therewith and satisfy any judgment that may be rendered as a result of such suit or claim.

34. *Responsibility for Maintenance.*

(a) *By the Concessionaire.*—All minor repairs and maintenance due to normal usage such as, but not limited to, repairing doors, locks, screens, replacing light bulbs, fuses, unstopping commodes, repairing leaky faucets, interior painting and similar items, and any items of repair due to negligence in use of facilities by the Concessionaire or his employees, shall be the responsibility of and at the expense of the Concessionaire.

(b) *By the Agent.*—All structural and major repairs such as but not limited to, leaks in roof, settled foundations, defective wiring and electrical installations, exterior plumbing and similar items, shall be the responsibility of and at the expense of the Government and/or its Agent.

36. *Alterations.*—The following changes were made in this agreement before it was signed by the parties hereto:

Section 35. *Government-owned Equipment*, has been deleted in its entirety.

In witness whereof, the parties hereto have executed this agreement as of the day and year above written.

By (Signed) ROANE ANDERSON COMPANY,  
(Typed) Clinton N. Hernandez,  
CLINTON N. HERNANDEZ,  
Project Manager.

This instrument was executed by Clinton N. Hernandez for and on behalf of the Roane-Anderson Company pursuant to a Power of Attorney dated April 5, 1944, now on file in the office of the District Engineers, Manhattan District, Oak Ridge, Tennessee.

Witnesses:

(Signed) Dorothy P. Ray,  
(Typed) DOROTHY P. RAY,  
Oak Ridge, Tennessee.

(Signed) Kay McKinstry,  
(Typed) KAY MCKINSTRY,  
Oak Ridge, Tennessee.

TAYLOR'S OAK RIDGE CORPORATION,  
Concessionaire.

By (Signed) M. H. Gluck,  
(Typed) M. H. GLUCK, President.  
370 Seventh Avenue, New York, N. Y.

Witnesses:

(Signed) M. McKim,  
(Typed) M. McKIM,  
New York, N. Y.

I, M. McKim, certify that I am the assistant secretary of the Corporation named as Concessionaire herein, that M. H. Gluck, who signed this agreement on behalf of the Concessionaire was then President of said corporation; that said agreement was duly signed for and on behalf of said corporation by authority of its governing body and is within the scope of its corporate powers.

In witness whereof, I have hereunto affixed my hand and the seal of said corporation this 24th day of September 1946.

[SEAL]

M. McKIM,  
Assistant Secretary.

Approved:

Contracting Officer's Duly Authorized Representative.

#### GUARANTEE

The undersigned, Darling Stores Corporation, a New Jersey corporation, and the owner and holder of all of the issued and outstanding capital stock of Taylor's Oak Ridge Corporation, a Tennessee corporation, in order to induce Roane-Anderson Company, a Tennessee corporation, Agent to enter into an agreement dated July 1st, 1946, with Taylor's Oak Ridge Corporation pursuant to which Taylor's Oak Ridge Corporation is to receive a concession for the conduct of a general retail department store in the premises described as Shop No. 101, Building No. 4, Building Group 2, on Broadway, a Government building at Oak Ridge, Tennessee, hereby guarantees the full performance by Taylor's Oak Ridge Corporation of all of the terms, provisions, covenants and conditions on its part to be observed and performed and hereby waives notice of default and consents to any and all modifications, extensions or renewals of said agreement without notice thereof.

In witness whereof, the said Darling Stores Corporation by its duly authorized officer, has hereunto set its hand and seal this 15th 24th day of July September 1946.

DARLING STORES CORPORATION,  
By M. H. GLUCK, President.

STATE OF NEW YORK,

County of New York, ss:

On this 15th 24th day of July September 1946, before me personally appeared M. H. Gluck to me known, who, being by me duly sworn, did depose and say: That he resides at New York City, N. Y.; that he is the President of Darling Stores Corporation, the corporation described in and which executed the foregoing instrument; that he knows the seal of said corporation; that the seal affixed to said instrument is such corporate seal; that it was so affixed by order of the Board of Directors of said corporation, and that he signed his name thereto by like order.

BENJ. K. LEMEL,

Kings Co. Clk's No. 88, Reg. No. 420-L-8 Certificate filed in N. Y. Co.  
Clk's No. 446, Reg. No. 632-L-8.

Commission Expires March 30, 1948.

#### APPENDIX B

##### CONDITIONS, RULES AND REGULATIONS

1. The Concessionaire shall not install any electrical equipment that overloads the lines, nor tamper with any fuse boxes, meters, or other equipment installed by the Government, in the described premises. If the Concessionaire desires to use any electrical equipment which might overload the lines in the hereinabove described premises, he shall secure the prior approval of the Agent before making any such installation, and shall at his own expense make necessary changes to comply with such specifications as the Agent may designate. If such installation be made without prior approval of the Agent, the Concessionaire may be required to remove said installation, and shall bear the entire expense of restoring the wiring and premises to their original condition. All original light bulbs will be supplied by the Agent. Replacements from time to time and the responsibility of leaving a complete set of bulbs at the expiration or earlier termination of this agreement will be at the expense of the Concessionaire.

2. The Concessionaire agrees to keep the leased premises and the walks and driveways abutting thereon in a clean, neat and sanitary condition. If in the opinion of the Agent, subject to the approval of the Government, the premises are not kept in a clean, neat and sanitary condition, and upon notice in writing directed to the Concessionaire of such condition, and the giving of twenty-four hours time to correct the condition, after which if the condition continues, the Agent will enter upon the premises, correct the condition and charge the Concessionaire for actual and supervisory cost of such work. The Agent will bill the Concessionaire for such cost which will be payable upon presentation of the bill. Repeated occurrences of the necessity for such action shall be deemed sufficient grounds for the cancellation of this agreement.

3. The Concessionaire shall display no posters or other advertising matter other than such notices or signs as may be connected with the hereinabove described business to be conducted by the Concessionaire and such permissible signs shall be neatly lettered and painted or printed and properly maintained.

4. The Concessionaire shall not use any advertising medium which may be objectionable to the Agent in newspapers, magazines, periodicals, throw-aways, canvassing, or loud speakers, phonographs and radio broadcasts in a manner to be heard on the street, or signs overhanging sidewalks.

5. The Concessionaire shall not store or keep on the said premises gasoline, gun powder, gas, dynamite, or other explosives or inflammable material unless same be necessary in the conduct of the business, and then only upon written permit from the Agent and after compliance with all regulations relating to the storage and use of such commodities.

6. The Concessionaire shall not use the premises or any of the facilities furnished by the Agent for the manufacture, sale, or storage or distribution with or without charge, of intoxicating liquors, narcotics or habit-forming drugs, except where required in the conduct of the business, and then only on prior written approval by the Agent and under such regulations as it may impose.

7. The Concessionaire shall not use for gambling, prostitution, or for the conduct of any unlawful business purpose of undertaking any of the premises or facilities made available to him by the Agent, and shall not permit the harboring, sheltering or loitering of undesirable characters upon or about said premises.

8. The Concessionaire shall keep the premises clear and free of rodents, bugs and vermin, and if necessary join with other concessionaires in the Government Building and bear his part of the expenses of a general extermination.

9. The Concessionaire shall not use the premises for sleeping apartments or for lodging rooms, or for cooking, except when, in the opinion of the Agent said cooking is a part of, and is necessary for operating and conducting the hereinabove described business.

10. The Concessionaire shall maintain and keep in repair the interior of the hereinabove specified premises, and make such repairs and alterations as may be caused or required by the use of the premises by the Concessionaire. In general, the Agent will maintain the heating equipment, the basic electrical lines, and the plumbing lines and fixtures which are provided with the building. The Concessionaire will be responsible for all other equipment attached to the basic facilities furnished by the Agent.

11. The Concessionaire shall not install any interior or exterior electrical lines or fixtures, plumbing, shades or awnings, or any interior or exterior decorations, or painting, or build any fences or anything of the above nature whatsoever without the prior written consent of the Agent.

12. The water and wash closets and urinals shall not be used for any purpose other than that for which they were constructed. The expense of any breakage, stoppage, or damage resulting from a violation of this rule shall be borne by the Concessionaire who shall, or whose employees or agents shall have caused it.

13. The Concessionaire, his employees or agents, shall not mark, paint, drill or in any way deface any walls, ceilings, partitions, floors, wood, stone or iron work, without the prior written consent of the Agent.

14. The Concessionaire, in bringing into the building, taking therefrom or moving thereon of furniture, fixtures or supplies, when of large weight or bulk, shall do or cause the same to be done at such times as the Agent shall specify. All damage to the building caused by any such taking in, removing or moving shall be repaired at the expense of the Concessionaire.

15. The Agent shall have the right to close the building whenever it may be necessary to comply with any law or regulation issued by lawfully constituted authority, or whenever, in case of public disturbance or other events, the Agent in its discretion decides the closing is for the best interests of the Government.

16. The Concessionaire and his employees shall comply with such regulations relating to parking, loading and unloading of vehicles as may be established from time to time by the Agent or the Government.

17. The Government and the Agent reserve the right at any time to build adjoining this building and reserve the right to close any skylights or windows, and to run either pipes or conduits or both through the premises.

18. In case of difference between this Appendix "B" and the Concession Agreement of which the same is a part the provisions of the Concession Agreement shall govern.

(Plans showing location of Taylor's Department Store, Oak Ridge, have been omitted and are on file in the offices of the Joint Committee on Atomic Energy.)

[Copy No. 4]

[Typed:]

WMB 1/12/48

AC 1/12/48

CMW 1/12/48

[Penned notations:]

JWM 1-28-48

HBM 1-20-48

LCM 2/9/48

Principal Contract No. W-7401 eng-115  
Concession Agreement No. RA 24 C  
Modification No. 2

#### SUPPLEMENTAL AGREEMENT

This Supplemental Agreement entered into this 6th day of January 1948, by and between Roane-Anderson Company, a corporation organized and existing under the laws of the State of Tennessee (hereinafter called the "Agent"), and Taylor's Oak Ridge Corporation, incorporated under the laws of the State of Tennessee (with the Darling Stores Corporation, a New Jersey Corporation,

whose address is 370 Seventh Avenue, New York 1, N. Y., as Guarantor) trading as "Taylor's of Oak Ridge" in the State of Tennessee (hereinafter called the "Concessionaire"),

Witnesseth that:

Whereas, on the 9th day of July 1946, the parties hereto entered into Concession Agreement No. RA 24 C, under Principal Contract No. W-7401 eng-115 with the United States of America to conduct a General Retail Department Store in Oak Ridge, Tennessee; and

Whereas said Concession Agreement has been amended by Modification No. 1; and

Whereas the Concessionaire desires to exercise its option to renew for one year in accordance with Section 21, *Renewal*, of said Concession Agreement; and

Whereas the Government desires to transfer the privilege of occupying warehouse space used by the Concessionaire in the west wing of Adams Cafeteria, Adams Lane, to the building formerly known as Super Market, on Chicago Avenue Gamble Valley Section, Oak Ridge, Tennessee; and

Whereas said relocation is for the convenience of the Government, and the Concessionaire moves at the request of the Government upon shorter notice than that provided for in said Concession Agreement; and

Whereas it is found advantageous and in the best interest of the parties hereto to further modify said Concession Agreement as hereinafter provided:

Now, therefore, the parties hereto do mutually agree that the said Concession Agreement shall be and the same is hereby modified in the following particulars but in no other:

1. Section 1, *Term of Concession*, is modified by deleting the words "ending on the 31st day of August, 1947" and by substituting therefor the following; effective September 1st, 1947

"ending on the 31st day of August, 1948".

2. Section 1, *Term of Concession*, is further modified by deleting all that portion of the first sentence commencing with the words "in the premises described as" and by substituting therefor the following; effective October 20, 1947

"in the premises described as Shop 101, Building No. 4, Group No. 2 on Broadway, and the building formerly known as Super Market located on Chicago Avenue, Gamble Valley, two Government Buildings at Oak Ridge, Tennessee, as outlined in red on the plans attached to the basic Agreement, marked Appendix "A" and Appendix "C" respectively and made a part hereof. It is understood and agreed that upon proper certification the Agent and/or the Government will pay one-half of the cost of relocation namely One Hundred and Thirty-five Dollars (\$135.00)."

This Supplemental Agreement shall be subject to the written approval of the Contracting Officer defined in said Concession Agreement and shall not be binding unless so approved

In witness whereof, the parties hereto have executed this Agreement as of the day and year first above written.

ROANE-ANDERSON COMPANY,  
(Signed) L. C. Macneal,  
(Typed) L. C. MACNEAL,

*Project Manager.*

This instrument was executed by L. C. Macneal for and on behalf of the Roane-Anderson Company pursuant to a Power of Attorney dated August 4, 1947, effective September 1, 1947, now on file in the office of the United States Atomic Energy Commission, Oak Ridge, Tennessee.

Witnesses:

(Signed) Dorothy P. Ray,  
(Typed) DOROTHY P. RAY,  
*Oak Ridge, Tennessee.*

(Signed) Miriam R. Humphries,  
(Typed) MIRIAM R. HUMPHRIES,  
*Oak Ridge, Tennessee.*

"TAYLOR'S OAK RIDGE CORPORATION,"  
By B. SILBERT, *Assistant Treasurer.*

Witnesses:

MARY E. TIERNEY.

I, J. Berman, certify that I am the Assistant Secretary of the Corporation named as Concessionaire herein, that B. Silbert who signed this Agreement on behalf of the Concessionaire was then Assistant Treasurer of said corporation;

that said Agreement was duly signed for and on behalf of said corporation by authority of its governing body and is within the scope of its corporate powers.

In witness whereof, I have hereunto affixed my hand and the seal of said corporation this 6th day of January 1948.

J. BERMAN, *Assistant Secretary.*

Approved:

L. PAUL McDOWELL,  
*Contracting Officer's duly Authorized Representative.*

[Copy No. 4]

Principal Contract No. W-7401 eng-115  
Concession Agreement No. RA 24-C  
Modification No. 3

#### SUPPLEMENTAL AGREEMENT

This Supplemental Agreement entered into this 6th day of July, 1948, by and between Roane-Anderson Company, a corporation organized and existing under the laws of the State of Tennessee, acting as Agent for the United States of America under Principal Contract No. W-7401 eng-115 with the United States of America (hereinafter called the "Agent") and Taylor's Oak Ridge Corporation, incorporated under the laws of the State of Tennessee (with the Darling Stores Corporation, a New Jersey Corporation, whose address is 370 Seventh Avenue, New York 1, N. Y., as Guarantor) trading as Taylor's (hereinafter called the "Concessionaire"),

Witnesseth that:

Whereas, on the 9th day of July, 1946, the parties hereto entered into Concession Agreement No. RA 24 C, to conduct a General Retail Department Store in Oak Ridge, Tennessee; and

Whereas said Concession Agreement has been amended by Modifications Nos. 1 and 2; and

Whereas the Concessionaire desires to exercise its option to renew for one year in accordance with Section 21, *Renewal*, of said Concession Agreement; and

Whereas it is found advantageous and in the best interest of the parties hereto to further modify said Concession Agreement as hereinafter provided:

Now, therefore, the parties hereto do mutually agree that the said Concession Agreement shall be and the same is hereby modified in the following particulars but in no other:

a. Section 1, *Term of Concession*, as amended, is further modified by deleting the words "ending on the 31st day of August, 1948" and substituting the following therefore:

"ending on the 31st day of August, 1949".

b. Section 6, *Stock, Fixtures and Equipment to be Installed* is modified by deleting subsection C in its entirety.

c. Section 22, *Termination* is deleted in its entirety and the following substituted therefore:

"22. *Termination*.—Either party hereto may terminate this Concession Agreement at any time by giving 90 days prior written notice to the other party in accordance with Section 19 hereof, or this Agreement may be terminated at any time upon terms mutually agreed upon by the parties."

This Supplemental Agreement shall be subject to the written approval of the Contracting Officer defined in said Concession Agreement and shall not be binding unless so approved.

In witness whereof, the parties hereto have executed this Agreement as of the day and year first above written.

ROANE-ANDERSON COMPANY,  
*As Agent for the United States of America.*  
(Signed) L. C. Macneal,  
(Typed) L. C. MACNEAL, *Project Manager.*

This instrument was executed by L. C. Macneal for and on behalf of the Roane-Anderson Company pursuant to a Power of Attorney dated August 4, 1947, effective September 1, 1947, now on file in the office of the United States Atomic Energy Commission, Oak Ridge, Tennessee.

Witnesses for Roane-Anderson Company:

DOROTHY P. RAY,  
Oak Ridge, Tenn.  
CLAIRE L. DORAN,  
Oak Ridge, Tenn.

TAYLOR'S OAK RIDGE CORPORATION,  
By STANLEY ROTH.

Witnesses for Concessionaire:

SYLVIA WEINBERG,  
New York City, N. Y.  
ARTHUR TIERNEY,  
New York City, N. Y.

I, Charles Gass, certify that I am the Assistant Secretary of the Corporation named as Concessionaire herein, that Stanley Roth, who signed this Agreement on behalf of the Concessionaire was then Vice President of said Corporation; that said Agreement was duly signed for and on behalf of said Corporation by authority of its governing body and is within the scope of its corporate powers.

In witness whereof, I have hereunto affixed my hand and the seal of said Corporation this 31st day of August 1948.

CHARLES GASS.

Approved:

L. PAUL McDOWELL,  
*Contracting Officer's duly Authorized Representative.*

[Copy No. 3]

Principal Contract No. W-7401 eng-115  
Concession Agreement No. RA 24-C  
Modification No. 4

#### SUPPLEMENTAL AGREEMENT

This Supplemental Agreement entered into this 26th day of August, 1949, by and between Roane-Anderson Company, a corporation organized and existing under the laws of the State of Tennessee, acting as Agent for the United States of America under Principal Contract No. W-7401 eng-115 with the United States of America (hereinafter called the "Agent"), and Taylor's Oak Ridge Corporation, a corporation organized and existing under the laws of the State of Tennessee (with the Darling Stores Corporation, a New Jersey Corporation, whose address is 370 Seventh Avenue, New York 1, N. Y., as Guarantor) trading as Taylor's (hereinafter called the "Concessionaire"),

Witnesseth that:

Whereas, on the 9th day of July, 1946, the parties hereto entered into Concession Agreement No. RA 24-C, for the conducting by the Concessionaire of a General Retail Department Store in Oak Ridge, Tennessee; and

Whereas said Concession Agreement has been amended by Modifications Nos. 1, 2, and 3; and

Whereas the parties hereto desire to extend the term of said Concession Agreement; and

Whereas it is found advantageous and in the best interest of the parties hereto to further modify said Concession Agreement as hereinafter provided.

Now, therefore, the parties hereto do mutually agree that the said Concession Agreement shall be and the same is hereby further modified in the following particulars but in no other, effective September 1, 1949.

a. Section 1, *Term of Concession*, as modified, is further modified by deleting the words "ending on the 31st day of August, 1949" and substituting the following therefor:

"ending on the 31st day of January, 1950".

b. Section 21, *Renewal* is deleted in its entirety.

This Supplemental Agreement shall be subject to the written approval of the Contracting Officer defined in said Concession Agreement and shall not be binding unless so approved.

In witness whereof, the parties hereto have executed this Agreement as of the day and year first above written.

ROANE-ANDERSON COMPANY,  
As Agent for the United States of America.  
(Signed) L. C. Macneal,  
(Typed) L. C. MACNEAL,  
Project Manager.

This instrument was executed by L. C. Macneal for and on behalf of the Roane-Anderson Company pursuant to a Power of Attorney dated August 4, 1947, effective September 1, 1947, now on file in the office of the United States Atomic Energy Commission, Oak Ridge, Tennessee.

Witnesses for Roane-Anderson Company:

DOROTHY P. CARROLL,  
Oak Ridge, Tenn.

CLAIRE L. DORAN,  
Oak Ridge, Tenn.

TAYLOR'S OAK RIDGE CORPORATION.  
By STANLEY ROTH.

Witnesses for Concessionaire:

SHIRLEY RAPP,  
New York City.

L. C. WELLER,  
New York City, N. Y.

I, Charles Gass, certify that I am the Assistant Secretary of the Corporation named as Concessionaire herein, that Stanley Roth, who signed this Agreement on behalf of the Concessionaire was then Vice President of said Corporation; that said Agreement was duly signed for and on behalf of said Corporation by authority of its governing body and is within the scope of its corporate powers.

In witness whereof, I have hereunto affixed my hand and the seal of said Corporation this 31st day of August 1949.

CHARLES GASS.

Approved:

L. PAUL McDOWELL,  
Contracting Officer's duly Authorized Representative.

## EXHIBIT 2

(Referred to on p. 34)

## COURT OPINION IN INJUNCTION SUIT BY THE UNITED STATES AGAINST TAYLOR'S OAK RIDGE CORP.

Filed Feb. 23, 1950

IN THE UNITED STATES DISTRICT COURT FOR THE EASTERN DISTRICT OF  
TENNESSEE—NORTHERN DIVISION

Civil No. 1387

*United States of America, Plaintiff, vs. Taylor's Oak Ridge Corporation, Defendant*

Suit was commenced by plaintiff to enjoin defendant from continuing an allegedly unlawful possession of certain department store facilities located at Oak Ridge, Tennessee, and to recover a balance of compensation due for the use of certain chattels and damages for unlawful retention of possession of the realty. Defenses urged are prematurity of suit, lack of jurisdiction of the subject matter, improper choice of remedy, and denial of illegal or wrongful possession.

Defendant entered into possession of the realty pursuant to a written contract executed July 9, 1946, which, after extensions, expired by its terms January 31, 1950. It provided that within 15 days after expiration, the defendant should have removed its merchandise from Oak Ridge. Defendant has insisted that the contract was one of lease, hence subject to the State law of landlord and tenant, but the instrument describes itself as a concession agreement and the defendant as a concessionaire, and the control over the business of the conces-

sionaire, and rights of entry and inspection retained by the owner of the realty are so extensive as to negative any notion that a lease of the realty was intended or effected.

In the recent case of *United States v. Allan V. Hodge et al.*, Civil Action No. 1130, this Court held that the law relating to eviction of a lessee had no application, the occupancy in that case being under a license no different in principle from the concession agreement under which defendant has held, and still retains, occupancy. Defendant's insistence that an action under State law for eviction of a hold-over tenant was the proper procedure is, therefore, rejected.

Lack of jurisdiction of the subject matter has been urged on the ground that at the time the complaint was filed here, an injunction suit was pending in a State court. Before expiration of defendant's concession, Roane-Anderson Company, the contract-agent of plaintiff at Oak Ridge, notified defendant that its concession would not be further extended, but that bids for a lease would be invited from firms engaged in mercantile businesses. About 500 firms were invited to submit bids, and six of them responded. The proposal of Loveman's of Chattanooga, Tennessee, was recommended by Roane-Anderson Company as the most acceptable, and the recommendation was approved by the Atomic Energy Commission, the Government agency which has control of the properties at Oak Ridge. Considering that its proposal should have been accepted, defendant on January 25, 1950, filed suit in the Chancery Court of Anderson County, Tennessee, to enjoin Roane-Anderson Company from disturbing its possession of the facilities covered by the concession agreement. A temporary restraining order was granted by the State court and a time set for hearing on motion to dissolve the order.

While the suit was pending there, the Government filed its complaint here. The Government's suit was commenced February 6, 1950, after expiration of the term of the concession, but before expiration of the grace period of 15 days following termination of the concession. The suit here sought to enjoin defendant from continuing its occupancy. On February 10, 1950, this Court entered an order directing defendant to show cause on February 20, 1950, why plaintiff should not be granted a restraining order. At the hearing February 20 plaintiff, before presenting its proof, was allowed to amend its complaint by praying for an order restraining defendant from proceeding in the State Court suit. Over objections as to relevancy defendant was allowed to present extensive proof respecting the merits of its case. That proof in the main had for its purpose a showing that defendant submitted the best proposal in response to the invitation to bid and that its non-acceptance was due to arbitrariness and capriciousness on the part of Roane-Anderson Company.

Counsel for defendant in essence, if not in fact, conceded at the hearing that the Court has jurisdiction to proceed, the pendency of the suit in the State court notwithstanding. Otherwise the Court would be, and is, of the opinion that it has that jurisdiction. There is no conflict between sovereignties. The State of Tennessee is not a party litigant. Nor is it a party in interest. No police power of the State is drawn into question, and no statute of the State is infringed. No question of title is involved, hence the land laws of the State are neither invoked nor sought to be by-passed. That the State of Tennessee has not granted the land to the United States by an act of cession, if such is the case, is not a reservation to private individuals or corporations of a right to ignore or usurp the interest which the United States has acquired, in this case the fee simple title and its attendant right of possession.

It cannot well be said that the suit here was premature, when defendant had already thrown down the challenge in the State court. Defendant's concession ended by its terms January 31, 1950. Its period of grace was to be used for removal of defendant's merchandise from Oak Ridge. Use of the period to defeat the necessity of removal was inconsistent with the idea of grace and in the Court's opinion was such a breach of conditions as freed the Government's hands to bring suit at once.

As to whether defendant's bid should have been accepted a preference to others is not a subject for judicial review, the decision therein being an exercise of administrative function of the Atomic Energy Commission. While the Court has not been referred to any statute which excludes the matter from judicial review, this Court over a period of several years has had many occasions to consider whether it should undertake a review of purely administrative procedures of Government agencies. Where there has been no violation of a vested right, this Court has consistently refused to intervene in such administrative affairs. See *United States ex rel. T. V. A. v. Moody*, 86 F. Supp. 694. This is in accord with the principle of separation of powers between the legislative and judicial branches

of the Government, expressed with considerable frequency in connection with the exercise of the power of eminent domain. *United States v. Carmack*, 329 U. S. 230; *United States ex rel T. V. A. v. Welch*, 327 U. S. 546. In some relations the principle has been carried to the extreme limit by statute, as in the administration of Veterans' affairs. 38 U. S. C. A., sec. 705.

Defendant had no vested right to have its bid accepted in preference to others. It offered testimony which tended to show that Roane-Anderson Company had orally promised that defendant would receive preferential treatment as to extension of its concession because of expenditures which defendant undertook to make in adding fixtures and otherwise improving the facilities to be used under the concession agreement. There is marked inconsistency between any promise of that kind and the specific language of the written concession agreement which provided for amortization of those expenditures at the expense of the Government's agent, Roane-Anderson Company. Had there been a promise to give defendant such preferential treatment as to obligate Roane-Anderson Company to recommend acceptance of defendant's bid regardless of comparative merit, there would have been no bona fide reason for inviting bids from other firms, to say nothing of the objection to such an arrangement on grounds of public policy.

A more substantial argument has been advanced in that Roane-Anderson Company allegedly acted arbitrarily and capriciously in rejecting defendant's bid. While this Court has declined to intervene in the administrative decisions of Government agencies, it has not foreclosed itself from doing so, in the event it should appear that an agency has acted arbitrarily and capriciously to the detriment of a party dealing with it. See this Court's opinion in *United States ex rel. Dugger v. T. V. A.*, Civil Action No. 346. In the present case there is no preponderance of evidence that Roane-Anderson Company acted otherwise than fairly and in good faith in accepting a proposal other than that of defendant. Hence no reason exists for a departure from precedents of the Court.

Plaintiff's remedy at law was inadequate. Following acceptance of Loveman's proposal, Roane-Anderson Company and the successful bidder agreed upon the terms of a contract for lease of the facilities under consideration, a provision of which called for delivery of possession to Loveman's on March 1, 1950. By telegram of January 10, 1950, and follow-up letter of January 12, 1950, Roane-Anderson Company notified defendant that Loveman's bid had been accepted and called upon defendant to vacate the premises by February 15, 1950. Instead of vacating, defendant by its original bill in the State court on January 25, 1950, sought and obtained an injunction restraining Roane-Anderson Company from undertaking to oust defendant and from proceeding further to enter into a concession agreement with anyone other than defendant. Had plaintiff followed legal procedure as in cases of eviction, the time lapse would have made impossible the delivery of possession to the successful bidder on March 1, 1950, or within a time even approximating that date. In this situation, plaintiff had no adequate remedy at law but was put to the necessity of summary proceedings.

Propriety of an injunction is clear, despite pendency of the suit in the State court. The rule of comity which has been made into statute (28 U. S. C. A., sec. 2283) is not applicable where the United States is complainant, for the reason that the sovereign is not included within its terms. *Dollar Savings Bank v. United States*, 86 U. S. 227, 239; *United States v. Herron*, 87 U. S. 251, 263; *Stanley v. Schwalby*, 147 U. S. 508; *United States v. Sherwood*, 312 U. S. 584, 586, 587. Plaintiff does not seek an injunction aimed directly at the State court, but one which will operate upon defendant, its officers and agents. This relief preserves only a semblance of comity, for it is immaterial whether the injunction stays proceedings in the State court by operating upon an officer of the court or upon a party, the result by either route being to stay the State court proceedings. *Oklahoma Packing Co. v. Gas Co.*, 309 U. S. 4, 9. Nevertheless, the proceedings in the State court should be stayed, though the stay is accomplished indirectly. While the suit in the State court is not expressly a suit against the United States it is, in its results, a suit against the sovereign without its consent. The buildings at Oak Ridge which are included in the subject matter of the suit are owned by the sovereign, the United States of America. A suit adversely affecting the disposition of property owned by the United States, or in which the United States owns an interest, is a suit against the United States. *United States v. Alabama*, 313 U. S. 274, 282. In that situation the suit in the State court ought not to proceed. *United States v. Cain*, 72 F. Supp. 897.

Defendant's holding of the property is wrongful, unjustified and illegal. Plaintiff, accordingly, is entitled to an order restraining defendant from continuing its possession of the facilities in suit, or of any part thereof, beyond February 28, 1950, and to an additional order restraining defendant from proceeding with the suit

in the State court. Plaintiff is also entitled to payment from defendant of the sum of \$146.97 as compensation for the use of personal property included in the concession up to and including December 31, 1949, and for such additional compensation for said use as has accrued thereafter. The Court in the absence of complete and positive proof makes no present findings of damages and, therefore, awards none in this proceeding, but the right of plaintiff to further assert its claim for damages will be reserved.

Let the necessary writs and orders be prepared.

(Signed) ROBT. L. TAYLOR, *Judge*.

### EXHIBIT 3

(Referred to on p. 38)

UNITED STATES ATOMIC ENERGY COMMISSION,  
Washington 25, D. C., January 27, 1950.

In reply refer to:

PCO:CCO

MR. WILLIAM L. BORDEN,  
*Executive Director, Joint Committee on Atomic Energy,  
United States Congress.*

DEAR MR. BORDEN: We are attaching a copy of a letter which we are forwarding to Senator James E. Murray concerning the department store at Oak Ridge.

This information was requested by Senator Murray's office subsequent to the general information on this matter which we forwarded to his office on January 26, 1950.

Sincerely yours,

WALTER J. WILLIAMS,  
*Director of Production.*

Attachment: Copy of letter to Senator Murray.

PCO:CCO

HONORABLE JAMES E. MURRAY,  
*United States Senate.*

DEAR SENATOR MURRAY: Mr. W. G. Ragsdale of your staff asked Mr. Edward J. Bloch of this office to furnish the following information concerning the volume of business heretofore done by the department store in Oak Ridge:

#### MILLER'S INC.

Period	No. of Months	Rate	Volume of Sales	Rental Paid
4/1/44-12/31/49-----	9-----	2½%-----	\$1,318,906.63	\$32,972.68
1/1/45-12/31/45-----	1st 6 Mo-----	2½%-----	1,605,298.86	48,833.74
	2nd 6 Mo-----	3½% up to \$150,000-----		
		4% in excess of \$150,000-----		
1/1/46-6/30/46-----	6-----	3½% up to \$150,000-----	705,705.20	24,532.77
		4½% in excess of \$150,000-----		

#### TAYLOR'S

9/1/46-12/31/46-----	4-----	6%-----	\$613,226.05	\$36,793.56
1/1/47-12/31/47-----	12-----	6%-----	1,215,381.55	72,919.89
1/1/48-12/31/48-----	12-----	6%-----	1,057,870.73	63,472.24
1/1/49-12/31/49-----	12-----	6%-----	844,208.33	50,652.50

Under the above arrangements water and electricity were furnished without cost to the concessionaire. The new lease arrangement will be on the basis of the lessee paying for utilities in addition to basic rent.

The higher volume of business done by Miller's, Inc., is due in part to a higher population in Oak Ridge than there is at present. Miller's was operating the Oak Ridge store during a period when merchandise was difficult to obtain and complete stocking of the Oak Ridge store with similar merchandise as handled in the Miller's Knoxville store was difficult. There were also small stores in the construction camps selling general merchandise during the period in which Miller's was operating. However, during the past two years, the population of Oak Ridge has only dropped about 3,000 (36,000 to 33,000) while Taylor's business volume has declined about one-third.

In 1946, an attempt was made by the Manhattan Engineer District and the Roane-Anderson Company (management agent) to negotiate a higher return to the Government than was currently being paid by the concessionaire, Miller's, Inc. During the period of negotiation, Miller's, Inc., decided to withdraw from Oak Ridge. We understand that one of the considerations which led Miller's, Inc., to withdraw from Oak Ridge was the fact that postwar truck production had been resumed and they were able to obtain delivery trucks for daily deliveries of merchandise to Oak Ridge from their Knoxville store. There were probably many additional reasons why Miller's took this action of which we are not aware. It is our understanding that at all times relations between Miller's and the negotiating agents of Roane-Anderson Company and the Manhattan Engineer District were of the best.

Any additional information concerning this matter will be furnished at your request.

Sincerely yours,

WALTER J. WILLIAMS,  
*Director of Production.*

UNITED STATES ATOMIC ENERGY COMMISSION,  
*Washington 25, D. C., January 26, 1950.*

In reply refer to:  
PCO:CCO

Mr. WILLIAM L. BORDEN,  
*Executive Director, Joint Committee on Atomic Energy,  
Congress of the United States.*

DEAR MR. BORDEN: This refers to your letter of January 19, 1950, in which you requested information concerning the recent award of the department-store lease at Oak Ridge to Loveman's of Chattanooga, Tennessee. You requested a fairly detailed report on this particular matter and, in addition, information on the policies and procedures under which leases are awarded to commercial firms at Oak Ridge.

We are enclosing a copy of the policy paper on long-term leases at Oak Ridge, a copy of the memorandum from the Deputy General Manager to the Director of Production reporting approval of this policy by the Commission subject to certain conditions, and a copy of the advertising procedure for commercial leases in effect at Oak Ridge.

The award of a five-year lease with an option to renew for five additional years was made to Loveman's of Chattanooga, Tennessee, on January 10, 1950, to be effective March 1, 1950.

The department store in Oak Ridge has been operated for approximately the last three and one-half years by Taylor's, a wholly owned subsidiary of the Darling Stores Corporation of 370 Seventh Avenue, New York, under a concession agreement. Taylor's original agreement provided for a one-year term with options to renew for two additional years. These options were exercised by Taylor's. Prior to the expiration of the third year on August 31, 1949, Taylor's requested that the rental (6% of gross sales) which they had been paying be reduced. This request was refused as not being in the best interest of the Government and our Oak Ridge Office decided to advertise for proposals on the basis of a long term lease. It was then agreed with Taylor's that their concession agreement would be extended for a period of five months to January 31, 1950. (Taylor's refused an offer of a six months' extension.)

During this interim there was extensive advertising and solicitation by direct letters, telephone calls, and personal interviews to obtain qualified operators. It was made clear to all prospective lessees that a full-scale department-store operation was desired. Six proposals, copies of which are attached to this letter were received. As an aid in analyzing these proposals, representatives of Roane-Anderson Company inspected at least one store operated by each applicant. The Roane-Anderson Company and our Oak Ridge Office considered that the needs of the community for a complete department-store operation as well as estimated financial return to the Government should control the selection of an operator under a long-term lease with no cancellation privileges by the Government.

Mercentile Stores Co., Inc., of New York, and Proffitt's Department Store of Maryville, Tennessee, are well-qualified department-store operators but offered no guaranteed minimum and the percentages of gross offered were too low. Similarly, Taylor's proposal No. 3 contemplated a well-rounded department-store operation but the percentage of gross offered was considerably less than that offered by Loveman's.

Sam Schainberg Dry Goods Company of Memphis, Tennessee, is highly competent in its field. Although offering a fair guaranteed minimum and a good percentage of gross, it was ruled out for the reason that the company is a specialty-type operator (about 15 shops in Tennessee and other Southern States) with no previous experience with respect to a full-scale department-store operation as desired in Oak Ridge. In their Memphis store all departments except two are leased to subtenants. They specialize in the low-price field.

John J. Wender, of LaFollette, Tennessee, offered the highest percentage of gross. He is a well qualified merchant, having several operations in Oak Ridge and neighboring communities but with no experience in full-scale department-store operation. He also specializes in the low-price field. In view of his high percentage of gross, his was the only proposal which was considered by the Roane-Anderson Company and our Oak Ridge Office as offering an estimated rental return comparable to Loveman's. He presently subleases Taylor's basement and his business has been steadily declining. It was believed that he might reach but could not reasonably be expected to exceed Taylor's 1949 gross of \$844,000. This would produce an estimated rental return comparable to Loveman's estimated rental return. However, the Oak Ridge management felt that the attainment of \$844,000 in volume of sales by Wender's should be considered very unlikely.

Taylor's offered three alternative rental agreements depending on the type of service selected. Taylor's present store in Oak Ridge differs considerably from that of Loveman's department store in Chattanooga. Taylor's operates only a small number of departments directly and subleases to other concessionaires about fourteen of the operations within the store. They offer no central charge accounts and no delivery service.

Experience has indicated the volume of business that can be expected of Taylor's present operation. During the past year the volume was \$844,000. The management at Oak Ridge considers it reasonable to expect that no higher volume of business would be done by Taylor's unless they were to make considerable change in facilities, merchandise and scope of operations. Therefore, in addition to being inadequate from the standpoint of quality of merchandise and service offered, Taylor's alternative proposals numbered 1 and 2 were not considered as good financially as Loveman's or Wender's proposals. Taylor's alternative proposal number 3 (which is the only one of its alternative proposals comparable to Loveman's on the basis of type of service) indicated that changes would be made in the facilities, type of merchandise, and scope of operations which would result in Taylor's operating a complete department store. One of the improvements Taylor's anticipated making if alternative proposal number 3 were acceptable would be the replacement of many of the sublessees with national operators whose merchandising ability is superior and mark-up lower than that of the existing sublessees.

Loveman's, as demonstrated in its Chattanooga store, is experienced in handling quality merchandise and operating the majority of its departments directly with a completely integrated service afforded thereby. Loveman's proposal of 4% of gross on the first \$1,000,000, 3½% on the second \$1,000,000, and 3% on anything in excess is compared to Taylor's alternative proposal number 3 of 2½% of gross. Depending on the volume of gross sales, the return to the Government would be:

Volume of Sales	Taylor's Proposal No. 3, Net Rental	Loveman's Proposal, Net Rental
\$625,000.....	*\$25,000	*\$25,000
\$900,000.....	*25,000	32,000
\$844,000.....	*25,000	33,760
\$850,000.....	*25,000	34,000
\$900,000.....	*25,000	36,000
\$1,000,000.....	*25,000	40,000
\$1,100,000.....	*27,500	43,500
\$1,250,000.....	**32,250	**48,750

\*Guaranteed minimums contained in proposals. Taylor's guaranteed minimum after three years is \$36,000.

\*\*Highest estimated returns based on volume of potential business estimated by representatives of Roane-Anderson Company and the Office of Oak Ridge Operations. On this basis, Taylor's proposal is \$32,250 (\$36,000 minimum after third year) as compared to Loveman's \$48,750. (A survey made by the University of Tennessee has indicated a potential department store business of \$2,000,000 in Oak Ridge.)

Representatives of Taylor's who have discussed this matter with representatives of the Washington staff seem to have as principal complaints:

- a. That the capital investment considered to be approximately \$100,000 made by Taylor's during the past three and a half years represents an equity which should have been recognized in making the award;
- b. That insufficient notice was given to a business of the size of Taylor's to cease operations;
- c. That Taylor's proposal was in fact better than that offered by Loveman;
- d. That there was no opportunity given Taylor's to negotiate;
- e. That the award of the lease has been done in secrecy.

The following facts are pertinent to these complaints:

It was provided in Taylor's original concession agreement that approximately \$74,000 for fixtures would be amortized during a twenty-four month period, the Government agreeing to pay the unamortized portion in the event of cancellation by the Government prior to the end of twenty-four months. Taylor's insists that this was simply protection against cancellation and that it was not regarded by them as a sound amortization. In our view, the amortization provision was part of the original consideration, the twenty-four month period has expired, and the Government should not under the circumstances give weight to this claim of equity.

When Taylor's was notified on January 10, 1950, of the award to Loveman's, they were instructed to cease business by January 31, 1950, and vacate the premises on or before February 15, 1950, in accordance with the terms of the existing concession agreement. The feasibility of extending the termination date of Taylor's is now being explored at Oak Ridge and Mr. R. W. Cook, manager of Oak Ridge Operations, has invited Mr. Stanley Roth, Vice President of Darling Stores, Inc., to come to Oak Ridge and discuss this possibility with him. Mr. Cook has also indicated that he would discuss the proposals and the analyses with Mr. Roth in order to demonstrate to him why the award was not made to Taylor's.

The foregoing comparison of Taylor's and Loveman's proposals indicates that Taylor's proposal was not as good as Loveman's proposal.

We are informed by our Oak Ridge Office that numerous discussions were had by representatives of the Roane-Anderson Company with representatives of Taylor's and that Taylor's was fully informed as to kind of operation desired and other important considerations.

It is true that the proposals were treated as confidential by Roane-Anderson Company and the Office of Oak Ridge Operations in accordance with a long-standing practice at Oak Ridge. However, as stated above, the Oak Ridge Office is prepared to discuss the merits of the award with Taylor's representatives and has so informed Mr. Stanley Roth, Vice President of Darling Stores Corporation.

The Oak Ridge Office of the Commission carefully considered and analyzed all six proposals and approved the selection of Loveman's. This decision has been reviewed in detail by appropriate members of the Washington staff. Mr. Stanley Roth and others, representing the Darling Stores Corporation, came to Washington and presented their side of the case to Mr. Carroll A. Towne, Chief of the Community Operations Branch of the Commission. We are satisfied that Taylor's proposals, as well as all the other proposals, were given full consideration and we find no basis for reversing the decision which has been made by the Oak Ridge Office.

Sincerely yours,

WALTER J. WILLIAMS,  
*Director of Production.*

#### DEPARTMENT STORE LEASE AT OAK RIDGE

##### SUMMARY STATEMENT CONCERNING THE RECENT AWARD OF THE DEPARTMENT STORE PREMISES AT OAK RIDGE TO LOVEMAN'S OF CHATTANOOGA, TENNESSEE

On January 10, 1950, the Oak Ridge Office of the Atomic Energy Commission awarded a lease of the department-store premises at Oak Ridge, Tennessee, to Loveman's of Chattanooga. The lease is for five years with an option on the part of the lessee to renew for five additional years. The lease period will begin March 1, 1950.

The department store in Oak Ridge has been operated for approximately the last three and one-half years by Taylor's, a wholly owned subsidiary of the Darling Stores Corporation of 370 Seventh Avenue, New York, under a concession agreement. Taylor's original agreement provided for a one-year term with:

option to renew for two additional years. These options were exercised by Taylor's. Prior to the expiration of the third year on August 31, 1949, Taylor's requested that the rental (6% of gross sales) which they had been paying be reduced. This request was refused as not being in the best interest of the Government and our Oak Ridge Office decided to advertise for proposals on the basis of a long-term lease. It was then agreed with Taylor's that their concession agreement would be extended for a period of five months to January 31, 1950. (Taylor's refused an offer of a six month's extension.)

During this interim there was extensive advertising and solicitation by direct letters, telephone calls, and personal interviews to obtain qualified operators. It was made clear to all prospective lessees that a full-scale department-store operation was desired. Six proposals were received. As an aid in analyzing these proposals, representatives of Roane-Anderson Company inspected at least one store operated by each applicant. The Roane-Anderson Company and our Oak Ridge Office considered that the needs of the community for a complete department-store operation as well as estimated financial return to the Government should control the selection of an operator under a long-term lease with no cancellation privileges by the Government.

Mercantile Stores Co., Inc., of New York, and Proffitt's Department Store, Maryville, Tennessee, are well-qualified department-store operators but offered no guaranteed minimum and the percentages of gross offered were too low. Similarly, Taylor's proposal No. 3 contemplated a well-rounded department-store operation but the percentage of gross offered was considerably less than that offered by Loveman's.

Sam Schainberg Dry Goods Company of Memphis, Tennessee, is highly competent in its field. Although offering a fair guaranteed minimum and a good percentage of gross, it was ruled out for the reason that the company is a specialty-type operator (about 15 shops in Tennessee and other Southern States) with no previous experience with respect to a full-scale department-store operation as desired in Oak Ridge. In their Memphis store all departments except two are leased to subtenants. They specialize in the low-price field.

John J. Wender of La Follette, Tennessee, offered the highest percentage of gross. He is a well-qualified merchant, having several operations in Oak Ridge and neighboring communities but with no experience in full-scale department-store operation. He also specializes in the low-price field. In view of his high percentage of gross his was the only proposal which was considered by the Roane-Anderson Company and our Oak Ridge Office as offering an estimated rental return comparable to Loveman's. He presently subleases Taylor's basement and his business has been steadily declining. It was believed that he might reach but could not reasonably be expected to exceed Taylor's 1949 gross of \$844,000. This would produce an estimated rental return comparable to Loveman's estimated rental return. However, the Oak Ridge management felt that the attainment of \$844,000 in volume of sales by Wender's should be considered very unlikely.

Taylor's offered three alternative rental agreements depending on the type of service selected. Taylor's present store in Oak Ridge differs considerably from that of Loveman's present department store in Chattanooga. Taylor's operates only a small number of departments directly and subleases to other concessionaires about fourteen of the operations within the store. They offer no central charge accounts and no delivery service.

Experience has indicated the volume of business that can be expected of Taylor's present operation. During the past year the volume was \$844,000. The management at Oak Ridge considers it reasonable to expect that no higher volume of business would be done by Taylor's unless they were to make considerable change in facilities, merchandise, and scope of operations. Therefore, in addition to being inadequate from the standpoint of quality of merchandise and service offered, Taylor's alternative proposals numbered 1 and 2 were not considered as good financially as Loveman's or Wender's proposal.

Taylor's alternative proposal number 3 (which is the only one of its alternative proposals comparable to Loveman's on the basis of type of service) indicated that changes would be made in the facilities, type of merchandise, and scope of operations which would result in Taylor's operating a complete department store. One of the improvements Taylor's anticipated making if alternative proposal number 3 were acceptable would be the replacement of many of the sublessees with national operators whose merchandising ability is superior and mark-up lower than that of the existing sublessees.

Loveman's, as demonstrated in its Chattanooga store, is experienced in handling quality merchandise and operating the majority of its departments directly with a completely integrated service afforded thereby. Loveman's proposal of 4% of gross on the first \$1,000,000, 3½% on the second \$1,000,000, and 3% on anything in excess is compared to Taylor's alternative proposal number 3 of 2½% gross. Depending on the volume of gross sales, the return to the Government would be:

Volume of Sales	Taylor's Proposal No. 3 Net Rental	Loveman's Proposal Net Rental
\$625,000.....	*\$25,000	*\$25,000
\$800,000.....	"25,000	32,000
\$844,000.....	"25,000	33,760
\$850,000.....	"25,000	34,000
\$900,000.....	"25,000	36,000
\$1,000,000.....	"25,000	40,000
\$1,100,000.....	"27,500	43,500
\$1,250,000.....	**32,250	**48,750

\*Guaranteed minimums contained in proposals. Taylor's guaranteed minimums after third year is \$36,000.

\*\*Highest estimated returns based on volume of potential business estimated by representatives of Roane-Anderson Company and the Office of Oak Ridge Operations. On this basis, Taylor's proposal is \$32,250 (\$36,000 minimum after third year) as compared to Loveman's \$48,750. (A survey made by the University of Tennessee has indicated a potential department store business of \$2,000,000 in Oak Ridge.)

Representatives of Taylor's who have discussed this matter with representatives of the Washington staff seem to have as principal complaints:

- a. That the capital investment considered to be approximately \$100,000 made by Taylor's during the past three and a half years represents an equity which should have been recognized in making the award;
- b. That insufficient notice was given to a business of the size of Taylor's to cease operations;
- c. That Taylor's proposal was in fact better than that offered by Loveman;
- d. That there was no opportunity given Taylor's to negotiate;
- e. That the award of the lease has been done in secrecy.

The following facts are pertinent to these complaints:

It was provided in Taylor's original concession agreement that approximately \$74,000 for fixtures would be amortized during a twenty-four-month period, the Government agreeing to pay the unamortized portion in the event of cancellation by the Government prior to the end of 24 months. Taylor's insists that this was simply protection against cancellation and that it was not regarded by them as a sound amortization. In our view, the amortization provision was part of the original consideration, the 24-month period has expired, and the Government should not under the circumstances give weight to this claim of equity.

When Taylor's was notified on January 10, 1950, of the award to Loveman's, they were instructed to cease business by January 31, 1950, and vacate the premises on or before February 15, 1950, in accordance with the terms of the existing concession agreement. The feasibility of extending the termination date of Taylor's is now being explored at Oak Ridge and Mr. R. W. Cook, Manager of Oak Ridge Operations, has invited Mr. Stanley Roth, Vice President of Darling Stores, Inc., to come to Oak Ridge and discuss this possibility with him. Mr. Cook has also indicated that he would discuss the proposals and the analysis with Mr. Roth in order to demonstrate to him why the award was not made to Taylor's.

The foregoing comparison of Taylor's and Loveman's proposals indicates that Taylor's proposal was not as good as Loveman's proposal.

We are informed by our Oak Ridge Office that numerous discussions were had by representatives of the Roane-Anderson Company with representatives of Taylor's and that Taylor's was fully informed as to kind of operation desired and other important considerations.

It is true that the proposals were treated as confidential by Roane-Anderson Company and the Office of Oak Ridge Operations in accordance with a long-standing practice at Oak Ridge. However, as stated above, the Oak Ridge Office is prepared to discuss the merits of the award with Taylor's representatives and has so informed Mr. Stanley Roth, Vice President of Darling Stores Corporation.

The Oak Ridge Office of the Commission carefully considered and analyzed all six proposals and approved the selection of Loveman's. This decision has been reviewed in detail by appropriate members of the Washington staff. Mr. Stanley Roth and others, representing the Darling Stores Corporation, came to Washington and presented their side of the case to Mr. Carroll A. Towne, Chief of the Community Operations Branch of the Commission. The Production Division is satisfied that Taylor's proposals, as well as all the other proposals, were given full consideration and that there is no basis for reversing the decision which has been made by the Oak Ridge Office.

## SIX BID PROPOSALS

### 1. Taylor's Oak Ridge Corporation

DECEMBER 12, 1949.

ROANE-ANDERSON COMPANY,  
Box 456, Oak Ridge, Tennessee.

GENTLEMEN: We are handing you herewith three alternative proposals for leasing the premises on Jackson Square now occupied by us. Our purpose in giving you three proposals from which to choose is to make it possible for you to elect that lease arrangement which will permit us to give the community the type of store which you feel is desirable. Up to the present, our operation has been circumscribed by two factors:

1. The shortness of our lease.
2. The high percentage rent which our lease contract called for.

These factors precluded our building patronage and prestige through any long-term program and prevented us from rendering services of the type which cost money but build good will and further prevented us from obtaining the most desirable subtenants. In the past, we could have interested better subtenants to operate some of the departments but were unable to because our lease was too short and the percentage of sales they were asked to pay was too high. Our present proposals are designed to permit us to get better subtenants by offering lower percentage arrangements and longer leases. Even though we are now faced with the prospect of competition from the new \$5,500,000 commercial center, we are convinced that the community will not support two department stores, each of the three alternative proposals permit us to perform, in varying degree, part of the following program varying from the minimum in Proposal No. 1 to the maximum in Proposal No. 3 under which proposal we would give Oak Ridge subject to the limitations imposed by the size of the community a real community department store.

1. Install air conditioning.
2. Replace many of the leased departments with national operators whose merchandising ability is superior and mark-up lower than that of the existing leases.
3. Install new improved lighting both overhead and counter.
4. Revamp, refurbish, and refinish the fixtures.
5. Install a centralized charge account system for the charge departments.
6. Arrange for limited store delivery.
7. Engage in community service activities and make our store an integral part of the community life.

*Term.*—All of the proposals are for a five-year term with a five-year option on the part of the concessionaire. All the proposals are to embody a paragraph giving the concessionaire the right to terminate the lease in the event that the operation at Oak Ridge is substantially reduced or the new projected commercial center opened.

#### *Rental: Proposal No. 1*

We propose to pay a minimum rental of \$36,000 per annum payable in equal monthly installments of \$3,000 per month and in addition thereto, 4.62% of the sales in the premises during each lease year in excess of \$800,000.

#### *Proposal Number 2 (or in the alternative Proposal No. 1)*

We propose to pay a minimum annual rental of \$44,000 payable in equal monthly installments of \$3,666.66 and in addition thereto, overage by computing the rent as such a sum as shall represent 4% of sales on the first \$800,000 of annual business, plus 3% on the next \$800,000 of annual business plus 2½% on all sales above that amount.

*Proposal Number 3 (or in the alternative)*

We propose to pay a minimum rental of \$25,000 per annum for the first three years of the term against 2½% of sales in excess of \$1,200,000 and \$36,000 per annum for the remaining portion of the term against 2½% of sales in excess of \$1,200,000. In the event said proposal is accepted, we agree to spend not less than \$50,000 for the physical improvements above outlined. Other new conditions: electric current and water to be paid by us at metered rates.

Respectfully submitted.

Yours very truly,

TAYLOR'S OAK RIDGE CORPORATION.  
By M. H. GLUCK.

2. Loveman's

DECEMBER 12, 1949.

C. M. WINFREY,

*Manager, Rental Department, Roane-Anderson Company,  
P. O. Box 456, Oak Ridge, Tennessee.*

DEAR MR. WINFREY: We propose to and herewith submit out proposition subject to contractual negotiations in regard to leasing the department store in Oak Ridge now known as Taylor's. We propose to negotiate a contract with Roane-Anderson Company, acting as agents for the U. S. Atomic Energy Commission, on the basis of 4% of sales on the first million dollars, 3½% of sales between one and two million dollars, and 3% of sales on all over two million dollars. As a purpose of our good faith in this connection, we propose to pay a minimum rental of \$25,000 a year, such minimum to be charged against the percentages herein mentioned.

Further, as a matter of qualifying ourselves in this connection, we consider the minimum rental as inconsequential and are only using it as evidence of good faith on our part subject to reaching the proper contractual negotiations with you. We would like to point out that the reason we are offering such a low guaranty is due to the fact that we believe that the department store which you have there now is being improperly and unsatisfactorily run for the benefit of the people of Oak Ridge. We would have to give consideration on our part in establishing the proper facilities there, to the installation of a credit system, preferably the charge-plate system, which we are using here. This one expense would cost approximately 2% of our sales. We would have to give further consideration to the establishment of a delivery system which would cost us about 1¼% to our sales. Also, we feel that we would have to use advertising and promotion which will approximate costing us between 3 and 4% to our sales.

I am sure that you realize as well as we do, that the above facilities are not being offered now to the people of Oak Ridge. Further, we would have to give consideration to the installation of a proper air conditioning system for the building. So I am sure that you and your associates can see by these figures that on the basis of such percentages, we propose to negotiate a reasonable contract. Our proposal is made subject to our reaching an agreement on the proper terms and conditions of the lease, and further subject to our reaching some definite agreement by January 1, 1950. Further, it is understood between us that in the event we are able to get together on the lease, that we would be able to occupy the building by March 1, 1950, or sooner.

Yours very truly,

RICHARD L. MOORE, Jr., *President.*

3. Proffitt's

DECEMBER 13, 1949.

MR. C. M. WINFREY,

*Care of Roane-Anderson Company,  
Oak Ridge, Tennessee*

DEAR SIR: With reference to our conversation relative to our taking a lease on the department store building in Oak Ridge, now occupied by Taylor's, we wish to submit the following bid as rental for the building, based on the net sales for a lease period of five years with an option for a five year renewal period.

Our proposition is 2½% of net sales. This rental is based on the fact that we expect to meet prices and services of other department stores in this area, whose rentals are the equivalent or lower than the one we submit, and is contingent on a satisfactory arbitration to both you and us of all details in regard to the operation of a modern department store. We are definitely not interested in the type of operation you have at present.

As to our ability to operate a department store, that would be satisfactory to your community, we refer you to the local Chamber of Commerce, the Bank of Maryville, or any of our thousands of satisfied customers here in Blount County, where we have operated for the past thirty years.

Should you look with favor on our proposition, we will be glad to hear from you.

Very truly yours,

D. W. PROFFITT.

4. *Sam Shainberg's Dry Goods Store*

NOVEMBER 28, 1949.

Mr. C. M. WINFREY,  
Roane-Anderson Company,  
Oak Ridge, Tennessee.

DEAR MR. WINFREY: Pursuant to our conversation with you this past Friday, we herewith make our proposal for lease to operate department store at Oak Ridge in the premises now occupied by Taylor Department Store. General terms of our proposal are as follows:

1. Term of Lease: Five years, with option for renewal of five additional years.

2. Rental: Four percent of sales. Guarantee \$32,000 per annum.

3. Renegotiate privileges to be guaranteed us in the event working population decreases twenty-five percent from present level of employment, and in event subsequent plans in Oak Ridge permit additional department stores to locate in Oak Ridge. We believe that we could successfully operate this store and render the kind of service that the citizens of Oak Ridge would demand and require from a department store.

We have had years of experience operating such stores, and at the present time are operating several units of a similar caliber. We would, of course, be very happy to have you come down to Memphis and inspect some of these stores.

As far as Oak Ridge is concerned, should we be successful in negotiating the lease with you, we would plan the following program for the store:

1. Expenditure of approximately \$100,000 for fixtures, which we believe would allow us to completely air condition the store.

2. Carry an inventory of approximately \$250,000.

3. Establish a pricing system that would be competitive with Knoxville and consistent with good merchandising principles, which is something the present operator is not doing.

4. Generally operate this store in the same manner as we do where competition is intense, advertising very liberally and furnishing customer services such as delivery, credit facilities and other necessary items.

We understand that you are receiving proposals for the leasing of this store up to December 15. We would like for you to advise us how soon after December 15 we can expect word from you as to whether or not you are interested in our proposal. Our reason for this is that we have several other propositions under consideration, and, of course, if we will be successful in getting this unit, it will somewhat influence our plans regarding the others.

Yours very truly,

SAM SHAINBERG DRY GOODS COMPANY,  
NATHAN SHAINBERG, *President*.

5. *Wender*

DECEMBER 14, 1949.

Mr. C. M. WINFREY,  
Concession Department, Roane-Anderson Company,  
Oak Ridge, Tennessee.

DEAR MR. WINFREY: Confirming our conversation of the 14th, we wish to place a bid for the store building now occupied by Taylor's Oak Ridge Corporation, in Jackson Square.

We will pay as rental for said building, heat, and warehousing, six percent of gross cash sales, and cash collected on accounts, and on all credit sales and audit to be made of our books at the expiration of our lease and rent to be paid on all accounts considered good. We will guarantee a minimum rental of \$40,000 per year. The lease will run for a period of five years, with an option of renewing same for five years additional, with a clause stating that if the population is substantially reduced, or the AEC should substantially reduce the employment in the plants, to such an extent that it would be impossible to operate under the minimum rental we are paying that our lease could be renegotiated. Also in case the Master Plan

is carried out and the principal trading area is moved, and Jackson Square becomes a minor trading area, that our lease could be renegotiated.

If our bid is accepted, we will install, at our own expense, an adequate air conditioning cooling system, to be installed and ready for use in year of 1950. Also we will make every effort to purchase the fixtures from Taylor's that are usable, and add additional factory built fixtures to add to the appearance of the store, but if unsuccessful in purchasing these Taylor's fixtures we will purchase and install new, up to date, factory built fixtures. We feel that the volume of this store, by proper management and adequate stocks, can be greatly increased.

We plan to utilize all the floor space of the building for displaying and selling merchandise, and in order to do this, we would, of necessity, need additional warehouse facilities, which we would expect to be furnished under this lease. Most of the departments of Taylor's are being operated under sublease; some of these departments are not selling the volume of merchandise that should be sold from the department. This is due in some respects to lack of capital, management, and business experience.

If our bid is accepted, practically all the departments will be operated by us. It is our plan to carry complete lines of merchandise, and to operate generally along the same lines as big city department stores, offering for sale merchandise of quality covering all price ranges. We would, of course, expect the interior of the building to be painted before our tenancy begins. We plan to operate under the name of Wender's Department Store, a partnership composed of J. J. Wender, Nell Perkins Wender, Mrs. Joe E. Rogers, J. J. Wender, Jr., and C. M. Wender, and will operate under the personal management of J. J. Wender.

Enclosed you will find financial statements of the above-named parties. We will furnish adequate capital to make this a successful operation.

Thanking you in advance for all past courtesies, we remain

Very truly yours,

WENDER'S DEPARTMENT STORE.  
J. J. WENDER.

#### 6. Mercantile

DECEMBER 13, 1949.

ROANE-ANDERSON COMPANY,  
Commercial Realty Building,  
P. O. Box 456, Oak Ridge, Tennessee.  
(Attention: Mr. C. M. Winfrey.)

DEAR MR. WINFREY: In accordance with our previous conversation, we understand that you are asking for bids for the operation of a department store in the premises now occupied by Taylor's in Oak Ridge, Tennessee.

We are enclosing herewith copy of our latest financial report. We would like to suggest that if a contract were awarded to us for operating a department store in Oak Ridge we would operate this store under the same policy that we operate any other of our stores. We would like to call your attention to the basic policies of our company. These are enumerated in some detail in the attached financial statement.

Our company operates quite differently from the average or typical department store and in order that you may be fully acquainted with them, we are repeating here the comments which we made in our annual statement, copy of which is attached.

First, we believe in pricing our goods to meet the competition of the stores in our localities which sell at the lowest prices for comparable values. It is our experience that generally speaking, and with some exceptions, the chain stores are the businesses which do sell at the lowest prices in our communities. The result of following this low-price policy is that the mark-up percentage for our company (mark-up percentage is meant the profit spread or difference between cost and the retail price put on goods for sale) is definitely lower than that of department stores in general as evidenced by mark-up figures published by such sources as Harvard University Graduate School of Business Administration and National Retail Dry Goods Association (NRDGA). Selling goods at low prices cannot be continued profitably unless goods are bought advantageously as is done by successful chain stores. This requires centralized buying and to a considerable extent centralized merchandising and planning. Our company has been perfecting for some years now the organization necessary to operate in this manner.

Finally, to compete in prices with chain stores, and still operate profitably, operating expenses must be kept lower than those of the average department store

(again referring to published figures from generally recognized sources). We would be interested in operating a store in Oak Ridge on the following basis:

1. Rent: 2% of sales.
2. Lease: One five-year lease and five-year options.
3. Fixtures: On a long-term lease we would be willing to install our own fixtures; in connection with the installation of any fixtures we would reserve the right to remove such fixtures at the end of the lease.
4. Taxes: We understand there are no real-estate taxes.
5. We understand there is no insurance to be carried by us on the building.
6. We understand there are no real-estate assessments against the building.
7. We understand that the owner (Government) would pay for any building alterations and any further building repairs would be made by the owner.
8. We understand the owner will furnish all utilities, including heat, light, water, and so forth.
9. We would want to reserve the right to sublease the whole or any part of the store. In this connection we might point out that it is the policy of our company to operate practically all of our own departments. The only major department which we sublease is the millinery department; in some of our stores we do have leased photo studios, jewelry repair, shoe repair, etc.
10. Fire clause if the building were damaged by fire we understand the owner will repair or rebuild. Furthermore, if more than fifty percent of the building were destroyed, we wish the privilege of cancelling the balance of the lease.

If you are interested in the above tentative proposal, we would be glad to sit down with you and discuss it in some detail.

Very truly yours,

F. K. BRADLEY, *Vice President.*

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#### EXHIBIT 4

(Referred to on p. 43)

JANUARY 23, 1950.

To: Walter J. Williams, Director of Production, Washington.  
From: R. W. Cook, Manager, Oak Ridge.

#### POLICY AND PROCEDURE FOR SELECTION OF AWARD OF COMMERCIAL LEASES AT OAK RIDGE, TENNESSEE (EXCEPT HOUSING AND MANUFACTURING).

CS:RF

Since approval was obtained from the Commission in Washington on the Oak Ridge Office's commercial leasing program at Oak Ridge, the following policy and procedure has been used and is presently being used as a guide by the Agent and the Commission at Oak Ridge.

#### GENERAL POLICY

It will be the policy of the Oak Ridge Office to require sufficient advertising to secure the maximum practical coverage and the best possible proposal. The advertising, although designed to arouse interest on the part of persons or organizations who might be induced to submit proposals, usually will be informal in character. Formal invitations, detailed specifications, and formal bid openings are not considered necessary or practicable where building sites, buildings, or space in buildings are to be leased. Unlike the letting of construction contracts, we will have no predetermined specifications as to exactly what must be done by applicants.

The invitation will contain a brief description of the premises available and the general features of the lease form which will be acceptable to the landlord. Within this general framework, different applicants may desire to submit a wide range of proposals, adapted to the kind of business each is engaged in, and adapted to his business practices and policies. The investments to be made in buildings or improvements may vary widely between different applicants, and there is good reason for not restricting them within any narrow limits by detailed specifications. Similarly, the size of the stock of goods to be carried, the number of employees to be maintained, and other features of the business to be conducted are not susceptible of detailed specifications.

In order to be eligible, applicants may be required to show satisfactory qualifications with respect to financial ability and previous experience in the business. From those so qualifying, selections is made on the basis of the highest financial

return to the government for the type of operation best suited to meet an apparent community demand. In determining the highest financial proposal involving percentage leases, consideration will be given not only to the percentage of gross offered but also to the anticipated gross volume of business, in order to estimate the rent return in dollars. As long as there is a scarcity of available commercial buildings, it may be necessary, when leasing government-owned buildings, to consider the additional factor of community need. For example, if it were determined that for a particular kind of merchandise the community is adequately serviced by stores supplying high-priced lines, and there is a community need for a store or stores handling low-priced lines of that merchandise, we would consider only those applicants who would furnish the low-priced lines. Similarly, if there is a greater need for plumbers than electricians we would reject offers by electricians for the space involved. Where this factor of community need is considered important it will normally be taken care of by limiting the offering to the particular type of business needed. However, any person wishing to submit a proposal beyond these limits certainly has the right to do so, although at the outset the Agent, consistent with normal real estate practice, would in all probability not take this bid into final consideration unless there were extenuating circumstances.

The factor of community need will not be as significant where lessees are constructing their own building, although the choice of sites available will be limited to some extent by the requirement of the Master Plan.

1. *Solicitation of Proposals—Authorization to Lease.*—The Agent is authorized to lease government-owned land and buildings within the unrestricted area of Oak Ridge for commercial and other uses (except housing and manufacturing) subject to the approval of the Commission. The authority to arrange for leases of specific properties, for the occupancy by lessees of government-owned buildings and/or government land, is given when the specific properties, either improved or unimproved, have been assigned to the administration of the Agent by the Commission. Requests to enter into leases for premises not assigned to the Agent is made to the Commission when profitable usage is indicated.

a. The Agent clears with the Commission informally any proposed usage of government-owned premises which might conflict with the Master Plan or contemplated zoning restrictions.

b. In specific locations where a single type usage is desirable (service station, department stores, garages, hotels, theatres, etc). (The Agent advertises for and solicits proposals for this type of usage only.)

c. Where the property to be leased is suitable for varied types of usage, the Agent does not place restrictions upon usage in advertising for or solicitation of prospective tenants. The Agency may, however, direct its advertising to particular types of tenancy by using, for example, the phrase "suitable for ladies" wear, men's wear or specialty shops, etc." in the advertisement.

d. A community need for a specific type of service or merchandising may also be sufficiently urgent to limit the solicitation and advertising of the Agent to that category.

e. At the present time the Oak Ridge Office will not authorize the Agent to execute any lease without the prior approval of the Washington Staff which falls within one or more of the following categories: (1) the lease is to be awarded without advertising for competitive proposals; (2) the lease is to be awarded other than to the responsible applicant making the highest financial return to the government for the type of operation best suited to meet an apparent community demand; (3) the lease poses any significant policy questions; (4) the lease contains any terms which vary substantially from the approved lease form; and (5) a lease with federal, state, or local public agencies at nominal rental or with a nonprofit organization at reduced rental.

2. *Advertising Procedure.*—The advertising media to be used is decided upon and the copy prepared by the Agent, the following general procedure being used:

a. Newspaper advertising: Space in building, and land available for the construction of buildings, or other usage, is always advertised in one or more newspapers and notices placed in the Oak Ridge Post Office, except in unusual cases. The extent of such newspaper advertising is governed by the size and importance of the location to be leased. By way of illustration, a strategically located retail space suitable for a department store operation is advertised in at least one of the leading Knoxville newspapers. Except in unusual cases, recognized trade journals will also be used as a medium for advertising the premises to be leased. If the space is in a secondary retail category location and relatively small in size, advertising is limited to

newspapers published locally or in nearby communities. In every case, the amount of newspaper advertising is determined by weighing its advantages against the attendant expense on a sound businesslike basis. The advertisement is designed to give sufficient information regarding the premises to enable prospective applicants to determine if they desire to make further investigation of the available property.

b. Other solicitation methods: Whenever newspaper or trade journal advertising is used, this is supplemented by verbal or written solicitation of proposals from all parties known to be interested. It should be kept in mind that in accordance with customary commercial leasing practice, responsible tenants are usually obtained through direct contact and solicitation rather than through public advertising.

c. A complete confidential record of all solicitation of or inquiries from interested parties is maintained by the Agent in the form of memoranda to the files, copies of correspondence and résumés of telephone conversations, and a summary is transferred to the Commission in condensed form and/or by attachments to the final letter of recommendation from the Agent.

d. All previously interested parties, as well as those responding to the advertisements, are furnished all requested information available. This may be in verbal or written form as indicated by request for same. If more than casual interest is shown by the inquirer, special emphasis is placed by the Agent on the importance of a personal inspection of the property advertised and the Oak Ridge community in general, since the specific information usually requested is so broad in character and so diversified that it does not lend itself to a general specification sheet but must be based on the individual inquiry.

3. *Applications from Interested Parties.*—Applications are issued in triplicate to interested parties by the Agent together with an instruction sheet indicating the method of properly executing the application and the type of application required by the Agent.

a. Upon receipt of an applicant from an interested party, it is opened immediately, time stamped and processed by the Agent. The Agent then checks references, analyzes the proposal, and obtains all missing information or clarifies ambiguous statements in the application prior to the deadline established for receiving applications (in the event a deadline is established). Particular attention is given to clarification of applications, in view of the fact that the method of leasing government premises in Oak Ridge and local conditions differ substantially from those normally encountered in other communities.

b. Applications are kept in a highly confidential separate file for the particular location involved and are not available to anyone other than those responsible for the work involved including the negotiators or department head in charge of the particular negotiation.

4. *Selection of Applicant.*—As a basis for determining the most acceptable proposal received, the Agent employs the following procedure and policy:

a. All proposals are carefully analyzed in the light of the information contained therein. This includes information gathered from other sources, i. e., references, confidential bank information Dun and Bradstreet reports (special, if necessary), Chamber of Commerce reports, inspection of other operations conducted by the applicant, etc. This information is then coordinated and reduced to a comparison sheet for study by the negotiator or negotiators involved, including the rental manager and the division manager at a division staff meeting. In the event complete accord is not reached in this meeting, the entire analysis is reviewed by the Agent's Project Office prior to a final decision. The Agent recommends that the award be made to the responsible applicant whose proposal, in their expert opinion, represents the highest financial return to the government for the type of operation best suited to meet an apparent community demand. Other factors include, primarily, an evaluation of each applicant's experience, reputation, financial stability or resources, and ability to perform the tenant's obligations under the proposed lease. Consideration may also be given to an evaluation of his probable efficiency of operations and attainment of volume of sales and quality of services, amount of investment in the premises and business, extent of risk assumed, character of business, and such other factors as the public interest and fair and equitable dealing may require.

b. The recommendation of the Agent sets forth the reasoning for the selection of the most qualified applicant offering the best rental return, and is forwarded to the Commission for approval.

c. In unusual circumstances, two applicants may submit closely comparable proposals, but on different terms such as lower percentage rate with a higher guaranteed return or vice versa. In this situation, the probable expectancy of return and other factors, in each case is presented to the Commission for final determination.

d. In the remote instance that a group of two or more applications may be outstanding among the entire number of applications received, but so closely identical in their detailed proposal terms as to indicate the necessity of further negotiation with each in order to determine the best financial return, such a procedure is recommended to the Commission. If approval to this course is obtained, the Agent negotiates the best obtainable proposal from each and recommends the proposal selected.

5. *Approval of Recommendation.*—Upon receipt of notice from the Commission of approval or disapproval of a recommended applicant, the Agent notifies the interested parties of the decision reached.

a. If approved, the lease is prepared.

b. If disapproved, the negotiations are reopened in accordance with instructions received by the Agent from the Commission.

6. *Execution of Lease.*—After receipt of approval from the Commission the lease is prepared by the Agent and submitted to the Commission for review. After review, it is returned to the Agent with comments or approval for execution by the lessee and the Agent. Four copies of the lease are executed and forwarded to the Commission for approval consistent with standard practice; in some cases the Agent may require a performance bond. The original and duplicate copy are retained by the Commission, the other two copies being returned to the Agent, one for the Agent and one for the lessee. Three confirmed copies are then forwarded to the Commission for filing and necessary distribution. (In the event a performance bond is required, it will be executed on approved forms by the lessee at the time the lease is executed and the same number of copies of the bond as of the lease will be executed and distributed in the same manner.)

7. *Reasons for Not Making Public An Abstract of Commercial Proposals.*—Consistent with normal real estate practice it is necessary that the Agent treat information submitted by applicants on a confidential basis, similar to the treatment expected by a client of a licensed realtor in a normal community. We feel this is both necessary and appropriate for the following reasons:

a. In order to attract and hold the better merchants, it is necessary to treat this type of information as confidentially as they would expect in other localities.

b. In selecting the best possible proposal for a commercial facility, we consider all the steps taken leading to the final selection as a part of a negotiation. The steps we take in soliciting proposals for commercial facilities are closely parallel to standard government practice for obtaining competitive proposals on construction or procurement contracts. While this parallel procedure is practical in the solicitation of proposals, it is not practical to follow after the formal proposals are received. Unlike a construction or procurement contract, in obtaining proposals for commercial enterprise, it is not possible to define or standardize all pertinent factors considered into a standard form to obtain proposals that can be abstracted in a manner from which the proposal in the best interest of the government can be determined by an arithmetical extension. The parallel steps are taken for the purpose of insuring that a standard procedure is followed. In solicitation, all interested parties are accorded the same information and consideration, and the Agent recognizes the necessity of making clear to each that the proposals received are based on a clear knowledge of the requirements and the manner in which they will be evaluated and selection made; also that the final evaluation and selection will be based on the written formal proposals. In this manner we obviate any possible criticism of favoritism and have complete backup information to substantiate all selections made. Therefore, highly confidential business information pertaining to finances, operational recommendations, general public reputation, and the manner in which he proposes to conduct his business is asked for in lieu of detailed specifications. Public release of this type of information submitted by the applicant would deter highly qualified companies and individuals from submitting their proposals if they were aware that this information was to be made available to their competitors.

8. Rental figures, proposed amount of investment in the premises, type of operation and similar figures are the only data which might be abstracted and made public. However, a comparison of these figures alone would have no real meaning and would lend to misinterpretation by those not having access to all the confidential descriptive information which also was considered by the government and its real estate agent in making final selection.

R. W. Cook.

Field/rdl.

CC: R. W. Cook.

F. W. Ford.

R. Field.

L. C. Macneal, RA Co. (2).

OCA Reading File.

CSD Reading File.

AMEC M & R.

[Page 1]

ROANE-ANDERSON COMPANY

AGENT FOR THE UNITED STATES OF AMERICA

P. O. Box 456—Oak Ridge, Tennessee

ORD 1 Rev.

Commercial Realty Division

For:

Individuals

Application No. -----

Partnerships

Proposed Corporations

Date -----, 19--

Corporations

1. Type of Business Proposed -----

Trade Name -----

Address -----

Phone No. -----

2. -----  
Name of Applicant or Representative ----- Address ----- Phone No. -----

3. When was Corp. or Partnership Organized? ----- Applicant's Position -----

4. Location desired in Oak Ridge -----

5. Length of term desired -----

6. Amount of rental proposed (Percent of Gross Receipts and Minimum Guarantee or Flat Rental as the case may be) -----

7. Estimated cost of setting up proposed business:

Fixtures ----- \$-----

Alterations ----- -----

Inventory ----- -----

Total ----- \$-----

8. Utilities: (To be filled in by Agent)

(By Agent)

(By Applicant)

Electricity -----

Water -----

Heat -----

9. Maintenance in general: (To be filled in by Agent)

Interior (Including doors & windows) -----

(By Agent)

(By Applicant)

Exterior -----

Major Structural -----

10. Attach to this application a complete balance sheet, using the enclosed statement form.

11. List references as set out below:

Bank	Name	Street	City & State
-----	-----	-----	-----
-----	-----	-----	-----
-----	-----	-----	-----
-----	-----	-----	-----
-----	-----	-----	-----

Suppliers	-----	-----	-----
-----	-----	-----	-----
-----	-----	-----	-----
-----	-----	-----	-----
-----	-----	-----	-----

[Page 2]

	Name	Street	City & State	
Landlords -----	-----	-----	-----	
12. If individual, list all businesses operated during the past ten (10) years:				
Date	Type	Location	Annual gross business	Annual rent paid
-----	-----	-----	-----	-----
13. Have you ever been adjudged or declared bankrupt? ----- (For individual or partnership)				
14. Will additional funds be borrowed to set up proposed business? ----- If so, give amount and name of person or organization who will finance -----				
15. If corporation has been formed within last 12 months, members of the corporation must individually guarantee all obligations to the Government incurred by the corporation. Is this Agreeable? ----- Signatures of Guarantors: (Individual Financial Statement Attached to be filled out) -----				
16. The applicant will in general be required to adhere to the provisions of a standard agreement form which is available in the office of the Agent.				
17. Application must be filed with Roane-Anderson Company, acting as Agent for the United States of America at Oak Ridge, Tennessee, not later than -----, after which time no other applications for this location will be accepted. The Roane-Anderson Company reserves the right to reject any and all applications when it is deemed advisable in the interest of the Government or the Agent. All applications will be considered not only on the basis of rental proposed but also upon the experience, assets, integrity of, and investment proposed by the applicant. Date: ----- day of -----, 194 -----				
(Witness)	(Signature)	(Title)		
-----	-----	-----		
(Witness)	(Signature)	(Title)		
-----	-----	-----		
(Witness)	(Signature)	(Title)		
-----	-----	-----		
(Witness)	(Signature)	(Title)		
-----	-----	-----		

## Balance Sheet

Name	Date		
		ASSETS	LIABILITIES
<i>Current Assets:</i>		<i>Current Liabilities:</i>	
Cash		Accounts Payable	
Accounts Receivable		Notes Payable	
Less Reserve for bad debts		Accruals:	
Notes Receivable		Rent	\$
<i>Inventories:</i>		Wages	
Raw Materials		Interest	
In Process		Federal Taxes	
Finished Goods		Other	
Total Current Assets	\$	Total Current Liabilities	\$
<i>Investments (Describe):</i>		<i>Fixed Liabilities:</i>	
<i>Fixed Assets:</i>		Bonded Debt	
Land		Mortgages	
Buildings		Other	
Machinery & Equipment			
Trucks & Cars		Total Fixed Liabilities	\$
Furniture & Fixtures			
Misc.			
Total	\$	NET WORTH	
Less Reserve for Depreciation		Capital Stock:	Shares, Par Value
Intangible Assets (Describe):		Authorized	unissued shares
		Less	
<i>Deferred Charges:</i>		Surplus:	
Prepaid Expense, Interest, Taxes, etc.	\$	Earned	\$
Misc.		Paid In	
<i>Other Assets (Describe):</i>		Revaluation	
		Total Liabilities	
Total Assets	\$		\$

## EXHIBIT 5

(Referred to on p. 45)

## HISTORICAL RÉSUMÉ OF DEPARTMENT STORE OPERATION

Location: Group 2, Building No. 4, Broadway, consisting of 37,000 square feet on two floors, main and basement.

The building was completed in 1943 by the USED and a concession agreement negotiated by them with Miller's, Inc., of Knoxville, to operate a department store therein. This agreement was for a period of one year, subject to renegotiation for renewal after proper indication of such intent by the licensee to the licensor. It, likewise, contained provision for termination by either party upon the party desiring to terminate first serving, 30 days prior written notice to the other of its intention to do so.

The above referenced agreement was successfully renegotiated with Miller's, Inc., prior to the negotiation period of 1946 for the year 1946-47. Volume attainments and attendant net profits indicated at this time certain inequities in rental returns to the Government existed in several concession agreements. These apparent inequities were remedied by mutual agreement of licensee and licensor for payment of the indicated proper market value rental on the part of the concessionaire involved or by the opening to competitive proposals of the concession in order to determine the actual current value of the property at the time of such negotiation.

Solicitation by the Agent during this period of negotiation with Miller's, Inc., in the year 1946 produced several proposals from interested parties for the operation of this property. On approximately June 18, 1946, the Agent was contacted by a Mr. H. A. Levison, field representative of Darling Stores Corporation, to determine if their company could submit a proposal for this location on the basis of subleasing all departments other than their own to qualified operators. They were advised to submit a proposal if they so desired which would receive full consideration by this office along with all others received. The attached correspondence, marked "Exhibit A," covers this period of negotiation and type sublessee, with forecast of expected annual volume, which Darling Stores Corporation indicated they would give to the licensor if awarded the referenced location under a concession agreement.

A complete and full discussion of the problems involved at the time of negotiation between the representatives of the Roane-Anderson Company and the USED resulted in the selection and approval of the proposal submitted by Darling Stores Corporation in preference to the other proposals received by the Agent for the occupancy of this property. (See attached letter of recommendation dated July 3, 1946, and the reply of approval to same dated October 21, 1946, included in Exhibit A.)

In accordance with the terms of the proposal submitted by the Darling Stores Corporation and consistent with the negotiations conducted between the licensee and licensor, a document in the form of a concession agreement was executed by Taylor's Oak Ridge Corporation and the Roane-Anderson Company, acting as Agent of the U. S. Government. The Darling Stores Corporation simultaneously executed an agreement with the Roane-Anderson Company in which they guaranteed to the Agent, Roane-Anderson Company, acting in behalf of the U. S. Government, the performance of all contractual obligations of the Taylor's Oak Ridge Corporation, its wholly owned subsidiary.

The above-referenced agreement, in addition to the usual provisions of the accepted form of concession agreement, provided for the following:

a. The optional right of the licensee to renew the agreement prior to the expiration date of the first year's term of occupancy for two successive one-year periods under the same terms and conditions, provided all other contractual obligations were performed in a reasonable manner.

b. A mutually acceptable safeguard for the amortization of initial fixturing expense by the licensee was agreed upon and became a part of the referenced concession agreement.

c. The right of termination was established and defined in the signed document as indicated in the negotiations for same. (See Exhibit B.)

On May 19, 1947, the Agent was notified in writing that the licensee desired to exercise the optional right contained in his agreement for an additional one-year period commencing September 1, 1947, under the same terms and conditions of the expiring agreement. This action was accomplished by modifications to the original document as covered in "Exhibit C."

On August 26, 1947, a visit from Mr. Stanley Roth indicated clearly the difficulty Taylor's were experiencing in obtaining satisfactory sublessees and

the apprehension felt by them in obtaining their anticipated volume figures. Copies of letters covering this meeting are attached as "Exhibit D" along with other correspondence pertaining to the difficulty experienced by the Agent in getting this modification executed within a reasonable length of time.

On March 20, 1948, we were again notified of the desire of the licensee to discuss the renewal of his concession agreement for the period September 1, 1948, to August 31, 1949. Correspondence covering this renewal and the request for the insertion of a new termination clause in lieu of the original one is contained in "Exhibit E."

On April 28, 1949, a Mr. E. L. Hall, representative of the Marx Realty & Improvement Company, Inc., of New York, Darling Stores Real Estate Agent, called on the Agent for the purpose of negotiating a new agreement providing for a lowered percentage of rental. (See copy of memorandum to the files dated April 29, 1949, and attached correspondence listed in chronological order under "Exhibit F.")

From the statements contained in the copies of correspondence, telegrams, and memoranda designated as "Exhibit F," the following logical conclusions in our opinion may be reasonably drawn:

1. At all times during these negotiation proceedings, beginning as early as April 1949, the referenced concessionaire was fully advised of the procedure necessary wherein any reduced rental payment to the Government was involved in any way whatsoever.

2. The fact that anticipated volume was never reached and that each year's operation materially declined in volume was mutually recognized by both interested parties. It was Taylor's contention that this condition was primarily due to their inability to secure "qualified" subleases by reason of their short-term agreement. This same reason was advanced as the cause of their reluctance to promote sales and good will by proper advertising and the installation of such normal department store conveniences as delivery service and charge accounts.

3. In order to overcome these difficulties, the Agent endeavored to renew the expiring agreement under the same rental percentage but containing an acceptable minimum guarantee to the licensor for a period of one year only. This, in our opinion, would permit the concessionaire to continue in operation until such time as the firm leasing program was officially approved. The concessionaire, however, was insistent upon the inclusion of optional renewal privileges covering three full years for the licensee's benefit only. To this action, the Agent was opposed by reason of the performance record of this operation through the preceding three years. (See attached exhibits.)

4. In August of 1949, official approval was received enabling the Agent to execute firm leases under prescribed conditions. The concessionaire's agent was immediately advised of this policy and was offered an extension to his then expiring agreement for a period of six months under exactly the same terms and conditions of rental payment. This offer eliminated any provision for payment of a minimum guarantee or any reference to renewal beyond the extended expiration date. The agent for the concessionaire, after consultation with his client, advised this office that such an extension to January 31, 1950, of their original agreement would be acceptable. The Roane-Anderson Company then executed such a modification with Taylor's Oak Ridge Corporation. (See Exhibit G.)

5. The Roane-Anderson Company advised the concessionaire's agent of its intention to advertise the subject premises publicly for rental under the terms of a lease in lieu of a concession-type agreement and to solicit qualified and recognized department store operators to submit a proposal for entering into such a lease where possible.

6. The basic features to be considered in making a recommendation for awarding the proposed lease were as follows:

- a. The general character of the operation proposed, i. e., whether or not it envisioned a true department store operation in the generally accepted sense of the definition, such as Miller's, Inc., S. H. George & Sons, Proffitt's, Loveman's, Inc., Davison Paxon's, etc., who operate the store in its entirety with a few subleased departments, such as shoes, photo shop or fountain, or whether it would consist almost entirely of subleased departments with the lessee directly operating only one phase, such as women's and childrens' ready-to-wear, or whatever it chanced to be.

- b. The term of the lease proposed.

- c. The percentage offered, the minimum guarantee to be made and the relationship of these factors to reasonable assumptions of potential volume based on the applicant's past performance record.
- d. The indication of the applicant's aggressiveness in merchandising, such as, but not limited to, the installation of a charge account and daily delivery service, the installation of proper air conditioning, the willingness to promote good will and volume by extensive advertising, seasonal and promotional sales, etc.
- e. The ability to stock, merchandise and compete successfully in the local market in all departments in order to cater properly to the needs of the community as well as produce an acceptable volume of total sales.
- f. The assumption by the proposed lessee of all maintenance and alteration costs other than those of a structural nature.
- g. The separate payment by the lessee of all utility charges other than heat.
7. These factors were verbally or in writing carefully pointed out to all prospective applicants for the subject location as well as to all representatives of Taylor's Oak Ridge Corporation, including its president, field representatives, local manager, agent, etc., by the representatives of the Roane-Anderson Company. (See Exhibit H.)
8. The statement of "preferential" treatment alleged by Taylor's is entirely untrue. However, unbiased and fair consideration of the remedial measures of operation as well as the proposed rental contained in Taylor's letter of intent was assured and fully given by the Agent in its evaluation of the said letter.
9. Taylor's Oak Ridge Corporation as well as its sublessees were fully aware of the above conditions inasmuch as nearly all had entered into discussions of the matter with the Roane-Anderson Company long before any decision in the matter was reached. A great many, including Taylor's themselves, had expressed great interest in obtaining other premises in Oak Ridge in the event Taylor's were unsuccessful in obtaining a lease.
10. The intimation of negotiations with others after the deadline established for receiving proposals is entirely untrue. Several operations were personally inspected by representatives of this office for the purpose of evaluation only, but no further negotiations of any kind whatsoever were conducted with any of the six applicants.
11. The letter of recommendation was sent to the Atomic Energy Commission's representatives only after the most exhaustive study, analysis, complete review and evaluation of the entire six applications by the Roane Anderson Company's Commercial Realty Division, Project Management and Representatives of the Commission's own Commercial Services Division. The subject letter of recommendation and the concurrence therein by the Commission's Contracting Officer's Representative is attached hereto as Exhibit I.
12. Notification of all applicants as to the decision reached by the Roane-Anderson Company and the Atomic Energy Commission was accomplished by wire on January 10, 1950. These wires with the cover letter to each applicant are contained in Exhibit J. It must be noted that to date no unfavorable comment on its recommendation has been received from any of the other applicants other than the allegations of the particular unsuccessful applicant which are attached hereto as Exhibit K.

The above is a complete and factual statement of the entire transaction to date and represents our best business judgment in the selection of a fully qualified applicant for a department store lease offering the best anticipated return from the subject premises to the Atomic Energy Commission.

Prepared by C. M. WINFREY.  
(Attachments: Exhibit I.)

ROANE-ANDERSON CO.

<sup>1</sup> All exhibits to this résumé, except exhibit I, are on file at the Office of the Joint Committee on Atomic Energy.

[Copy]

## EXHIBIT I

JANUARY 4, 1950.

Subject: Recommendation for Department Store.

OFFICE OF COMMUNITY AFFAIRS,  
U. S. Atomic Energy Commission,  
Box 365, Oak Ridge, Tennessee.  
(Attention: Mr. L. Paul McDowell.)

GENTLEMEN: On May 31, 1949, the Agent was notified in writing by the present concessionaire, Taylor's, Inc., a Tennessee corporation, through their real-estate agent, Marx Realty and Improvement Co., Inc., of New York, that the concessionaire, Taylor's, Inc., desired to renew their agreement under a reduced percentage rate of rental. A copy of the referenced notification is attached for your files.

Subsequent meetings were held both in this office and the office of the Marx Realty and Improvement Co. between representatives of the Roane-Anderson Co. and the concessionaire's agent. In these meetings it was fully explained to the concessionaire's agent, by the representatives of this office, that any reduction in rental paid by their client could be accomplished only by obtaining the existing market value of this property through the advertising for and the obtaining of competitive proposals. To this method, they agreed, and the normal expiration date of August 31, 1949, was extended by modification to January 31, 1950, under the terms and conditions of the original agreement. This was done in order that the present concessionaire might be able to enjoy the expected Christmas volume and to provide additional time for the Agent to develop competitive proposals. A dead-line date of December 15, 1949, was established, beyond which no additional proposals were to be received.

Advertising, copies of which are attached, together with intensive solicitation by direct letters, long-distance telephone, and personal interviews produced a total of six bona fide proposals. These proposals are in the form of letters of intent to which are attached the Dun & Bradstreet reports and financial statements, where obtainable, for your review and analysis which are to be returned to this office after study.

It was clearly indicated in the solicitation results obtained by this office that the subject location held little or no appeal to the nationally recognized operator, i. e., Gimbel's, Macy's, Associated Dry Goods, May Stores, Interstate, Allied, J. C. Penney Co., Sears, or Montgomery Ward. Interest, however, was indicated by some in the new shopping center when built provided sufficient operational square footage space was obtainable. In general, the consensus of opinion indicated that a local operator of sufficient size to service the store out of Knoxville would be the most logical prospect if obtainable. This possibility was exhaustively explored by the Agent with the two leading department store operators in Knoxville but with negative final results. Uncertainty over the possible effects of the proposed new area, coupled with the expense of moving to same, if possible, seemed to be the principal objection together with the problems of competent personnel and their own expansion programs now in progress. We are attaching individual letters covering this subject from the two leading prospective operators in Knoxville; namely, Miller's, Inc., and S. George & Sons, which are self-explanatory.

The attached letters from Gimbel's, Macy's, and Penney's indicate the same effort expended by this office to have the complete picture of the Oak Ridge operations submitted to their respective Boards of Directors for final decision after an on-the-ground appraisal by their real estate and merchandising executives. The complete file on all contacts is also included for your review and is to be returned to this office.

The six proposals received are from one large department store chain, the Mercantile Stores Corporation, whose scope is covered thoroughly in their attached annual report, two from smaller chains, primarily specialty shop type operations with subleased departments where space permits; namely, Sam Shainberg Dry Goods Co. and the Darling Shops, and three independent operators; namely, Loveman's of Chattanooga, Proffitt's of Maryville, and John J. Wender. The latter operates a group of five smaller operations in adjacent towns as well as the major portion of the basement space in the subject location.

It is reasonable to assume that the proposals submitted by Loveman's, Mercantile Stores Corporation, and Proffitt's cover the only department-store operations of appreciable size offered where a background of years of experience in a complete department-store operation is evidenced. Mr. Wender is thoroughly experienced in the mercantile business, however he conducts his business through separate facilities in the same community, such as, a limited department-store operation plus an adjoining furniture store and a variety store. He, likewise, conducts a men's store and baby shop in Oak Ridge in addition to the several departments in the basement location of Taylor's, Inc., covering home appliances, work clothes, boys' shop, furniture and household wares. Mr. Wender has indicated his intention, if permitted to do so and should he be awarded the department-store location, of consolidating his local interests and moving here to supervise and manage personally the one large operation.

Analysis of the report and findings of the survey conducted by the University of Tennessee indicate a large dollar volume is being spent off the area in most trade lines with the exception of food, drug and service items, i. e., gasoline, motor cars, etc., where convenience and local service is an important factor. This condition is fully recognized by the Agent, and, in our opinion, is due primarily to the very close proximity of a large metropolitan shopping area in Knoxville and secondarily to the limitations of the local shopping facilities in both size and number. The primary reason, we believe, is permanent and will continue to exist while the secondary reason can be improved when larger facilities are available in greater numbers to able merchandisers of all types. This, we believe, is particularly true in the fields primarily catering to the woman buyer, i. e., the department store, ladies ready-to-wear, shoe and specialty shops. The bulk of this present off-area buying, aside from the reasons enumerated above, has been stimulated by the enticement of credit buying via the charge account or budget plan offered to the local consumer plus delivery to the door by the established stores of Knoxville when it was unobtainable in the local facilities. An established and well promoted charge account buying habit pattern is difficult to interrupt even by the most experienced and qualified merchandisers. It is, therefore, our considered opinion, based on past experience with a well qualified operator and a population figure exceeding by double the present figure, that a million and a half is about the dollar potential of the present store facility. This could, by diligent promotional effort, conceivably be boosted to a maximum figure of two million but would require the top-flight operation of \$70 per square foot while the established national average is around \$50.

Assuming your office agrees with the Agent's selection of the two most desirable proposals, which are the proposal submitted by Loveman's and the one offered by John J. Wender and associates, we wish to make the following summary:

1. The proposals of Mercantile Stores Corporation and Proffitt's can be passed over by reason of the low percentage offered and the omission of any minimum guarantee.

2. The Sam Shainberg proposal together with the Darling Shops proposal offer a reasonably good percentage and a fair minimum guarantee but, in our opinion, cannot be truly classified as recognized department store operations in the generally accepted definition. Both are exceptionally well financed operators and are A-1 in their respective fields.

3. The John J. Wender offer is by far the best guaranteed return and offers the highest percentage rate of all volume obtained. He further agrees to completely fixture and air condition the premises, install a budget account system and furnish complete delivery service. The store would be operated as a family partnership, and the lease would be guaranteed by the individual partners. Their finances appear to be ample, and Mr. Wender has an excellent reputation as a businessman.

4. The Moore brothers, operating Loveman's of Chattanooga, conduct a first-line department store in that city doing a volume of approximately six million annually. They are exceeded in volume only by Miller's of that city which has a great deal larger amount of actual selling space and a prime location. This store, as well as the others, has been personally inspected by representatives of this office and is a well-rounded operation in every way. It is well thought of by our local residents as indicated by the number of charge accounts now active in Oak Ridge. In the estimation of Mr. Moore, the president, a volume well exceeding a million dollars annually can be anticipated with a gradual increase as they become established. The sales pro-

motions on their part anticipate, as indicated in their letter of intent, a 3% plus appropriation for advertising alone. In the opinion of this office, Loveman's would give a highly creditable department store operation installing charge accounts, delivery service, and probably air conditioning. The volume would be limited only by the physical limitations of the property involved and the support the available population would give to such an institution. Naturally, it can never attain in the subject location a store comparable in selectivity to either their home store or the two major stores in Knoxville.

In analyzing the above summary which selects the two proposals which are, in our opinion, the most desirable of these offered, we have made the following table of rental returns for your information.

	Volume	Rental		Volume	Rental
Loveman's—4-3½-3%: Minimum \$25,000-----	\$666,666	\$26,666	Wender's 6%: Minimum \$40,000-----	\$666,666	\$39,999
	750,000	30,000		750,000	45,000
	850,000	34,000		850,000	51,000
	900,000	36,000		900,000	54,000
	1,000,000	40,000		1,000,000	60,000
	1,250,000	48,750		1,250,000	75,000
	1,500,000	57,500		1,500,000	90,000

From the above rental table, it is apparent that Loveman's must exceed by \$333,333 the volume required by Wender of \$666,666 annually to meet the minimum guarantee of \$40,000. This \$666,666 is a little over \$200,000 less than the subject store is currently doing in volume. Thus, it would appear that since Wender guarantees the same rental return to the landlord that Loveman's would pay on an assumed \$1,000,000 annual volume, his would be the safest anticipated return in view of the present shopping habits of the local population. Assuming Wender could increase the present volume 11% or approximately \$100,000, he would pay \$60,000 rental, whereas Loveman's would have to increase the present volume \$700,000 to equal Wender's payment of \$60,000 on the increase of only \$100,000.

It is our considered opinion, however, that Loveman's operation would consistently do a million or better annually so the rental can be reasonably anticipated to equal or exceed \$40,000 annually. We are also firmly convinced that the percentage figure offered by Loveman's is a top percentage for this type operation as indicated in the proposals submitted by Mercantile, Proffitt and Penney (later withdrawn), and in our contacts with other high-grade department store directors.

The introduction of this type operation to Oak Ridge should have a stimulating effect on the other merchants, as, in our opinion, the Moore Brothers will make a strong bid for the local market in advertising, display, and sales effort. This cannot help but have a general over-all beneficial effect. For this reason only, the Agent will recommend for your approval the Loveman proposal if you, as landlord, are willing to accept the possibility of a lower rental in exchange for the probability of a higher-grade operation generally doing an estimated higher dollar volume.

The above recommendation is in no way a reflection on the capabilities of Mr. Wender as a merchant, since, in our opinion, he might conceivably pay a better actual dollar return to the Government than Loveman's. The two types of operation are different in classification and the cost of doing business in the modern department store using every means to acquire volume prohibit the same percentage allocation to occupancy rental as is possible in a smaller type operation. The charge-a-plate, delivery and promotional costs represent a high percentage figure alone not to mention the cost of buying affiliations in the metropolitan markets.

The criticism of the local department store operation with which your office, as well as the Agent, is familiar could probably best be alleviated by the installation of the Loveman type store even though the percentage rate and minimum rental guaranteed is considerably lower than that obtainable from Mr. Wender. It should, likewise, be pointed out that due to the possibility of the new center, the tenancy of the subject premises by Loveman's would probably be shorter than would be the case with Wender for obvious reasons; however, this factor is of importance to the landlord only in the over all plan.

Due to the many details involved in executing the proposed lease with its provisions for warehousing, termination under certain conditions and renegotiation privileges, your earliest reply is respectfully requested, in order that all interested parties may be notified.

Yours very truly,

ROANE-ANDERSON COMPANY,  
HAROLD B. WHITE,  
*Manager, Commercial Realty Division.*

HBW:CMW:O.

cc—Messrs. Macneal.  
Powell.  
Welty.  
Winfrey.  
Tevis.  
Asher.

UNITED STATES ATOMIC ENERGY COMMISSION,  
*Oak Ridge, Tennessee, January 10, 1950.*

Subject: Department Store.  
ROANE-ANDERSON COMPANY,  
*Post Office Box 456, Oak Ridge, Tennessee.*  
(Attention: Mr. Harold B. White.)

GENTLEMEN: Reference is made to your letter of January 4, 1950, wherein you presented a resume of your efforts to secure proposals for the operation of a department store in Oak Ridge and your conclusions reached in this regard.

This office concurs with your recommendation that Loveman's, Inc., of Chattanooga, appears the best qualified, by reason of experience and operational knowledge, of the applicants to establish and operate a modern, first-class department store in Oak Ridge. As indicated in the attached analysis, it is felt that this type of operation is needed in the community and will do a volume of business sufficient to assure an annual rental equal to or exceeding any proposed by the other applicants.

In view of the above you are authorized to enter into a lease with Loveman's, Inc., for the operation of a department store upon the terms and conditions set forth in your letter referenced above. You are also requested to immediately notify all other interested parties of the award.

Very truly yours,

L. PAUL McDOWELL,  
*Representative of the Contracting Officer.*

Encl.:

Analysis Sheet.

Endorsement 1-13-50 LCM:CCP:HTW:CMW:GLT:GA:SSS:GM.

For your info and files, Mr. Winfrey & Asher follow.—H. B. W.

#### ANALYSIS: SELECTION OF DEPARTMENT STORE OPERATOR, OAK RIDGE, TENNESSEE

*Solicitation Program.*—For the past four months RACo. has engaged in an extensive program of solicitation to secure proposals for the lease and operation of a department store in the premises now occupied by Taylor's. Proposals were invited through advertisements in trade journals and newspapers, letters and personal contacts with a wide range of interest being aroused as evidenced by the files supporting this analysis.

*Results.*—Six firm proposals were produced, each described as follows:

1. Mercantile Stores Company, Inc.—New York, N. Y.  
Operation: Large department store chain featuring low-priced merchandise; cash-and-carry, lay-by accounts, etc.  
Rent: 2% of gross receipts, no minimum.
2. Proffitt's Department Store—Maryville, Tenn.  
Operation: Small, first-class department store individually owned, features usual charge account and delivery service.  
Rent: 2½% of gross receipts, no minimum.
3. Taylor's—Oak Ridge, Tenn.  
Operation: Specialty Shop chain (Darling Shops) featuring sub-leased departments.

## Rent:

- (a) 4.62% of gross receipts, \$36,000 annual minimum.
  - (b) 4% on first \$800,000 plus 3% on next \$800,000 plus 2½% on all sales in excess, \$44,000 annual minimum.
  - (c) 2½% of gross receipts, \$25,000-\$36,000 annual minimum.
4. Sam Shainberg Dry Goods Company—Memphis, Tennessee.  
Operation: Small department store chain featuring low priced merchandise.  
Rent: 4% of gross receipts, \$36,000 annual minimum.
5. Wender's—La Follette, Tennessee.  
Operation: Individual owner of several small variety stores, including basement operation in Taylor's.  
Rent: 6% of gross receipts, \$40,000 annual minimum.
6. Loveman's, Inc.—Chattanooga, Tennessee.  
Operation: Large, first-class department store individually owned, features all department store services.  
Rent: 4% on first \$1,000,000 plus 3½% on second \$1,000,000 plus 3% on all sales in excess, \$25,000 annual minimum.

Each of the above proposals are based upon a term of 5 years with option to renew for additional 5 years. Each is also qualified by a provision that upon advent of New Commercial Center the rental rates would be subject to renegotiation.

The six proposals can be classified into three categories of consideration:

1. Least: While proved department-store operators with excellent qualifications, Mercantile and Proffitt eliminate themselves by low rental offered and no guarantee.

2. Fair: Taylor's is a known quantity both as to type of operation and volume. While Shainberg appears a better-qualified operator, it would still be a "specialty type" venture with no expectation of making inroads on the business now going to the Knoxville area. The main attraction in these two proposals is the percentage and guarantee offered.

3. Most: Only on the basis of highest percentage and guarantee offered does Wender's proposal warrant serious consideration whereas Loveman's offers highest operational standards as well as highest anticipated volume of business.

*Loveman's and Wender's.*—An analysis of the two proposals most seriously considered must include the following basic comparisons:

1. Loveman's: The resources, experience, and operational knowledge of Loveman's as related to a department store are reflected in the Chattanooga store which has operated successfully for the past 75 years and is currently doing an annual volume of approximately \$8,000,000. A careful reading of the Loveman proposal indicates that they are approaching the Oak Ridge venture with the confident expectation of doubling Taylor's present volume (\$880,000) by establishing a department store in the true sense, complete with charge accounts and delivery service.

2. Wender's: Mr. Wender is a capable operator of five small variety type stores in Lake City, La Follette, and Jellico. In addition he operates the Baby Shop and Men's Shop (now on bid due to request for rental reduction) in Grove Center as well as subleasing the major portion of Taylor's basement. Mr. Wender has qualified his proposal as to services he intends to introduce and he indicates no previous experience in a department store operation of this scale.

With the above facts the following basic assumptions appear logical as related to volume and rental:

1. It is generally conceded that the present department store facility in Oak Ridge has a potential annual volume of \$2,000,000. The present operator is doing only \$880,000 annually, leaving approximately \$1,200,000 of business going into the Knoxville area and other sources of competition.

2. From the qualifications presented by each operator, Loveman's appears the only one equipped to make sizeable inroads on the Knoxville business. It is our belief, shared by RACo., that Loveman's will average an annual volume of \$1,250,000 during the first 3 years of the lease. This volume will return an average annual rental of \$48,750 for the property. Beyond actual rental received, we feel that a store of the type of Loveman's will stimulate business for other merchants in the Jackson Square area, the Government benefiting from increased volume. Another factor to be considered is the selection of a department store operator for the New Commercial Center;

we feel that an established Loveman's, offering quality service and doing a high volume, will be the natural choice by the developer of the New Center.

3. Weighing all the facts available, it cannot be readily seen where Wender's can expect to increase the present \$880,000 of Taylor's. On this basis he would pay \$52,800 rental from which must be deducted the cost of interior painting estimated at \$3,000 which he expects lessor to do. This would leave an average annual rental of \$51,800 for a three-year period. It seems a further reasonable assumption that Wender's is not likely to hold the present Taylor's volume. This assumption can be based on the fact that he has demonstrated no merchandising talents in the Taylor basement operation to offset his decreasing volume; that his previous experience is limited to variety type stores in small coal mining communities; that his proposal indicates he does not contemplate complete department store services; that the consumers in Oak Ridge will not support a mediocre or specialty type department store to any extent near its recognized potential. If Wender's drops to \$800,000 volume, which decline we feel is very probable, his rental would be \$48,000. The RACo. analysis is predicated upon Wender's increasing the present volume of Taylor's to a \$1,000,000 and paying \$60,000 rent; we take issue with this assumption inasmuch as it is supported only by that fact that Wender is a successful operator in variety type stores which parallel in no way a modern department store.

*Conclusions.*—In our best judgment we conclude that:

1. Oak Ridge can support a first-class department store.
2. Loveman's is the only applicant equipped to retain and increase sizeably the present volume.
3. Loveman's will average annually \$1,250,000 and pay a rental of \$48,750.
4. Wender's most optimistic expectation would be to retain the present \$880,000 volume with the preponderance of evidence indicating a decrease.
5. Loveman's will assure high operational standards for Oak Ridge residents with a consequent rental equal to or exceeding that which could reasonably be expected from Wender's.

#### EXHIBIT 6

(Referred to on p. 50)

#### LOVEMAN'S, INC., LEASE

Principal Contract No. W-7401 eng-115  
Roane-Anderson Co. Lease Agreement No. 12

#### LEASE AGREEMENT AT OAK RIDGE, TENNESSEE

Lessor: Roane-Anderson Company, as agent.

Lessee: Loveman's, Inc.

Term: Begins March 1, 1950. Ends February 28, 1955.

1. This Lease made in quadruplicate as of the 1st day of March 1950, between Roane-Anderson Company, a Tennessee Corporation having its principal place of business in Oak Ridge, Anderson County, Tennessee, acting in the capacity of Agent for and in behalf of the United States of America under Contract No. W-7401 eng-115 dated February 14, 1944 with the United States of America, transferred by Executive Order 9816, dated December 31, 1946 to the United States Atomic Energy Commission and authorizing said Agent, among other things, to manage, operate and/or maintain facilities, utilities, roads, services, properties and appurtenances situated within and/or outside the Oak Ridge Area in the Counties of Anderson and Roane, State of Tennessee, and to enter into agreements covering the use and occupancy of buildings and to lease property, sometimes hereinafter called "Lessor," and Loveman's, Inc., 800 Market Street, Chattanooga, Tennessee, a Tennessee Corporation, sometimes hereinafter called "Lessee,"

Witnesseth that:

2. Lessor, for and in consideration of the rents, covenants and agreements of Lessee herein contained, hereby leases unto Lessee the following described property of the United States of America situated in the aforesaid Oak Ridge Area, to wit: All those certain premises consisting of approximately 18,631 square feet of the main floor and approximately 18,075 square feet in the basement of the east portion of Building No. 1836-T located on the south side of Broadway and

east of Towne Road in Oak Ridge, Anderson County, Tennessee, more particularly described in Appendices "A" and "B" hereto attached and made a part hereof, together with the facilities, equipment, fixtures and other improvements used exclusively as a part thereof, all of which are hereinafter referred to as the "premises."

Further in consideration of said rents, covenants and agreements of Lessee, Lessor, during the term of this lease, will make available to Lessee at no additional rental approximately 9,000 square feet of storage space in the Oak Ridge Area suitable for storage in connection with the operation of Lessee's business under this lease. This space will be made available to Lessee under separate agreement to be executed by the parties. The location of such space will be determined by Lessor and may be changed from time to time at Lessor's option; provided, however, that in the event Lessor elects to change the location of such space, Lessor shall bear all reasonable moving costs and expenses incurred by Lessee.

This lease is made subject to the reservations and exceptions and upon the conditions stated herein.

3. *Term.*—To Have and to Hold said premises to Lessee for and during the term of five (5) years commencing on the 1st day of March, 1950, and ending on the 28th day of February, 1955. Lessee shall have the right, if this lease shall then be in force and Lessee is not in default hereunder, to renew this lease for an additional five (5) year period on the same terms and conditions as herein contained (except that the renewed lease shall contain no covenant for renewal) by giving written notice of his intention to renew to Lessor at least one hundred twenty (120) days prior to the expiration of the current five year term.

4. *Warranty.*—Lessor covenants with Lessee that, conditioned upon Lessee's performance and observance of all his covenants and agreements herein, and subject to the conditions and other rights herein reserved, Lessee shall have quiet and peaceable possession of the premises during said term against the claims and demands of all persons claiming or to claim by, through or under the Lessor, Commission or Government.

5. *Scope.*—Lessee covenants with Lessor that the premises shall be occupied and used solely for the following purposes and/or such other purposes, if any, as may be authorized in writing by Lessor: The operation of a retail department store.

6. *Rental; Records.*

a. Lessee agrees to pay to Lessor as rental for this lease an amount equal to four percent (4%) of the gross receipts from all sources derived from or arising out of the operation of all business conducted under this lease; provided that whenever said gross receipts exceed \$1,000,000 in any twelve month period beginning March first of any year during the term of this lease, or any renewal thereof, the percentage rate applicable to the excess of gross receipts over \$1,000,000 shall be reduced to three and one half percent (3½%) for the balance of such twelve month period; provided further that whenever said gross receipts exceed \$2,000,000 in any such twelve month period, the percentage rate applicable to the excess of gross receipts over \$2,000,000 shall be reduced to three percent (3%) for the balance of such twelve month period. As used in this lease "gross receipts" shall mean the total amounts of the sales prices, valued in money, whether collected or received in money, merchandise or services, and more particularly:

(1) Amounts collected or received on sales of all merchandise of every sort whatsoever and amounts collected or received on charges for all services afforded or performed, including sales or charges made by Lessee or any other person or persons selling merchandise or performing services of any sort in, upon or from the premises or any part thereof, and interest paid by customers on deferred payments. If lessee sublets or takes or permits any other action referred to in paragraph 8. below in accordance with that paragraph, gross receipts (although including the gross receipts of any assignee, sublessee, licensee or other person occupying or making any continuing use of the premises) shall not include any payments or other compensation due or paid by any such assignee, sublessee, licensee, or other person to Lessee for the privilege of occupying or using the premises or conducting business therein; provided, that with respect to coin operated telephones or newspaper racks from which Lessee does not collect the receipts, gross receipts shall include only such amounts, if any, as are paid Lessee by the person maintaining or using such telephones or racks.

(2) Gross receipts shall not include any amounts collected or received after the effective date of expiration or termination of this lease; provided, however, that, in lieu of such amounts, there shall be included in Lessee's

gross receipts for the final month (or portion thereof) of the lease all of Lessee's outstanding accounts receivable which arose out of the business conducted under the lease, except those upon which no payment has been received within 90 days immediately prior to the effective date or expiration or termination of the lease and which have been charged off as worthless.

(3) Gross receipts shall not include any of the following items if properly evidenced in a manner acceptable to Lessor: Cash refunds and adjustments; trade-in allowances; merchandise cancellations; trade discounts and other credits of a similar nature allowed at the time of sales; transfers of merchandise to other business establishments owned wholly or in part by the transferor (or, if the transferor is a partnership, owned wholly or in part by one or more of the partners thereof) provided, however, that this shall not be construed as permission for the transferor to maintain exclusive or substantial warehousing for any business establishment located outside the Oak Ridge Area; small transfers of merchandise to any business establishment in Oak Ridge, as a convenience to said business establishment for resale at retail; luxury, excise, sales, or use or other taxes levied by either the Federal, State or local governments or other duly constituted authority which are required by law to be separately paid by or charged to customers and remitted direct to such governmental authority.

b. Lessee shall, within twenty-five (25) days after the close of business on the last day of each and every month of the calendar during the term of this lease or any renewal thereof, (and continuing until all percentage payments accruing under this lease or any renewal thereof have been paid), state, render and deliver to Lessor a statement in writing, sworn to by Lessee (or if Lessee is a corporation or partnership, then by a duly authorized officer or partner), showing in detail the gross receipts as defined above, collected or received during such month of the calendar, and shall pay the percentage of gross receipts for that month and any other sums due hereunder to Lessor.

c. Lessee hereby unconditionally guarantees to pay Lessor a minimum annual rental of Twenty Five Thousand Dollars (\$25,000.00) for each twelve month period beginning March first of any year during the term of this lease and any renewal thereof. The amount required (if any) to make up such annual rental, after crediting Lessee with the aggregate monthly rentals paid for each such annual or twelve month period (in accordance with subparagraphs a. and b. above) shall be paid in full by Lessee within twenty-five (25) days after the last day of the last month of each twelve month period. In the event this lease is terminated for any reason whatsoever during any such twelve month period, said minimum annual rental shall be prorated for such twelve month period and any amounts due Lessor, after crediting Lessee with the aggregate monthly rentals paid for the preceding part of such twelve month period (in accordance with subparagraphs a. and b. above) shall be paid in full by Lessee within twenty-five (25) days after the effective date of termination. If said aggregate monthly rentals paid for such a twelve month period or any prorated part thereof, as the case may be, should exceed the minimum or prorated minimum annual rental, Lessee shall not be entitled to any refund of the excess of any credit therefor against annual rental for any prior or subsequent period.

d. Lessee shall at all times during the term of this lease or any renewal thereof keep or cause to be kept at the premises or other location acceptable to Lessor, accurate books, accounts, records, and receipts, showing in a manner satisfactory to the Lessor and in accordance with accepted accounting practices, the gross sales, gross income and the gross receipts of Lessee's business or any other business conducted under this lease on the premises, and preserve or cause to be preserved the same until after final adjustment after termination of this lease or any renewal thereof shall have been made, or until the expiration of four (4) years after the date of the transaction to which the same relate, whichever is sooner, unless Lessor shall give its prior written consent to the earlier disposal of same. The Lessor, Commission or Government shall at all reasonable times upon demand have the right to inspect and audit said and any other pertinent books, accounts, records and receipts, including returns and statements as may be required in the verification of said gross receipts and to make copies thereof or extracts therefrom.

e. All rental shall be paid Lessor at its office in Oak Ridge, Tennessee, or at such other place as Lessor may from time to time designate in writing, and without notice or demand therefor by Lessor.

f. In no event shall this lease be construed as creating a partnership, joint venture or principal and agent relationship between the parties hereto, the percentage basis for rental being intended merely as a method of determining the amount of rental to be paid.

### 7. Utilities.

a. The rental provided for under paragraph 6., above, includes charges for the following services to the premises:

(1) Sewage disposal, including maintenance of and unstopping of sewer lines of the community system up to the point where Lessee's branch line taps into said system.

(2) Normal refuse removal from containers, upon such schedules and in accordance with such rules and regulations (for separation of different types, compressing, storage, etc.) as may be established from time to time by Lessor or its successor furnishing this service.

(3) Heat by means of steam or such other method or system as the Lessor or Commission or their successor may elect. In the event that heat is supplied by means of steam, Lessor shall maintain the steam supply and return lines from the common or central system to the premises and shall maintain the heating system on the premises; except that Lessee shall maintain the heating coils, heating coil equipment, blower fans and motors on the premises and shall also maintain the branch supply lines serving the heating coils from but not including the first shutoff valves on said branch supply lines, and the branch return lines from the coils to but not including the first "T" connections with any return lines from other premises.

b. Lessor will endeavor to furnish continuous services (of the kinds referred to in subparagraph a., above) but Lessor cannot and does not guarantee uninterrupted service to Lessee, and neither the Lessor nor the Commission shall be liable for any damages for any interruption or disturbance of service whatsoever.

c. The Lessor or Commission or their successors may from time to time establish separate charges for any such service and fix the method of charging therefor, and/or may establish rules and regulations, which may be comparable generally with any in effect for like services in nearby communities, for the furnishing of such service in the Oak Ridge Community. In such event, Lessee will thereafter obtain such services in accordance with any such rules and regulations and for the charge or charges so established, but the rental herein provided for shall be reduced as stated below.

d. The Lessor or Commission may at any time or times hereafter transfer to a municipal corporation, utility company or other agency the respective works, system or method now in use for supplying any of the aforesaid services, or the administration thereof. Whenever any such transfer is made, Lessor shall no longer be under any obligation with respect to the furnishing of service from the works, system or method so transferred, and thereupon and thereafter Lessee's arrangements for such service shall be made by Lessee with, and his payments therefor shall be payable directly to, the agency furnishing the service, but the rental hereinabove provided for shall be adjusted as stated below, and Lessor will continue its maintenance of any portions of the lines, pipes or systems not included in such transfer.

e. Whenever any separate charge is established for any of the services referred to in subparagraph a. above, either by the Lessor or Commission or their successors, the rental payments (fixed, percentage and/or minimum) hereinbefore provided for the period to which such separate charge is applicable, shall be reduced by the amounts of the separate charges paid by Lessee to Lessor or any such successor furnishing the service, less any allowance or credit which could have been obtained for prompt payment; provided, however, that, with respect to sewage disposal and refuse removal, regardless of the amount of such separate charges, the rental reduction on account thereof shall not in any event exceed Four Dollars (\$4.00) per month, in the case of sewage disposal, or Twenty Dollars (\$20.00) per month, in the case of refuse removal.

f. Any enlargement or alteration of the facilities, capacities and/or services for sewage disposal or heat shall be subject to a separate written agreement therefor.

g. If any rental or any separate charge for the aforesaid services are not paid when due, Lessor or its successor shall have the right, without notice to Lessee, to cut off and discontinue said service.

h. Lessee agrees that during the term of this lease he will pay all charges for electricity, water, telephone service and any other utilities which are not referred to in subparagraph a. above.

### 8. Assignment, subletting, etc.

a. Lessee shall have the right to sublease to others certain operating departments customarily subleased in department stores, provided that Lessee gives Lessor advance written notice of his intention to do so, and provided further that

Lessor does not, within fifteen (15) days from the receipt of Lessee's notice by Lessor, give Lessee written notice that any such proposed sublessee is not acceptable to it. Lessee shall not otherwise have any right, authority or power to transfer this lease, any interest herein, or any rights hereunder, by way of assignment, sublease, or permission to any other person to occupy space in or make any continuing use of any part of the premises, or to mortgage or otherwise encumber the leasehold estate or Lessee's interest in any buildings, additions or improvements placed on the premises by him, without the written consent of Lessor, which consent shall not be unreasonably withheld. The preceding sentence shall not apply to any transfer by operation of law, testamentary disposition, or foreclosure of a mortgage or deed of trust given by Lessee with Lessor's written consent, but shall apply to any other or subsequent transfers by Lessee, his successors or assigns.

b. Should Lessor, or any other authority under control of the Commission, have a License Agreement with any other person giving him permission to use Government-owned premises in Oak Ridge occupied by concessionaires, lessees or others for stipulated purposes, such as but not limited to the installation and maintenance of automatic or coin-operated machines (for dispensing merchandise or products of any kind, or for furnishing music, pictures, games or other services of any kind), Lessee may permit such person to occupy space in or use the premises for the purposes stipulated in such License Agreement without Lessor's written consent. Such consent shall also not be required for the maintenance of telephones or newspaper racks from which Lessee does not collect the receipts, or for interior advertising signs or placards, or for temporary use by charitable, civic or comparable nonprofit organizations for booths and the like.

c. In the event Lessee sublets or takes or permits any action referred to in subparagraphs a. or b., above, with respect to any part of the premises, whether with or without Lessor's written consent, Lessee shall remain responsible to Lessor for such part of the premises, the use thereof, the accounting for gross receipts therefrom, and all other obligations hereunder, as if such subletting or other action had not been taken or permitted, unless specifically relieved of such responsibility in writing by Lessor.

#### 9. *Maintenance and repair.*

a. Lessee shall (except when otherwise provided in this lease) at his own expense perform all necessary maintenance, repairs and replacements to the premises and to all alterations, additions, and improvements, facilities, fixtures and equipment installed or furnished by Lessee or Lessor, including but not limited to repair or replacement of worn-out or damaged facilities, equipment and fixtures, and interior walls and wall surfaces, flooring, ceilings, exterior and interior glass, doors and door frames, screens and screen frames and window sash and frames, as needed to keep the same in good and tenantable condition and repair. All repairs and replacements shall be of a quality and appearance, both as to workmanship and material, consistent with standard practice for the type of building occupied, and shall be performed promptly as required, without any notice or request from Lessor. Before performing any such work, Lessee shall first obtain any building permits which may be required in any regulation, ordinance or other rules of the Commission or any State or local public authority.

b. Lessor shall (except when otherwise provided in this lease) perform the following items of maintenance and repair unless required due to the negligence or wilful act of Lessee, his agents or employees, or Lessee's failure to perform any obligation required of him under this lease:

(1) Painting the exterior surfaces of the building; maintenance of and repairs to foundations, supporting masonry, and structural framing; and maintenance of and repairs to roofs and roof ventilator housings, and wall siding and surfacing on the exterior of the building, but not including glass, doors and door frames, screens and screen frames, and window sash and frames.

(2) Maintenance of and repairs to elevators, and sprinkler and fire-alarm systems if initially furnished or subsequently installed by Lessor.

(3) Replacement of any major parts of the premises (such as but not limited to replacements of the complete wiring or piping systems for electric current, water, steam or sewage, or substantial portions thereof, or of major fixtures or major pieces of equipment) whether initially furnished or subsequently installed by Lessor or Lessee, if in the opinion of Lessor such part requiring replacement is a permanent part of the premises, is not of a minor character, and has become worn out due to reasonable wear and tear and depreciation while in Lessee's possession (and/or any wear and tear or other condition that occurred prior to Lessee's receipt of it, if such part was furnished by Lessor).

(4) Maintenance of and repairs to adjacent service driveways, if any, serving the premises and others.

(5) If the premises are required by the Commission or any State or other public authority to be repaired or altered due to requirements of health or safety and such action results from an inherent structural or comparable defect in the premises (such as but not limited to settlement of foundations, defective structural framing, lack of fire escapes or fire walls, or defective construction of sewer lines) and does not result from a change in the scope or volume of business or loading the floors beyond that for which the premises were suitable at the beginning of this lease, Lessee's lack of adequate and suitable equipment, or from any repairs, alterations, additions or improvements to the premises made by Lessee, then Lessor will correct such defect or deficiency (except for such maintenance, repairs or other work as Lessee is required to perform under this lease) unless the Lessor or Commission determines that it would not be economical and to the best interest of the Government to do so.

(6) If Lessee and other persons are supplied through a single valve and branch lines, maintenance of water pipes from the main shut-off valve for the building up to the point where Lessee's branch line or lines begin.

10. *Alterations, Additions and Improvements.*

1. Lessee shall make no alterations, additions, or improvements to the premises without first obtaining written approval from Lessor, and any so made shall conform with plans and specifications approved by Lessor.

b. All alterations, additions and improvements to the premises shall be made by and at the expense of Lessee, except as otherwise provided in this lease. All air conditioning units, and all facilities, equipment or other trade fixtures designed specifically for use in the types of business authorized under this lease and installed or brought on to the premises by Lessee or any sublessee, may be removed at the expiration or termination of this lease or at any time prior thereto, provided that upon such removal Lessee shall repair any material injury to the premises caused by such removal; provided further, that all alterations, additions and improvements to the premises made by Lessee or any sublessee (other than the aforesaid air conditioning units, facilities, equipment and trade fixtures) and in any way attached in a permanent manner so that they cannot be removed without material injury to the premises, shall, unless otherwise agreed in writing, become and be a part of the premises and be surrendered therewith, without disturbance, molestation, or injury to the premises, or compensation to Lessee or sublessee, at the expiration or earlier termination of this lease.

c. Lessor, at its option and expense may make (but shall be under no obligation whatsoever to Lessee for making) any alterations, additions or improvements not hereunder made the obligation of either party but which Lessor is authorized by the Commission to make in connection with any plan for improvement of the appearance, safety, sanitation, or administration of any Government-owned property in Oak Ridge (such as but not limited to the installation of fire alarm or sprinkler systems or landscaping). This subparagraph c, is not and shall not be construed as a provision relieving Lessee from making any maintenance, repairs or replacements, or any alterations, additions or improvements, for which he is obligated under any other provision of this lease.

11. *General Conditions.*

a. Lessee shall keep on the premises a normal stock of merchandise and/or make available normal services within the scope of the required business, and conduct the business in a businesslike manner consistent with good standards and practices. Lessee also agrees to establish and maintain as a part of his operations under this lease a credit system and delivery service consistent with standard practice for this type of operation.

b. Lessee shall not use the premises for sleeping apartments or for lodging rooms nor shall he cause or permit any nuisance on the premises.

c. The Lessor, Commission or Government, or any persons authorized by them, shall have the right, at any time, to build adjoining the premises herein; to close any skylight or window; to install, relocate, maintain and use electric, water, gas, steam or other utility lines or conduits over, under or through the premises; and to install, relocate, maintain and use public walks, street, highway or traffic signs or markers on that portion of the premises not occupied by buildings and lying within ten (10) feet from the boundary lines of the premises. Any such additional installations hereafter made in or on the premises shall be so located as not unnecessarily to cause unsightly conditions. The Lessor, Commission or Government, or any persons authorized by them, shall have the right to fell or trim any

trees, plants or undergrowth which may interfere with the installation, relocation, maintenance or use of such lines, conduits, walks, signs or markers.

d. Lessee shall take good care of the premises and keep them, and any adjacent service driveways, entrance walks, and public walks, in an orderly, clean, healthful and sanitary condition, remove snow and ice from all such driveways and walks, and cut the grass.

e. Lessee shall not use or permit the use of any loud speakers, phonographs or radios, in a manner that in the opinion of Lessor or the Commission is likely to disturb the peace and quiet of the neighborhood.

f. Lessee shall not store, use, or keep on the premises, gasoline, gun powder, gas, dynamite, or other explosives or inflammable materials, unless necessary in the conduct of the business, and then only upon written permit from the Lessor or Commission and after compliance with all laws and regulations relating to the storage and use of such commodities.

g. The Lessor, Commission or Government, or any persons authorized by them, shall at all reasonable times have access to the premises for the purpose of inspecting the premises, or of showing the premises, or of making any and all maintenance, repairs, replacements, alterations, additions, or improvements which Lessor is authorized to make, or of otherwise exercising any rights or remedies under this lease or conferred by law.

h. In the event Lessee fails to perform any maintenance, repairs or other work which Lessee is required to make or perform under this lease, forthwith after written notice from Lessor, Lessor may perform said work and Lessee shall pay to Lessor its proper charge for such work.

i. Except to the extent that Lessee is relieved of liability under the provisions of this lease, the premises shall be returned to Lessor upon the expiration or termination of this lease in as good condition as when received, reasonable wear and tear excepted.

#### 12. *Laws and Regulations.*

a. Lessee shall not use or suffer any person to use the premises for any purpose in violation of Federal, State or local laws or ordinances, or in violation of any health, safety, or zoning regulations issued by the Commission.

b. The Commission and/or the Government at will may maintain restrictions upon public or private access to the Oak Ridge Area, or to any part or parts thereof, or change, eliminate or reinstate such restrictions at any time; and may, but shall not be obligated to, establish, open, relocate, close, vacate, alter, widen, extend, grade, improve, repair, construct, reconstruct, maintain and regulate the use of the roads, ways, walks, and/or streets made available for travel within said Area or any parts thereof, without precluding access (except temporarily during construction or other work) to the premises from within the Oak Ridge Community by vehicles and pedestrians over such roads, ways, walks and/or streets as may from time to time be designated by the Commission for travel; and may maintain complete or partial ownership and/or control of said roads, ways, walks, and/or streets or transfer the same or any parts thereof to the State or any of the agencies or local subdivisions of the State or Federal Government, or otherwise, it being understood and agreed that nothing herein shall constitute or be deemed a dedication, offer or commitment or any specific property outside the bounds of the premises to any public or private use or purpose.

#### 13. *Excepted Perils.*

a. Lessee shall not be liable for loss or destruction of or damage to the premises, or any adjacent or nearby property of the Government when caused by any of the following excepted perils, unless due to the wilful act or wanton negligence of Lessee, his agents or employees: Fire; lightning; windstorm; cyclone; tornado; hail; explosion; riot; riot attending a strike; civil commotion; aircraft or objects falling therefrom; vehicles, excluding vehicles owned or operated by Lessee or any agent or employee of Lessee; smoke; sprinkler leakage; earthquake or volcanic eruption; flood, meaning thereby rising of rivers or streams; enemy attack or any action taken by the military, naval or air forces of the United States in resisting enemy attack.

b. In the event of damage to the premises from an excepted peril, Lessor will repair the same, unless in the opinion of the Lessor or Commission the premises are beyond economical repair or for other reasons it would not be economical and to the best interest of the Government to repair the premises.

#### 14. *Abatement of Rental, Renegotiation and/or Termination in Certain Events.*

a. If as a result of (1) a determination by the Lessor or Commission pursuant to subparagraph 9. b. (5) hereof that it would not be economical and to the best interest of the Government to correct a defect or deficiency in the premises, (2)

damage from an excepted peril, or (3) any repairs, alterations, or improvements which the Lessor is obligated or authorized to make on the premises under this lease (except maintenance, repairs or other work which the Lessor is authorized to make pursuant to subparagraph 11. h.), Lessee's possession and/or use of the premises is interfered with so substantially that he cannot carry on the business in regular course therein and he therefore discontinues the business entirely, then the fixed or guaranteed minimum rental hereunder shall abate (and if paid in advance, shall be rebated) until such time as Lessee's possession and use of the premises is no longer so interfered with; or if the premises can be used for the business but Lessee is deprived of use of any substantial or necessary part of the premises, then such rental shall equitably abate until such time as the premises are in such condition that the business can be carried on therein in regular course, although no allowance shall be made for mere inconvenience or annoyance. In no event shall the Lessor, Commission or Government be liable for any damages to Lessee arising out of any interference with Lessee's possession and/or use of the premises due to any of the above mentioned causes.

b. If Lessor or the Commission determines that it would not be economical and to the best interest of the Government to correct a deficiency in the premises as provided in subparagraph 9. b. (5), or to repair any damage from an excepted peril as provided in subparagraph 13. b., or in the event Lessor is unable to carry out its obligations due to unavailability of appropriations as explained in subparagraph 21. e., Lessor will promptly notify Lessee, and this lease may then be renegotiated after written request therefor made by Lessee within 30 days from the date of such notice. If the parties are unable to agree upon a modification of this lease within thirty (30) days thereafter, the Lessee may by ten (10) days written notice terminate this lease. If not so modified or terminated this lease shall remain in full force and effect.

c. In the event that (1) the resident population of Oak Ridge falls below twenty-four thousand (24,000) persons according to any Federal or other recognized census conducted by a governmental agency (or, at Lessee's option, according to estimates made by the Oak Ridge Office of the Commission), or (2) Lessee or any other person leases land or building space in the contemplated new commercial center in the Middletown Area in Oak Ridge for the operation of a department store substantially equal in size to or larger than the premises leased hereunder (and, at any time within three (3) months thereafter, Lessee gives Lessor written notice of his election to renegotiate this lease), the terms and conditions of this lease may be renegotiated after written request therefor made to Lessor by Lessee. If the parties are unable to agree upon a modification of this lease within thirty (30) days thereafter, Lessee may by ten (10) days written notice terminate this lease. If not so modified or terminated this lease shall remain in full force and effect.

#### 15. *Termination; Expiration.*

a. This lease is made upon condition that Lessee shall promptly and faithfully perform all the terms, covenants and conditions hereof on his part to be kept or performed and that no event occurs by reason of which the Lessor or Commission may terminate this lease as herein provided, and if Lessee shall fail so to perform or if any such event should take place, Lessor may terminate this lease under the conditions and in the manner hereafter stated and sue for and recover all rents and damages accruing hereunder, or may sue and recover without terminating this lease and, upon any such termination, the term hereof shall expire and thereupon or at any time thereafter Lessor may re-enter and take possession of the premises without compensation to Lessee:

(1) In the event Lessee (or any one or more of Lessees, if there be more than one) shall become insolvent, make an assignment for the benefit of creditors, file a petition in bankruptcy, seek the benefit of any bankruptcy, composition or insolvency law, or be adjudged bankrupt, or if a receiver or trustee of the property of any Lessee shall be appointed, such event shall constitute a default hereunder by Lessee, and Lessor may immediately or at any time thereafter, by written notice to Lessee, terminate this lease and this lease shall expire upon the date specified in such notice; provided that if such default be cured by Lessee prior to the termination date specified in such notice, this lease shall remain in full force and effect if Lessee is not otherwise in default hereunder.

(2) In the event Lessee shall (a) fail to pay rental when due or required under paragraph 6. above, repeatedly, or in any one instance for more than thirty (30) days, or (b) fail to comply with the requirements pertaining to laws and regulations referred to in paragraph 12. above for fifteen (15) days

after written notice of violation thereof has been given by Lessor to Lessee, Lessor may immediately or at any time thereafter by giving Lessee not less than fifteen (15) days written notice, terminate this lease, and this lease shall expire upon the date specified in such notice.

(3) In the event Lessee shall default in the performance of any other terms, covenants or conditions of this lease, and such default continues for sixty (60) days after written notice thereof has been given by Lessor to Lessee, Lessor may upon the expiration of said sixty (60) days or at any time thereafter, by giving Lessee not less than fifteen (15) days written notice, terminate this lease, and this lease shall expire upon the date specified in such notice.

b. Lessee shall on or before the effective date of termination or expiration of this lease, regardless of the method or cause thereof, quietly and peaceably vacate and remove from the premises all his stock, personal property, goods and effects, and surrender and yield up possession of the premises to Lessor; provided that, in the event Lessee fails to so remove said articles, they shall either become the property of Lessor, without liability of any kind to Lessee, or Lessor is hereby authorized to enter the premises and effect the removal, cooperage, cartage, and storage of such articles as agent of and at the cost and expense of Lessee, and in such event, Lessor shall have a lien thereon for such removal, cooperage, cartage, and storage or Lessor may designate others to effect such removal, cooperage, cartage, and storage and a lien shall likewise inure to them.

c. Should Lessee occupy the premises after termination or expiration, such occupancy shall in no event be construed as an extension of the term herein but shall be at the will of Lessor and in other respects on the terms and conditions herein contained. In the event Lessee fails to so vacate and remove as aforesaid, Lessee shall pay rent as provided for herein to the date of actual vacating and removal. Acceptance by Lessor of rental or any other payments under this lease before or after its expiration or termination shall not reinstate, continue or extend the term of this lease, create any new tenancy, or affect any notice given to Lessee prior to receipt of such rental or other payments, or in any manner whatever waive, modify or affect any rights or remedies which Lessor may have by virtue of this lease, or be construed as an election not to proceed with any of Lessor's remedies. It is agreed that after service or giving of any notice or the commencement of any legal proceeding or after final judgment for possession of the premises, Lessor may receive and collect any rent or other payments due without waiving or affecting any such notice, proceeding or judgment.

d. If Lessor at any time rightly seeks to recover possession of the premises, and is obstructed or restricted therein or if Lessee or any person under his control fails to give Lessor possession, and any litigation thereon ensues, Lessee shall be bound to pay Lessor or its assignee the cost and expenses thereof, including a reasonable attorney's fee and also, as actual liquidated damages and not a penalty, for each day that Lessee shall retain possession of the premises or any part thereof after termination or expiration of this lease, an amount equal to one one-hundred-twentieth (1/120) of the guaranteed minimum annual rental established under this lease; it being recognized that the actual damages caused by the failure to vacate and surrender possession when due, while real and substantial, are very difficult, if not impossible, of accurate ascertainment.

16. *Notices.*—All notices or other communications hereunder to Lessee may be given or served by mailing the same to him at his address shown in the first paragraph hereof, or by delivering a copy thereof to him in person, or by leaving it addressed to him at his place of business in Oak Ridge, with any person then in charge of the same. Notices or other communications to Lessor shall be served in person or by mailing same to its office in Oak Ridge, Tennessee, or to such other place as Lessor may from time to time designate in writing.

17. *Strikes.*—Whenever under this lease a time is stated or provided for the making of maintenance, repairs, replacements, alterations, additions or improvements by either party hereto, and during all or any part of the time so allowed any strike or work stoppage is in effect or occurs, or any other event beyond such party's power to control, causing delay, the period of such delay so caused shall be added to the time stated elsewhere in this lease for the completion of such work, and such party shall not be responsible to the other for such delay, nor shall any other of the terms and conditions of this lease be affected thereby.

18. *Lessor's rights and remedies.*—No waiver implied. All rights and remedies of Lessor under this lease shall be cumulative, and none shall exclude any other allowed Lessor by law, and the use of or resort to any one or more shall not exclude or be deemed a waiver of any other or others; nor shall any express or implied waiver of a breach of any term, covenant or condition of this lease consti-

tute or be construed as a waiver of any other breach of the same or any other term, covenant or condition.

**19. Protection Against Claims and Losses.**

a. Lessee shall at all times save and keep the Lessor, Commission and Government free and harmless from any and all liability for injury to or death of persons or loss of or damage to property arising out of or connected with the erection or removal of any building or part thereof on, or the making of any maintenance, repairs, replacements, alterations, additions or improvements to, or the use of the premises or any part thereof by Lessee or any other person holding under him or permitted by him to be on or about the premises. If any suit, action, or other legal proceeding shall be brought against the Lessor, Commission and/or Government alleging any such liability, Lessee shall upon written request from them or any of them assume the defense thereof in accordance with such request, and shall in any event pay all attorney's fees, costs and expenses in connection therewith, and satisfy any judgment that may be rendered as a result of such legal proceeding or claim.

b. Lessee shall have the right at his own expense to insure his interest or rights under this lease and in the premises against damage or loss from any excepted peril or other risks.

c. Lessee shall carry and pay the cost of the following insurance policies, in at least the amounts indicated for each, covering injury to persons or property or death to persons who may be injured or killed in or about the premises or as a result of any accident arising out of the conduct of the business under this lease:

- (1) Public Liability: \$50,000 one person, \$100,000 more than one person.
- (2) Property Damage: \$5,000 each accident.

All said policies of insurance shall contain an endorsement for ten (10) days' advance written notice to Lessor by registered mail of change or cancellation. Evidence of such insurance in the form of certificates in quadruplicate are to be sent to Lessor. In the event that Lessee fails to pay any premium for the insurance which he is required to maintain hereunder, Lessor may pay the same and shall be reimbursed therefor by Lessee.

**20. This Lease the Entire Agreement.**

1. Lessee, prior and as a condition precedent to his acceptance of the premises and execution of this lease, has carefully inspected and examined the premises and adjacent areas and knows the condition thereof; and his taking possession under this lease shall be conclusive evidence that he has received the premises in acceptable order and repair, and that no representation had been made to him as to the conclusion or repair of, or for the decoration, alteration, repair or improvement of the premises or areas except as expressly provided for herein. If Lessor is unable to give Lessee possession of the premises by the first day of the term specified in paragraph 3. above, for any cause or reason beyond the direct control of the Lessor, Commission or Government, the Lessor, Commission or Government shall not be liable for damages to the Lessee therefore, but the rental provided for hereunder shall abate (and if paid in advance shall be rebated) until such time as Lessee is able to enter into and occupy the premises.

b. This lease evidences the entire agreement between the parties, and all representations, negotiations, understandings and agreements heretofore made by the parties, their agents or representatives shall be deemed to have been and hereby are merged into and superseded by this lease and neither party shall be bound by any not herein expressly stated.

**21. Miscellaneous.**

a. Covenants run with land: All the covenants, terms and conditions herein contained shall run with the land and be binding upon Lessee's heirs, representatives, successors and assigns.

b. Taxes: Lessee agrees that during said term he will promptly pay such taxes, levies and assessments, if any, as may be lawfully imposed upon his property or interest upon or in the premises or the business conducted therein during said term by any state, county or other public authority.

3. No exclusive rights: Lessee is not granted any exclusive rights for the conduct of any activity within the Oak Ridge Area.

d. Officials not to benefit: No member of or delegate to Congress, or resident commissioner shall be admitted to any share or part of this lease or to any benefit that may arise therefrom; but this provision shall not be construed to extend to this lease if made with a corporation for its general benefit.

e. Government appropriations: It is understood and agreed that obligations of the Lessor, Commission and/or Government hereunder requiring the expenditure of money shall be subject to the availability of appropriations therefor.

f. Approval by Commission: This lease shall not become binding or effective until approved in writing by the Commission.

g. Agent not liable in own right: It is agreed that Roane-Anderson Company in executing and administering this lease is acting solely in the capacity of Agent for and in behalf of the Government under the contract referred to in the first paragraph of this lease and Lessee may look as regards all covenants, agreements and warranties herein contained to the Government and/or the Commission, or to Roane-Anderson Company only as and while it continues to act as Agent as aforesaid, and not to it in its private capacity, or its officers, agents, or representatives, as regards any matter which may arise by virtue of this lease.

h. Change of agency; assignment: It is agreed that the Commission may at any time and from time to time designate others to act hereunder as Agent and/or Lessor in the place and stead of Roane-Anderson Company, with all or such of the Lessor's powers, responsibilities, rights, or remedies under this lease, as the Commission may authorize or direct; and this lease or any of Lessor's rights and remedies hereunder, may be assigned by Lessor to the Commission, Government or any other person as authorized or directed by the Commission at will, or the premises may be so assigned subject to this lease, and any such assignee may assign or reassign to others at will without affecting the continuation of this lease in full force and effect in every other respect.

i. Paragraph headings: The headings of particular paragraphs are for convenience only and do not define, limit or construe the contents thereof.

j. Definitions: As used in this lease: (a) the word "Government" means the United States of America; (b) the word "Commission" means the United States Atomic Energy Commission, its successors and assigns, or its or their duly authorized representative or representatives; and (c) the word "Lessee" means the lessee or lessees whether there is one or more than one lessee, and includes any transferee or successor to the Lessee approved by the Lessor in accordance with subparagraph 8. a.

In witness whereof, the parties hereto have executed this lease in quadruplicate as of the day and year first above written.

ROANE-ANDERSON COMPANY,  
*As agent as aforesaid.*

(Signed) L. C. Macneal,  
(Typed) L. C. MACNEAL,

*Project Manager.*

This instrument was executed by L. C. Macneal for and on behalf of the Roane-Anderson Company pursuant to a Power of Attorney dated August 4, 1947, effective September 1, 1947, now on file in the office of the United States Atomic Energy Commission, Oak Ridge, Tennessee.

Witnesses for Roane-Anderson Company:

LOUISE E. MURPHY,  
*Oak Ridge, Tenn.*  
MARY ELLEN BROWN,  
*Oak Ridge, Tenn.*

LOVEMAN'S INC.,  
By R. L. MOORE, JR.,  
*President.*

Witnesses for Lessee:

W. E. BROWN,  
*Chattanooga, Tenn.*  
ANDREW JOHNSON,  
*Knoxville, Tennessee.*

#### CERTIFICATION

I, R. S. Porter, certify that I am the duly qualified Secretary of Loveman's, Inc., named as Lessee in the foregoing lease, that R. L. Moore, Jr., who signed the foregoing lease on behalf of the Lessee was then President of said Corporation; that said lease was duly signed for and on behalf of said Corporation by authority of its governing body and is within the scope of its corporate powers.

In witness whereof, I have hereunto affixed my hand and the seal of said Corporation this 10th day of March 1950.

R. S. PORTER, *Secretary.*

Approved:

RUSSELL FIELD,  
*Authorized Representative of the  
U. S. Atomic Energy Commission.*

Date: March 11, 1950.

(For Lessor)

STATE OF TENNESSEE,  
*County of Anderson, ss:*

Before me, Louis E. Murphy, a Notary Public of the State and County aforesaid, personally appeared L. C. Macneal, with whom I am personally acquainted, and who, upon oath, acknowledged himself to be Project Manager of Roane-Anderson Company, the within-named bargainer, a corporation, and that he as such Project Manager being authorized so to do, executed the foregoing lease for the purposes therein contained, by signing the name of the corporation by himself as Project Manager.

Witness my hand and seal, at office in Oak Ridge, Tennessee, this the 11th day of March 1950.

My commission expires the 7th day of January 1954.

LOUISE E. MURPHY, *Notary Public.*

(For Lessee)

STATE OF TENNESSEE,  
*County of Hamilton, ss:*

Before me, E. L. Pooham, a Notary Public of the State and County aforesaid, personally appeared R. L. Moore, Jr., with whom I am personally acquainted, and who, upon oath, acknowledged himself to be President of Loveman's, Inc., the within-named bargainer, a corporation, and that he as such President being authorized so to do, executed the foregoing lease for the purposes therein contained, by signing the name of the corporation by himself as President.

Witness my hand and seal, at office in Chattanooga, Tenn., this the 10th day of March 1950.

My commission expires the 18th day of October 1953.

E. L. POOHAM, *Notary Public.*

#### APPENDIX "A"

##### DESCRIPTION OF LEASED PREMISES

All those certain premises consisting of approximately 18,631 sq. ft. on the main floor and approximately 18,075 sq. ft. in the basement of the east portion of Building No. 1836-T, located on the south side of Broadway and east of Towne Road, in Oak Ridge, Anderson County, Tennessee, previously occupied by Taylor's Department Store, and being the shaded area more particularly described on Drawing No. L-1836-T (S-1), dated February 20, 1950, entitled "Loveman's, Inc.—Location Plan and Premises in Lease Agreement" attached as Appendix "B."

#### APPENDIX "B"

Location Plan and Premises—Loveman's, Inc. Drawing No. L-1836-T (S-1), dated February 20, 1950 as attached.

(Plans showing location of Loveman's Department Store, Oak Ridge, have been removed and are on file in the offices of the Joint Committee on Atomic Energy.)

## EXHIBIT 7

(Referred to on p. 63)

UNITED STATES ATOMIC ENERGY COMMISSION,  
Washington, March 16, 1950.In reply refer to:  
PCO: CATHonorable CHET HOLIFIELD,  
*Chairman, Subcommittee of the Joint Committee on Atomic Energy,  
United States Congress.*

DEAR MR. HOLIFIELD: As indicated at the hearing before your subcommittee on March 14, concerning the department store lease at Oak Ridge involving Taylor's Oak Ridge Corporation and Loveman's, Inc., of Chattanooga, I wish to submit the following supplemental information for insertion in the record:

## A. Four telegrams as follows:

1. From *John Wender* relative to separate costs for fixtures, etc., paid by him to Taylor; also his lease relations with Taylor's.

2. From *Joseph Huwyler*, Flower Shop Operator, relative to payments by him to Taylor for fixtures, etc., together with offer to furnish photostatic copy of his subconcession agreement.

3. From *Joseph Weir*, Beauty Parlor Operator, relative to payments by him to Taylor for fixtures, etc., together with offer to furnish photostatic copy of his subconcession agreement.

4. From *Harry Busch*, Royal Jewelers, relative to relations with Taylor's prior to his option to retire from his contract.

B. Statement from H. B. White, Manager, Commercial Realty Division, Roane-Anderson Company, and C. M. Winfrey, Manager, Rental Department, Roane-Anderson Company, relative to discussions with Leonard Marx of Marx Realty Company, together with copy of letter, Winfrey to Marx.

C. Statement by J. Wallace Ould, Assistant General Counsel, Oak Ridge, relative to effect of State Court injunction preventing consummation of Loveman deal until lifted, together with back-up photostats.

I should also like to advise that officials of our Oak Ridge Office and of Roane-Anderson Company have clarified in several respects the leasing procedures used by them in the initial stages of the long-term leasing program.

The lease agreement made in the present case was arrived at in accordance with the original procedure developed last Fall and was one of the first few long-term leases executed under the long-term leasing policy. A copy of this procedure, dated October 27, 1949, and entitled "Policy and Procedure for Soliciting Proposals for Leases at Oak Ridge," is enclosed. You will note that this procedure is substantially in accord with that explained in the memorandum of January 23, 1950, from Mr. Cook to me, a copy of which was submitted at the hearing on March 13.

Under the original procedure, the formal lease agreement was based upon the general understandings evidenced by the advertisement for proposals, the application form given to all persons desiring to submit proposals, and reference to the standard or specimen lease form. General information was given verbally or in writing (depending on whether the applicant was available for personal contact) to interested parties (including specific information as to the kind of business operation which was considered particularly advisable from the landlord standpoint, especially in those comparatively few instances where it was considered important in order to meet a community demand for merchandise or services), the written proposal from the applicant, and the notice of the award.

This procedure has been reviewed and is being altered with the purpose of further clarification and improvement, particularly on the following points:

1. To clarify advertisements inviting proposals to indicate more clearly the premises that are available and the type of services desired in those instances where a specified type of operation is required

In those exceptional cases where proposals are desired for a particular type of business (such as a department store), proposals will continue to be solicited for this type of service or merchandising. We will modify the present practice in these exceptional cases so as to give all applicants written notice of any particular features of the proposed business which are necessary in evaluating various proposals.

To further encourage the submission of proposals which are as complete and specific as possible in all details, efforts will be made to utilize the regular appli-

cation forms in all cases and insure that the applications are clearly tied in with the standard lease form. Notices of award to the successful applicant will identify the essential terms and conditions upon which award is made.

As indicated in the attached procedural statement and as will continue to be the case, restrictions are not placed upon the type of usage or business where the property is suitable for varied types of uses, as long as any proposed business would not conflict with contemplated zoning restrictions. In such cases, specifications as to types of service will not be pertinent.

*2. To explain to interested unsuccessful applicants the reasons why some other proposal was accepted in preference to theirs*

Just how far we can go in this respect is not entirely clear to us at the moment. We feel that information of a confidential nature obtained from applicants, banks, credit agencies or others should not be made public, and may become public if made known to unsuccessful applicants. We also believe, from experience to date, that reputable firms may be reluctant to make proposals if they are required to submit such information for subsequent publication. However, some explanation of the reasons for the decision is possible, and we will try to work out a solution to this problem.

I might add that we have been fully conscious of the difficulties of conducting a leasing program in a manner which will not be too far out of line with established commercial leasing practices, yet also is as comparable as possible with the procurement procedures followed by Governmental agencies. It has been our judgment that the procedure used to date for leasing commercial premises on the basis of charging a percentage of gross receipts has produced the maximum return for the Government.

However, we recognize that this procedure inevitably requires, in the analysis of proposals, the exercise of judgment as to expectable volume of business to be enjoyed by competing applicants.

We are giving careful study to alternative procedures designed to minimize the degree to which award of leases must be determined by exercise of such judgment. One possible alternative under consideration is the award of a lease to the high bidder on a flat-rent basis.

Sincerely yours,

WALTER J. WILLIAMS,  
*Director of Production.*

Enclosures:

Policy and Procedures dtd 10-27-49.

Exhibit A—Four Telegrams.

Exhibit B—Statement from R-A Co.

Exhibit C—Statement by Assistant General Counsel w/attachments.

10-27-49

**POLICY AND PROCEDURE FOR SOLICITING PROPOSALS FOR LEASES AT OAK RIDGE**

For purposes of brevity and clarity the Commercial Realty Division of the Roane-Anderson Company is identified hereafter as the "Agent" and the Commercial Services Division of the Office of Community Affairs as the "Commission."

1. *Authorization to Lease.*—The Agent is authorized to lease Government-owned land and buildings within the unrestricted area of Oak Ridge for commercial and other uses (except housing and manufacturing), subject to the approval of the Commission. The authority to arrange for lease of specific properties, whether for long or short terms for the occupancy by lessees of Government-owned buildings and/or Government land, is given when specific properties, either improved or unimproved, have been assigned to the administration of the Agent by the Commission. Request for premises not assigned to the Agent is made to the Commission when profitable usage is indicated.

a. The Agent clears with the Commission informally any proposed usage of Government-owned premises which might conflict with the Master Plan or contemplated zoning restrictions.

b. In specific locations where a single type usage is desirable (service stations, department stores, garages, hotels, theaters, etc.) the Agent advertises for and solicits proposals for this type of usage only.

c. Where the property to be leased is suitable for varied types of usage, the Agent does not place restrictions upon usage in advertising for or solicitation of prospective tenants. The Agent may, however, direct its advertising to particular types of tenancy by using the phrase, "suitable for ladies' wear, men's wear or specialty shops, etc.," in the advertisement.

d. A community need for a specific type of service or merchandising may also be sufficiently urgent to limit the solicitation and advertising of the Agent to that category.

e. The Agent will not execute any lease, without prior approval of the Commission, which falls within one or more of the following categories: (1) the lease is to be awarded without advertising for competitive proposals; (2) the lease is to be awarded other than to the responsible applicant making the best financial proposal; (3) the lease poses any significant policy questions; (4) the lease contains any terms which vary substantially from the approved lease form; and (5) a lease with federal, state, or local public agencies at nominal rental or with a nonprofit organization at reduced rental.

2. *Advertising Procedure.*—The advertising media to be used is decided upon and the copy prepared by the Agent, the following general procedure being used:

a. *Newspaper Advertising:* Space in buildings and land available for the construction of buildings, or other usage, is always advertised in one or more newspapers and notices placed in the Oak Ridge Post Office, except in unusual cases. The extent of such newspaper advertising is governed by the size and importance of the location to be leased. By way of illustration, a strategically located retail space suitable for a department-store operation is advertised in at least one of the leading Knoxville newspapers. Recognized trade journals and other newspapers may also be used. If the space is in a secondary retail category location and relatively small in size, advertising is limited to newspapers published locally or in nearby communities. In every case, the amount of newspaper advertising is determined by weighing its advantages against the attendant expense on a sound businesslike basis. The advertisement is designed to give sufficient information regarding the premises to enable prospective applicants to determine if they desire to make further investigation of the available property.

b. *Other Solicitation Methods:* Whenever newspaper and/or trade journal advertising is used, this is supplemented by verbal or written solicitation of proposals from all parties known to be interested. It should be kept in mind that in accordance with customary commercial leasing practice, responsible tenants are usually obtained through direct contact and solicitation rather than through public advertising.

c. A complete record of all solicitation of or inquiries from interested parties is maintained by the Agent in the form of memoranda to the files, copies of correspondence and résumés of telephone conversations, and a summary is transmitted to the Commission in condensed form and/or by attachments to the final letter of recommendation from the Agent.

d. All previously interested parties, as well as those responding to the advertisements, are furnished all requested information available. This may be in verbal or written form as indicated by request for same. If more than casual interest is shown by the inquirer, special emphasis is placed by the Agent on the importance of a personal inspection of the property advertised and the Oak Ridge community in general, since the specific information usually requested is so broad in character and so diversified that it does not lend itself to a general specification sheet but must be based on the individual inquiry.

3. *Applications from Interested Parties.*—Applications are issued in triplicate to interested parties by the Agent together with an instruction sheet indicating the method of properly executing the application and the type of application required by the Agent.

a. Upon receipt of an application from an interested party, it is opened immediately, time stamped and processed by the Agent. The Agent then checks references, analyzes the proposal, and obtains all missing information or clarifies ambiguous statements in the application prior to the dead-line established for receiving applications (in the event a dead-line is established). Particular attention is given to clarification of applications, in view of the fact that the method of leasing government premises in Oak Ridge and local conditions differ substantially from those normally encountered in other communities.

b. Applications are kept in a separate file for the particular location involved and are not available to anyone other than those responsible for the work involved, including the negotiators or department head in charge of the particular negotiation.

4. *The Selection of Applicants.*—To determine the most acceptable proposal received, the following procedure is used:

a. All proposals are carefully analyzed in the light of the information contained therein and that gathered from other sources, i. e., references, confidential bank information, Dun & Bradstreet reports (Special, if necessary), Chamber of Commerce reports, inspection of other operations conducted by the applicant, etc. This information is coordinated and reduced to a comparison sheet for study by the negotiator or negotiators involved, the rental manager and the division manager in a staff meeting. In the event complete accord is not reached in this meeting, the entire analysis is reviewed by the Agent's Project Office prior to a final decision. The Agent recommends that the award be made to the responsible applicant whose proposal will be most advantageous to the Commission, rental and other factors considered. Other factors will include, primarily, an evaluation of each applicant's experience, reputation, financial stability or resources, and ability to perform the tenant's obligations under the proposed lease. Consideration may also be given to an evaluation of his probable efficiency of operations and attainment of volume of sales and quality of services, amount of investment in the premises and business, extent of risk assumed, character of business, and such other factors as the public interest and fair and equitable dealing may require.

b. The recommendation of the Agent sets forth the reasoning for the selection of the most qualified applicant offering the best rental return, and is forwarded to the Commission for approval.

c. In unusual circumstances, two applicants may submit closely comparable proposals, but on different terms such as lower percentage rate with a higher guaranteed return or vice versa. In this situation, the probable expectancy of return, or other factors, in each case is presented to the Commission for final determination.

d. It is also possible that a group of two or three applications may be outstanding among the entire number of applications received, but so closely identical in their proposal terms as to indicate the necessity of individual negotiations with each in order to determine the best possible rental agreement obtainable from each. In this event, such a procedure is recommended to the Commission. If approval to this course is obtained, the Agent negotiates the best obtainable proposal from each and recommends the proposal selected.

5. *Approval of Recommendations.*—Upon receipt of notice from the Commission of approval or disapproval of a recommended applicant, the Agent notifies the interested parties of the decision reached.

a. If approved, the lease is prepared.

b. If disapproved, the negotiations are reopened in accordance with instructions received by the Agent.

6. *Preparation of Leases.*—After receipt of the approval from the Commission of a recommendation by the Agent, the lease is prepared by the Agent and submitted to the Commission for review. After this review, it is returned to the Agent with comments or approval for execution by the lessee and the Agent. Four copies of the lease and performance bond, if required, are executed and forwarded to the Commission for approval. The original and duplicate copy are retained by the Commission, the other two copies being returned to the Agent, one for the Agent and one for the lessee. Three conformed copies are then forwarded to the Commission for filing and necessary distribution.

a. In the event a performance bond is required, it will be executed on approved forms by the lessee at the time the lease is executed and the same number of copies of the bond as of the lease will be executed and distributed in the same manner.

The procedures proposed by the report of the Manager of Oak Ridge Operations, AEC, dated June 25, 1949, and appendices thereto, as modified by memorandum to the Director of Production, AEC, from the Deputy General Manager, dated August 18, 1949, will be followed in all cases.

(Exhibit A)

[Telegrams]

NEW YORK, N. Y., March 14, 1950.

ROANE-ANDERSON Co.,  
*Care of Walter Williams,*  
*Atomic Energy Commission, Washington, D. C.:*

We did not sign leases offered us by Taylor's. We did sign a lease prepared by my attorney on March 28, 1947. Lease was signed for Taylor's by H. A. Levinson. We understood later he did not have power of attorney. We operated for the duration of Taylor's on our letter of intent, which required us to pay \$2,500 for fixtures over twenty-four month period. We also took over space occupied by hobby shop and paid fixture cost on fixtures used. All fixtures were retained by Taylor's and we understand were sold to Loveman's.

J. J. WENDER STORE.

OAK RIDGE, TENN., March 14, 1950.

ROANE-ANDERSON Co.,  
*Care of Walter J. Williams, AEC, Washington, D. C.:*

I have and will be glad to submit to the committee a photostatic copy of our lease with Taylor's Oak Ridge Corporation. The percentage paid was fifteen percent. And in addition to this percentage we paid for fixtures used in our department, which even after amortization remained the property of Taylor's Oak Ridge Corporation. I wish further to advise that I was charged separately and in addition to rental for telephone use, institutional advertising, in addition to a guaranteed two percent minimum, cash-register rental, store interior trimming as well as gift wrapping and other miscellaneous charges. My lease is now in the possession of John J. Winter, who is in Washington and I authorize him to have a photostatic copy made for the committee's use.

JOSEPH F. HUWYLER.

OAK RIDGE, TENN., March 14, 1950.

ROANE-ANDERSON Co.,  
*Care of Walter J. Williams, AEC, Washington, D. C.:*

I will be glad to submit to the committee a photostatic copy of lease with Taylor's Oak Ridge Corporation. Percentage paid was 15 percent of gross sales in addition to percentage charges were paid for fixtures, which were never available to our department. In addition to rental we were charged to telephone, institutional advertising, cash-register rental, store and window interior decorator, proportionate cost for maintenance of office and office help. In 1949 Christmas promotion was to have been prorated to all departments, including the department owned by Taylor's. Instead the lease department paid the entire cost of said promotion, having worked very closely in having exchanged views with the people in our department whose comments were not available to the other department head of the store. It is my firm belief that opposition was not against the store as a whole but just to the department operated by Taylor's parent company. In selling the people of this community the Government must not only consider the monetary gain but must also consider the services and satisfaction that would be afforded the residents of this area. Having been a department I was informed as early as September first by the store management that it was doubtful that the Taylor's lease would be renewed. However every effort would be made to secure its renewal. Even though I would face the possibility of having lost my entire business I am of the opinion that the decision reached by the Roane-Anderson Company is for the best interest of both the citizens of this community and the U. S. Government. Photostatic copy of lease and other incidental statements are being forwarded to you by mail.

JOSEPH WEIR.

KNOXVILLE, TENN., March 14, 1950.

MR. C. M. WINFREY,  
*Care of Walter Williams, Atomic Energy Commission,*  
*Washington, D. C.:*

Our experience during sublease period from Taylor's Department Store or Taylor's, Oak Ridge, Tenn., most unsatisfactory and distasteful arrangement

of our many years in business. Difficulty in getting our sales money returned, delayed sometimes for weeks; paid many unwarranted and unreasonable charges not in contract, which they impounded in New York office without our consent or agreement; finally had to replevin under process of law, fixtures which we had substantially paid for. Discontinued our operation in their store because of inefficient, irresponsible, unreasonable, and their tricky manner of doing business. To sum up the operation as a whole in two words "lousy and stinko."

S. H. BUSCH ROYAL JEWELERS.

(Exhibit B)

STATEMENT FROM ROANE-ANDERSON CO., AGENT FOR AEC, CONCERNING DISCUSSIONS WITH REPRESENTATIVES OF MARX REALTY CO., AGENTS FOR DARLING STORES CORP., AND TAYLOR'S OAK RIDGE CORP.

We, the undersigned, make the following statement regarding our conversations with representatives of the Marx Realty & Improvement Co., Inc., of New York, the authorized real-estate agents of Taylor's Oak Ridge Corp.

In the conversations with Messers. Hall, Sanford, and Marx it was continually pointed out that in our opinion the operation as currently conducted by Taylor's Oak Ridge Corp. was incapable of producing the volume reasonably to be expected from the property involved if properly merchandised as a department store. In this conclusion they agreed stating that percentage of rental paid to the licensor prohibited giving the type of operation capable of producing the optimum volume.

This fact is corroborated in the copies of correspondence between the Roane-Anderson Company and the various representatives of Taylor's agent. (See Résumé furnished for the record.)

On date of January 11, 1950, Leonard Marx called Mr. Winfrey of Roane-Anderson Company relative to the award of the contract to Loveman's. When advised that Loveman's offer was higher than Taylor's number three alternate proposal, Mr. Marx congratulated us on getting a store of the calibre of Loveman's to come to Oak Ridge. A copy of our letter to Mr. Marx (of which only an excerpt was read by Mr. Roth, attorney for Darling, in his rebuttal statement), expressing our appreciation for his personal congratulations as a Real Estate Specialist, is attached. In this letter we acknowledged the job done by Taylor's in 1946 in getting ready in a hurry to meet the opening date dead line.

In this letter we particularly emphasized the fact that Darling Stores Corp., in the field of low-priced specialty-shop operations, was in our opinion a good volume producer but could not be expected to attain the dollar volume of a store like Loveman's in the present day competition.

We further expressed our desire to work with his client in an effort to find a location suitable to their normal-type operation which Mr. Marx said would be approximately 2,500 square feet.

(Signed) H. B. White,  
(Typed) H. B. WHITE,  
*Manager, Com. Realty Div.*  
(Signed) C. M. Winfrey,  
(Typed) C. M. WINFREY,  
*Manager, Rental Department.*

[Copy]

JANUARY 12, 1950.

MR. LEONARD MARX,  
*Marx Realty & Improvement Co., Inc.,  
20 West 23rd St., New York, New York.*

DEAR LEONARD: It was indeed a pleasure to talk with you on the telephone yesterday, and I appreciate very much your congratulations on the results obtained by this office in marketing the local department-store location.

We, of the Roane-Anderson Company, sincerely feel that Mr. Gluck did an outstanding job in meeting the early emergency dead line in opening Taylor's, Inc., and presenting a very creditable appearing operation serving the purpose at the time. In the department operated by Darling, a very reasonable volume has been consistently maintained. I am sure, however, you agree, after personally inspecting the store operation, that a true department store handling nationally advertised

brands, with charge accounts, daily deliveries, and experienced merchandising ability in all departments would serve more adequately the needs of the community under the present competition from Knoxville and the surrounding area now that the perimeter gates are removed. We feel that Loveman's can certainly be expected to give that kind of service to the community plus bringing a familiar and accredited department store name to Oak Ridge to meet off-area competition.

In its particular field, we feel that Darling Stores serve a definite merchandising need and will certainly work wholeheartedly with you and your client toward finding a suitable location for their operation. This would require, as I understand in our conversation yesterday, a minimum of approximately 2,500 sq. ft.

Permit me to express our appreciation for the cordial manner in which your office and Mr. Gluck have cooperated with the Agent in presenting your proposal to the AEC for consideration. Please be assured that it will be a pleasure to be of assistance to you in the future in any way in which we may be able.

With kindest personal regards to you and your associates, I am

Very truly yours,

ROANE-ANDERSON COMPANY,

C. M. WINFREY, *Manager, Rental Department.*

CMW:O.

(Exhibit C)

#### STATEMENT REGARDING STATE COURT INJUNCTION

At the hearing on March 14th, Mr. Roth, who testified that he was and had been General Counsel for Darling Stores Corporation for a number of years, stated that the State Court injunction order did not restrain Roane-Anderson Company from proceeding with completion of a lease with Loveman's during the period from the latter part of January 1950, until March 2, 1950. With respect to this, we submit the following documents:

(1) Copy of Taylor's bill of complaint in the State Court, containing, in the prayer for relief in VI (2), the prayer that Roane-Anderson Company be restrained "from . . . taking any further steps toward the execution of a concession agreement with anyone other than the complainant until the rights of the parties have been adjudicated, or until otherwise ordered by the Court."

(2) Copy of subpoena served on Roane-Anderson Company in January 1950 in the State Court suit.

(3) Copy of answer filed by Roane-Anderson Company in the same suit.

It will be noted that page 6 of Taylor's bill contains an order, signed by Thomas A. Shriver, Chancellor, 7th Chancery Division, directing issuance of the injunction "as prayed," upon filing of the bill and execution of an injunction bond; also, that the opinion of Joe M. Carden, Chancellor, in the Chancery Court of Anderson County, copy of which was submitted in evidence by Mr. Cook, states: "A temporary injunction issued upon fiat of Chancellor Thomas A. Shriver, as prayed for in the bill."

(Prepared by J. Wallace Ould, Assistant General Counsel)

*the Honorable Joe M. Carden, Chancellor, Holding the Chancery Court for Anderson County at Clinton, Tennessee:*

#### THE BILL OF COMPLAINT OF

*Taylor's Oak Ridge Corporation, a Tennessee corporation having an office and place of business in Oak Ridge, Tennessee, Complainant, vs. Roane-Anderson Company, a Tennessee corporation having an office and place of business in Oak Ridge, Tennessee, Defendant*

Complainant respectfully states to the Court as follows:

#### I

The parties and their residences are as stated in the caption. Complainant has since 1946 operated a department store in the premises known as Shop 101, Building 4, Group 2, on Broadway and the building formerly known as the E. A. T. Stores located on Baltimore and Miami Avenue, Gamble Valley, two Government buildings at Oak Ridge, Tennessee. Said occupancy has been under the terms of a concession agreement dated July 9, 1946, between the complainant and the defendant and a supplemental agreement extending the term of the concession to

January 31, 1950. Said agreement (including the supplemental agreement) will be filed in this cause on or before the hearing. Under the terms of the agreement, the complainant agreed to pay the defendant as compensation for the concession granted 6% of its gross receipts, exclusive of excise and luxury taxes, from all sources derived from the operation or maintenance of the concession.

## II

In the agreement between the parties hereto, above referred to, the defendant is referred to as the "Agent" and it is recited that the Agent entered into an agreement on the 14th day of February, 1944, effective as of the 23rd day of September, 1943, with the United States of America, referred to as the "Government," to grant concessions for the operation of community retail sales and service establishments, among other things, at Oak Ridge, Tennessee, for the Government. Complainant calls upon the defendant to produce and file such agreement, and if it has been superseded, the current agreement.

## III

Both before and after the execution of the concession agreement between the complainant and the defendant the parties, through their respective representatives, have had conversations in which the complainant made it plain to the defendant that it would not be interested in the concession unless it could be assured that it would have the refusal after the expiration of the original agreement for a renewal or extension of the concession for a substantial period of time; and the defendant repeatedly assured the complainant that not only would it have the refusal but that complainant would in all events and at all times receive preferential treatment as the party in possession, and that in no event would the defendant grant the concession and the use of the premises to anyone else unless the complainant was unable to meet competition. In reliance upon these repeated assurances the complainant expended large sums of money for fixtures, in addition to the requirements under the agreement, and spent large additional sums for special overhead, executives' and employees' time and salaries, etc., resulting in a net loss for complainant's period of occupancy up to the time of the filing of this bill. In recent months, however, complainant has been operating at a profit; it has built up a large volume of business; and from here on out the prospects are that its business will be extremely profitable if permitted to continue the concession and occupancy of the premises.

## IV

In the fall of 1949 the defendant issued an invitation to complainant and others to make bids for the concession for a period of years commencing February 1, 1950. Under date of December 12, 1949, complainant submitted three alternative bids, giving the defendant the choice of these bids. Complainant on information and belief alleges that each of these three alternative bids was higher than any bid received from any competitor. Notwithstanding this fact complainant received from the defendant, on or about January 10, 1950, a notice to quit the premises for the reason that an oral agreement had been made between defendant and Loveman's of Chattanooga, a concern engaged in the department store business, pursuant to which Loveman's of Chattanooga will be given the concession and occupancy of the premises commencing February 1, 1950. Complainant on information and belief alleges that the bid made by Loveman's of Chattanooga was less favorable to the defendant than any of the bids made by complainant and that said action on the part of the defendant in making such agreement with Loveman's of Chattanooga under these circumstances was in bad faith and a breach of its agreement with complainant. Complainant alleges that the defendant as the Agent of the United States is obligated to act impartially and on a business basis in the granting of concessions for the use of Government-owned property and that such action of the defendant is not only a breach of its agreement with complainant but is a breach of its duty to grant the concession to the highest bidder.

## V

Complainant is advised that under the facts hereinbefore alleged it is entitled to injunctive relief to prevent the defendant from taking any steps to oust complainant pursuant to the notice to quit heretofore given and to a decree requiring the defendant to comply with its agreement with complainant and with its legal duty to grant the concession to the highest bidder as hereinbefore alleged. If complainant is incorrect in this contention, then it is entitled to damages.

## VI

The Premises Considered, Complainant Prays:

(1) That copy of this bill with subpoena to answer be issued and served upon the defendant requiring it to appear and answer at an early rule day but the oath to its answer is waived.

(2) That a temporary injunction issue and be made permanent at the hearing, enjoining and restraining the defendant, its agents and servants, from taking any steps to oust complainant from the enjoyment of the concession and use of the premises described in the bill, and from taking any further steps toward the execution of a concession agreement with anyone other than the complainant until the rights of the parties have been adjudicated, or until otherwise ordered by the court.

(3) That a decree be entered requiring defendant to enter into a new concession agreement with the complainant pursuant to one of the alternative bids made by complainant or, in the alternative, on not less favorable terms and conditions than those embodied in the bid by Loveman's of Chattanooga.

(4) That if complainant be not granted the relief above sought, then that damages be awarded it.

(5) For general relief.

This is the first application for an injunction or other extraordinary process in this cause.

ARMISTEAD, WALLER, DAVIS & LANSDEN,  
TOM STEWART,

*Solicitors for Complainant.*

STATE OF TENNESSEE,

*County of Davidson, ss:*

Tom Stewart, being first duly sworn, makes oath and says that he is one of the solicitors for the complainant, that he has read the foregoing petition and that the facts alleged therein are true to the best of his knowledge, information and belief. This affidavit is made by him in lieu of an officer of the complainant because no officer is available at the time of the execution of same and because of the necessity of filing this bill promptly.

TOM STEWART.

Sworn to and subscribed before me on this 25th day of January 1950.

ELLEN ROACH, *Notary Public.*

My commission expires 4-7-1953.

*To the Clerk & Master:*

Upon the filing of the foregoing bill, and upon execution of an injunction bond in the amount of \$5,000.00, conditioned as required by law, issue the injunction as prayed.

This Jan. 25th, 1950.

THOS. A. SHRIVER,  
*Chancellor, 7th Chancery Division.*

[Original copy]

[Endorsement]

No. 6075

CHANCERY COURT AT CLINTON, TENN.

*Taylor's Oak Ridge, Inc., vs. Roane-Anderson Co., Inc.*

Bill filed this 27th day of January 1950, at 5:45 o'clock P. M.

H. C. SCRUGGS,  
*Clerk and Master.*

Entered on page 74 of Rule Docket 24.

ARMSTEAD, WALLER DAVIS & LANSDEN,  
TOM STEWART,

*Solicitors,  
American Trust Bldg., Nashville, Tennessee.*

## SUBPOENA TO ANSWER AT RULES

STATE OF TENNESSEE, CHANCERY COURT AT CLINTON

*To the Sheriff of Anderson County, Greeting:*

Summon: Roane-Anderson Company, Inc., Oak Ridge, Tenn., to appear in person or by attorney before the Chancery Court at Clinton, Tennessee, on or before the 6th day of February, 1950, next, it being the First Monday in February, to answer the Original Bill which Taylor's Oak Ridge, Inc., has filed in said Court against It and have you then and there this writ.

Witness H. C. Scruggs, Clerk and Master of said Court, at Office in Clinton, Tennessee this 27th day of January 1950.

H. C. SCRUGGS,  
Clerk and Master.

By \_\_\_\_\_,  
Deputy Clerk and Master.

## NOTICE

*To the Above Named Defendant Roane-Anderson Company, Inc.:*

You are hereby notified that you are required to make defense in this case on or before the First Monday of February, or judgment pro confesso will be entered against you on the Third Monday of February, 1950.

H. C. SCRUGGS,  
Clerk and Master.

By \_\_\_\_\_,  
Deputy Clerk and Master.

IN THE CHANCERY COURT OF ANDERSON COUNTY, AT CLINTON, TENNESSEE

No. \_\_\_\_\_

*Taylor's Oak Ridge Corporation vs. Roane-Anderson Company*

ANSWER OF DEFENDANT, ROANE-ANDERSON COMPANY

The defendant, Roane-Anderson Company, for answer to the bill filed against it in the above-entitled cause, says:

## I

That it admits that the parties and their places of residence are as stated in the caption of the original bill.

## II

That on February 14, 1944, it entered into a contract with the United States of America, effective as of September 23, 1943, under which it agreed to act as agent for the United States of America in the negotiation and entering into of concession agreements and/or leases for the use and occupancy of residences, buildings or portions of buildings situated within what was known as the Clinton Engineer Works Area in the State of Tennessee. The defendant's said contract provides, however, that the defendant shall, "prior to entering into any concession agreement with third parties for the conduct of any sales or service establishment submit the same to the Contracting Officer for his approval." The Contracting Officer as thus referred to in the defendant's said contract is identified and designated by the provisions of the contract.

Various supplemental agreements to or modifications of said contract have been made thereto from time to time since the execution of said original agreement.

A copy of said original agreement, which is designated as Contract W-7401-eng-115, with all supplemental agreements thereto and modifications thereof is filed as Exhibit 1 to this answer.

## III

This defendant admits that under date of July 9, 1946, it as agent for the United States of America entered into a concession agreement with the complainant, Taylor's Oak Ridge Corporation, a wholly owned subsidiary of Darling Stores Corporation of New Jersey, which concession agreement bears No. RA-24C. Under this concession agreement this defendant as such agent granted to the complainant as concessionaire the privilege of conducting a general retail department store in the premises described as "Shop 101, Building 4, Group 2 on Broad-

way, and the building formerly known as the E. A. T. Stores, located on Baltimore and Miami Avenues, Gamble Valley" in Oak Ridge, Tennessee, for the period commencing on the 1st day of September, 1946, and ending on the 31st day of August, 1947.

Copy of this concession agreement, with its letter of transmittal dated June 28, 1946, and all modification of said agreement, are filed as Exhibit 2 to this answer.

The said Concession Agreement, by virtue of paragraph 21 thereof, granted unto the complainant the option to renew this Concession Agreement "for an additional term of one year and a further option at the expiration of the renewal term to extend this contract for one more year," provided notice of the intent to renew be given in writing to this defendant as agent at least sixty (60) days before the original agreement, or any renewal thereof, would expire.

Defendant admits that pursuant to the terms of said Concession Agreement the complainant entered into possession of said premises on or about September 3, 1946, and on or about that date began the operation of a retail store therein.

#### IV

Complainant gave defendant notice that it desired to exercise the option contained in said Agreement No. RA-24C to extend this Concession Agreement for the additional year from September 1, 1947, to August 31, 1948, and accordingly Supplemental Agreement or Modification No. 2 to said Agreement was executed by complainant and defendant.

In the summer of 1948 complainant likewise gave defendant notice that it desired to exercise the option contained in said Agreement No. RA-24C to extend this Concession Agreement for the second additional year, being the period from September 1, 1948, to August 31, 1949, and accordingly Supplemental Agreement or Modification No. 3 to said Agreement was executed by complainant and defendant.

By this same Supplemental Agreement or Modification the termination provision contained in the original Concession Agreement, being Section 22 of said Agreement, was amended so as to read as follows:

"*Termination.*—Either party hereto may terminate this Concession Agreement at any time by giving 90 days prior written notice to the other party in accordance with Section 19 hereof, or this Agreement may be terminated at any time upon terms mutually agreed upon by the parties."

#### V

Defendant would further show to the court that in the latter part of April, 1949, or early in May, 1949, the complainant began negotiations with defendant for a new rental or concession agreement to become effective upon the termination of said Concession Agreement No. RA-24C, as extended under its options, and under which new concession or lease agreement complainant could continue to carry on its retail merchandising operations in the premises it was then occupying at Oak Ridge. In connection therewith complainant advised defendant that the Marx Realty and Improvement Company, Inc., of 20 West Forty-third Street, New York City, was its authorized agent in the negotiations for this new agreement.

Photostatic copy of the telegram advising defendant of the agent's authority to conduct such negotiations is filed as Exhibit 3 to this answer.

Negotiations for such extension or for the execution of a new agreement under which complainant could continue to occupy said premises, were carried on between complainant and defendant largely through said Marx Realty and Improvement Company until August 26, 1949, and resulted in an extension of Agreement No. RA-24C as set forth in Supplemental Agreement or Modification No. 4 to said Concession Agreement, and under which the term of the concession granted to the complainant was extended to January 31, 1950.

#### VI

This defendant would show to the court that by consent, and with the full agreement of both complainant and defendant, the warehouse space, the use of which was granted to complainant as concessionaire under said Concession Agreement No. RA-24C, was changed from the location specified in said original agreement, to-wit, "the E. A. T. Stores located on Baltimore and Miami Avenues, Gamble Valley," first, to the "west wing of the building known as Adams Cafeteria, Adams Lane," and, later, to the building "formerly known as Super Market

located on Chicago Avenue, Gamble Valley," and still later to Bays "Nos. 1 through 8, inclusive, of M-1 Warehouse located on the north side of Midway Lane." It is this latter described building that complainant was using as warehouse space upon the expiration of its concession agreement on January 31, 1950.

The complainant entered into possession of the premises referred to in said Concession Agreement and the modifications thereof, and continued to occupy said space through itself and subconcessionaires for the purpose of conducting the retail department store therein and for warehouse space until January 31, 1950. In fact, as of this date (February 3, 1950) it still continues to occupy said space and continues to conduct therein a retail store, although all right to conduct said store expired as of January 31, 1950, and its sole right to any further occupancy thereof is for the purpose of an orderly removal of its stock, fixtures, and equipment therefrom, which removal, according to the terms of the Concession Agreement, as extended, is to be completed on or before February 15, 1950.

#### VII

This defendant emphatically denies that either before or after the execution of said Concession Agreement and/or before or after the execution of any modification thereof, it assured the complainant that it would have the refusal of occupancy of the premises covered by said agreement for any additional period except that provided for in the written agreement.

The defendant most emphatically denies that it at any time informed the complainant that complainant would have preferential treatment in any renewal or extension of said Concession Agreement.

The defendant further denies that complainant was ever informed by it or any of its agents that defendant would not grant the concession and use of the premises here involved to anyone else unless complainant was unable to meet competition.

This defendant denies that any assurances were given to complainant by any of the officers or agents of the defendant, which assurances would lead the complainant to believe that it was being granted any rights whatsoever for possession of the premises covered by the Concession Agreement beyond the periods specified in the written agreement which is filed as Exhibit 2 to this answer.

This defendant further denies that the complainant or any of its officers or agents "made it plain to the defendant," either before or after the execution of the Concession Agreement, that complainant "would not be interested in the concession unless it could be assured that it would have the refusal after the expiration of the original agreement for a renewal or any extension of the concession for a substantial period of time." The only assurance for renewal or extension of the Concession Agreement given to complainant was that plainly and expressly written into the Concession Agreement itself.

#### VIII

This defendant would show to the court that as early as May, 1949, when complainant first began negotiating for possession beyond August 31, 1949, of the premises here involved, complainant was advised that changes in the amount of rental to be paid after August 31, 1949, or other changes which would grant a more favorable concession agreement to complainant could not be made except upon advertisement and submission for competitive bids on the occupation of the premises involved, and that upon such submission complainant would have an equal opportunity with all other bidders.

During the period of negotiations between May, 1949 and the execution of the extension agreement of August 26, 1949, complainant's requests for favored consideration were consistently declined and it was repeatedly advised that no preference could be granted to it in consideration of bids submitted for occupancy beyond January 31, 1950. It was consistently advised that it would have equal opportunity with other interested parties to submit a proposal for leasing the subject premises. This information was given to complainant orally, by telegram and by letter. No other assurance was given to it. Furthermore, complainant during this period never asserted that it had been assured such preferential treatment. There was no mention made in either the verbal discussions or in the written communications of such alleged assurances on the part of defendant. In corroboration of this defendant files as Exhibits 4 to 11, inclusive, to this answer copies of correspondence between complainant and defendant. These communications do show that the complainant was attempting during this period of time to obtain from defendant a commitment for such preferential treatment,

but at no time in such correspondence or negotiations was the claim made that such commitment for preferential treatment had ever been made to it by the defendant.

### IX

The defendant denies that complainant relied upon any assurances from the defendant outside of the assurances contained in the Concession Agreement itself, in the expenditure of "large sums of money for fixtures, in addition to the requirements under the agreement."

It will be noted that under Section 6 of the Agreement concessionaire agreed to install fixtures, and that under Subsection (C) Paragraphs (1), (2), and (3) of said section, provision is made for the amortization of the net cost of the fixtures so installed and for due credit to be given complainant for such amortization in the event of cancellation of the Concession Agreement prior to the expiration of twenty-four months' operation by complainant.

### X

Defendant is not advised concerning the accuracy of the allegations made by complainant about the profits that it may have received or losses it incurred as a result of its occupancy and use of the premises here involved. However, this defendant would show to the court that according to the reports on gross receipts made to it by complainant, there has been a very substantial decline in sales volume during complainant's period of occupancy. The volume of sales was substantially less than Fifty-eight Thousand Dollars (\$58,000) per month during three of the last five months in the year 1949, while in only one prior month during complainant's forty months of operation had the volume of sales been less than Sixty-three Thousand Dollars (\$63,000).

Statements showing volume of complainant's gross sales during its entire period of occupancy up to January 1, 1950, are filed as Exhibit 12 to this answer.

### XI

This defendant would further show to the court that after the Supplemental Agreement or Modification No. 4 of August 26, 1949, entered into between complainant and defendant for the extension of Concession Agreement No. RA-24C for the period from September 1, 1949, through January 31, 1950, the defendant advertised through the Press and by mail that it had available for lease for use as a department store the 37,000 square feet of building located in Oak Ridge's main shopping district which was occupied at the time by the complainant. However, in said advertisement no reference was made to the present tenant or its occupancy. The advertisements stated that bids or applications if to be considered must be received by defendant by December 15, 1949, and that occupancy of the premises might be expected by March 1, 1950.

As a result of this advertisement defendant received numerous bids from a number of department store owners and other merchants located in various parts of the United States for the occupancy of these premises.

Under date of September 15, 1949, the complainant, through its agent, Marx Realty and Improvement Company, Inc., stated its desire to submit a bid "for the present Taylor's Store" and asked that the required forms for submission of such bid be forwarded to it. This request was complied with in letter written to the real estate agent by this defendant under date of September 19, 1949.

Photostatic copy of complainant's letter of September 15, 1949, of defendant's reply dated September 19, 1949, and of mimeographed copy of the bid form as furnished complainant, are filed as Exhibits Nos. 13, 14, and 15.

Under date of December 12, 1949, complainant submitted a bid for the occupancy of these premises for a term of five years but the bid was not submitted on the bid form, this form not being deemed necessary because defendant was familiar with the financial ability, standing, etc. of complainant.

Photostatic copy of this bid as submitted is filed as Exhibit No. 16 to this answer.

### XII

This defendant would further show to the court that after the date fixed as the final one for the receipt of bids or proposals for the use of said department store space defendant opened said bids or proposals and made thorough study and analysis of each and every one thereof, including the three alternate proposals submitted by complainant. Upon the completion of this analysis the complete file containing the analyses of all bids received, together with the bids themselves,

was submitted by the defendant to the Contracting Officer for his examination and approval as required by the defendant's contract. Upon examination of the bids submitted, and after completion of his own analysis thereof, the Contracting Officer, under date of January 10, 1950, in the exercise of his discretion, authorized this defendant to enter into a lease with Loveman's, Inc., of Chattanooga, Tennessee, for the operation of a department store in the premises covered by the Concession Agreement of complainant, and which was to expire on January 31, 1950. Copy of the Contracting Officer's authorization is filed as Exhibit 17 to this answer.

Accordingly, this defendant immediately advised the complainant and its realty agent, Marx Realty & Improvement Company, Inc., as well as all other unsuccessful bidders, by telegram that the award of the department store location here involved had been made to Loveman's, Inc., of Chattanooga.

On the same date advice was given by this defendant to Loveman's, Inc., of Chattanooga, that its application had been awarded the store location.

Under date of January 13, 1950, this defendant confirmed by letter to the Darling Stores Corporation, which is the parent corporation of the complainant, that it and its subsidiary had not been the successful bidder or applicant for the occupancy of this department store location.

### XIII

The defendant denies that the application or bid of Loveman's, Inc., of Chattanooga, was less favorable to the defendant as agent, and to its principal, the United States of America, than the bid or bids submitted by the complainant, and it further and most emphatically denies that the Contracting Officer in authorizing the award of said space to Loveman's, Inc., of Chattanooga, was acting in bad faith.

This defendant further and most emphatically denies that its action in following out the authorization of the Contracting Officer in making the award of said space to Loveman's, Inc., of Chattanooga, was in bad faith, and denies that said award was in breach of any agreement whatsoever existing between complainant and defendant.

This defendant further denies that the bid of complainant was the highest bid received from the bidders or applicants for the store space here involved. However, this defendant further denies that either it or the Government was under any duty to make the award of said space to the highest bidder. The bid form or application (Exhibit 15) expressly stated that Roane-Anderson Company reserved the right to reject any and all applications when it is deemed advisable in the interest of the Government or the Agent.

However, regardless of this express reservation the only duty involved upon this defendant or the Government was that the award should be made by the Contracting Officer and the Agent to the bidder whose bid, in the discretion of the Contracting Officer and the Agent, was to the best interest of the Government. This defendant shows to the court that, in its judgment and also in the judgment of the Contracting Officer, the acceptance of the bid of Loveman's, Inc., was to the best interest of the Government under all the circumstances involved, and hence the Contracting Officer and this defendant were authorized under the law to award the space to said corporation. Under long established legal principles the exercise of this discretion is not subject to review or control by the courts.

This defendant therefore denies that complainant has any right by injunction or otherwise to restrain, prevent, or in any manner interfere with this defendant in going forward with the completion of the concession or lease agreement with Loveman's, Inc., and that complainant has any right whatsoever or standing in this court to prevent Loveman's, Inc., from now entering into full possession of said premises under the award heretofore made to that company.

### XIV

This defendant would further show to the court that in all negotiations leading up to the execution of the Concession Agreement with the complainant, which agreement was entered into on July 9, 1946, and in the execution of that agreement itself, in the making of all modifications thereof, as well as in the taking of bids for the leasehold agreement which is to be effective as of March 1, 1950, and in the awarding of the lease to Loveman's, Inc., under its application or bid, this defendant was acting as the agent of and for the United States of America. The complainant's Concession Agreement was, in effect, a concession agreement with the United States of America and the awarding of the lease or possession of the

store premises to Loveman's, Inc., was in effect an award made by the United States of America.

This defendant therefore alleges complainant in the present action is attempting to enjoin the United States of America, through its agent, from the exercise of one of its governmental functions. Hence this defendant denies the right of the complainant to any relief herein and alleges that this court has no jurisdiction to grant any of the relief prayed for in the original bill inasmuch as the relief sought is being sought against the United States of America.

### XV

Any and all allegations of the original bill not hereinbefore admitted, explained and denied are here and now fully and completely denied.

This defendant has filed as exhibits to the answer photostatic copies of certain letters, telegrams, and papers. The originals of any of these which are in the possession of complainant will be filed upon the hearing. Complainant is called upon to file the original of such of said letters, telegrams, or papers as are in its possession and upon its failure to do so the defendant will rely upon its copies thereof upon the hearing.

And now having fully answered complainant's bill, this defendant prays to be hence dismissed with its reasonable costs.

ROANE-ANDERSON COMPANY

By (signed) R. R. KRAMER, *Solicitor*.

KRAMER, McNABB & GREENWOOD,  
*Solicitors.*

STATE OF TENNESSEE,  
*County of Knox, ss;*

Personally appeared before me the undersigned authority, C. M. Winfrey, who made oath in due form of law that he was Assistant Manager of the Division of Concessions of Roane-Anderson Company in June, 1946, and in that position handled most of the negotiations between Roane-Anderson Company and Darling Stores Corporation, which resulted in the execution of the Concession Agreement dated July 9, 1946, between Taylor's Oak Ridge Corporation and Roane-Anderson Company, and that he later became Manager of the Rental Department of the Commercial Realty Division of Roane-Anderson Company, which latter position he holds at the present time.

Affiant further states that he has handled most of the correspondence and participated in nearly all of the personal conferences and interviews with reference not only to the execution of the original Concession Agreement, but also with reference to the extensions and modifications thereof, and that he is thoroughly familiar with all of the negotiations had between the Darling Stores Corporation and Taylor's Oak Ridge Corporation.

Affiant further states that he has read the foregoing answer, is familiar with the contents thereof, and that the statements contained therein are of his own knowledge true and correct.

(Signed) C. M. WINFREY.

Sworn to and subscribed before me this 4th day of February 1950.

(Signed) GRACE L. MEEK, *Notary Public*.

My commission expires July 16, 1950.

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### EXHIBIT 8

(Referred to on p. 85)

FRANK W. WILSON, ATTORNEY

ARCADE BUILDING, OAK RIDGE, TENNESSEE

Subject: Oak Ridge Department Store Lease Investigation.

MARCH 14, 1950.

Honorable CHET HOLIFIELD,  
*Chairman, Subcommittee, Joint Committee on Atomic Energy,  
Congress of the United States.*

DEAR MR. HOLIFIELD: I wish to submit this written statement for consideration in connection with the investigation by this Subcommittee of the action of the

Atomic Energy Commission and the Roane-Anderson Company in granting a lease for the operation of a department store at Oak Ridge, Tennessee.

I understand that after my testimony and after my departure, statements were made by the counsel for Taylor's Department Store denying certain statements which I had made. In the first place, I am informed that my statement that it was a part of Taylor's record of performance that it had been necessary to sue them many times for the collection of ordinary debts was denied. It so happens that I have in my possession, and am filing as an exhibit to this statement, copies of two such suits. One was by a local window cleaner who was compelled to sue to collect his account, and another was by a jewelry operator who formerly conducted the jewelry department in Taylor's, and was compelled to replevin the fixtures for which he had paid Taylor's by monthly deductions: I specifically recall the Taylor's manager at Oak Ridge calling the New York office when I went to the store with the replevin papers, and placing me on the line with a person purporting to be the Darling Stores counsel, who attempted to advise me that we could not replevin the fixtures. The fixtures were successfully replevined. Instances of numerous other suits can be verified by the court records of the Trial Justice Court of Anderson County, and I shall be happy to provide certified copies of these suits and judgments if so requested. I recall the judge of the local court recently remarking to me that it was unusual that a store of the size of Taylor's had been sued so many times for unpaid bills.

In further rebuttal, a representative of the Darling Corporation denied my description of leasing arrangements between the main store and the departments. I am attaching herewith copies of correspondence carried on with Taylor's, which specifically cited and quoted from the contract which the departments were compelled to execute after having been induced into the store on a letter of intent which completely differed from the contract proposed by Taylor's. This correspondence will verify that the departments were compelled to turn in gross receipts daily to the main store, to be held for forty-five days and then returned after all deductions to the main store had been made, to pay for all fixtures and improvements of the premises over a period of twenty-four months, but title to the fixtures was to remain with Taylor's, and numerous other deductions and restrictions. For example, the total deductions by the main store from the electrical department amounted to 25% of gross sales by the department. In September and October 1946 the electrical department had gross sales of \$10,133.80, and Taylor's withheld \$2,534.17 as their rental and fees charged to the department. As a result, the department shortly went bankrupt. There have been at least three electrical-department operators at Taylor's, and none have been able to operate successfully, with the result that the last few months of Taylor's operation was without an electrical department. Similar conditions forced the shoe-repair department out, the toy department out, the sporting-goods department out, and others, none of which were successfully replaced.

As further illustration of the type of business operated by Taylor's and the ill-will created by the store, Taylor's promised employees overtime for working ten and twelve hours per day at the beginning of operations, and then refused to pay the promised overtime, with the result that the majority of the clerks terminated and spread a virtual boycott in Oak Ridge upon Taylor's. Taylor's failed and refused to take a part in the civic affairs or improvement of the community. For example, the business association put on a sales promotion program during Christmas of 1948, in which all Oak Ridge merchants agreed to participate, including Taylor's. After benefiting from the sales promotion and advertising done by the association and all other merchants, Taylor's refused to pay their portion of the costs as they had promised. They were the only merchants who thus failed to live up to their agreement.

Many other instances of abuse of customers, disregard of civic responsibility and other actions creating ill will among both merchants and residents of Oak Ridge could be cited. The amount of ill will and public resentment created by Taylor's during their operation can scarcely be exaggerated. Neither can its adverse effect upon the community be exaggerated. A strong and genuine department store is a major key to greatly increasing the total retail sales of all commercial business in Oak Ridge and is a necessary step toward placing the community upon a self-supporting basis.

Very truly yours,

FRANK W. WILSON.

OCTOBER 26, 1946.

Mr. F. J. SKURKA,  
*Taylor's, Inc.,*  
*Oak Ridge, Tennessee.*

DEAR SIR: As suggested by Mr. Levison, this is written to confirm our conversations of the past week and the recommendations that I made at that time.

On October 16, 1946, I was engaged by the heads of ten departments in Taylor's to assist in clearing up grievances and problems which they felt were affecting their businesses individually and the business of the store as a whole. After carefully going over the problems of each department, I was of the opinion that while some of the grievances were not real or substantial, several substantial complaints did exist.

With the knowledge that unfounded rumors, fears and anxieties can be equally as harmful to business as well-founded complaints, I presented the entire matter to you in our conference on October 18. In general the complaints were as follows:

1. A lack of an accounting was causing serious anxiety and uncertainty. After over a month and a half of operation, no one had an idea of where he stood. The apportioned costs of advertising, fixtures, cashiers, etc., were completely unknown. Since our conference some of the accountings have come in, but I understand that even these accountings are not complete and some of the costs still remain unknown.

2. The long period provided in the contract for withholding gross proceeds was seriously hampering operations. While it was true that the provisions of the contract in this respect were not strictly enforced by the main store and some departments had received funds back from the main store by way of paid outs or cash, there was no uniformity as to this and there was no uniform system of obtaining funds upon which they could base their business operations. This was requiring a double and some times triple investment of capital over that which had been anticipated by the departments, a curtailment or discouragement of stocking up by many departments, and a loss of cash purchase discounts by some departments.

3. The incurring of expenses by the main store which were chargeable to the department without consultation with or advice of the department. This was especially true in regard to advertisement expenses and fixture charges.

4. Uncertainty in several departments because of the unstable contract relations existing between the department and the main store. Changes negotiated in contracts at this office had been rejected by the New York office. There existed a general lack of confidence among all departments in the management, that is the entire management, not just the local management because they felt that the local management was not given sufficient authority by the New York offices to make binding commitments and because the commitments and assurances of the local management were too often not being backed up by the New York office.

5. A general feeling that the draft of the lease as submitted by the main store departed very materially from the proposals and letters of intent under which the departments came into the store. This was especially true in regard to the provisions for withholding gross receipts for so long a period and in regard to the numerous expenses tacked on as chargeable to the departments in addition to the percentage of gross rental. The departments entered the store and began operations under the provisions of the letters of intent, and the presentment of the contract in terms which varied so materially from the letters of intent was taking an unfair advantage of the situation.

6. A general feeling among the departments that they had entered a losing bargain under the extremely one-sided terms of the lease submitted by the main store.

7. Rumors of changes in business policies such as future refusal of C. O. D. acceptances by the main store, without a definite report pro or con from the management.

In the interest of clearing up the real and supposed complaints and grievances outlined above, I made three recommendations:

1. The primary management, office operations, bookkeeping and accounting should be conducted at the Oak Ridge office. This appears reasonable in view of the fact that Taylor's Oak Ridge Corporation was a Tennessee corporation organized solely for the purpose of operating a department store in Oak Ridge. This would enable direct negotiation and immediate settlement of problems, thereby avoiding the uncertainties and delays of absentee management. The doing of the primary bookkeeping and accounting at this office, I felt, would enable the main store to greatly speed up the accounting and return of funds to the depart-

ments. It was also my understanding that the keeping of records locally would be necessary to satisfy the terms of the agreement between the main store and the government. You explained that the present method of handling the office work through the New York offices was more economical but that you would investigate the expense and possibility of conducting the primary operations locally.

2. A definite plan for return of funds at least weekly to the departments should be adopted immediately, and this concession should be granted even to the departments who had executed contracts for return of funds on a monthly basis. Realizing that many expenses chargeable to the departments accrued on a monthly basis and that therefore a final accounting would necessarily have to be on a monthly basis, if the main store could not see fit to make a weekly accounting and return of gross receipts. I suggested two plans whereby the main store might make this concession and still adequately protect its interests. One plan was that 15%, 20%, or 25% of the gross receipts be withheld by the main store in weekly settlements to assure adequate funds in their hands to cover all obligations due by the departments at the end of the month. The other plan was that the departments could deposit a bond to assure the main store of receiving all amounts due on any final accounting and then weekly settlements be made of gross receipts less paid cuts and rental. In this connection you stated that as a matter of policy the main store already made advancements to the departments, but that the main store would agree to provide in the contracts a definite plan for weekly return of funds to the departments.

3. Direct negotiation of individual problems with each department, including the execution of contracts remaining unexecuted either because unsigned or because materially altered in New York after execution by the department. Some plan for closer cooperation between the main store and the departments should be worked out, so that the departments would either have some voice in the incurring of expenses chargeable to the department or that they might have a rough approximation in advance of what their proportionate share of such expenses would be.

Yours very truly,

LOWE & WILSON,  
FRANK W. WILSON.

FWW:hw.

cc: Mr. H. A. Levison.  
A certified true copy.

FRANK W. WILSON

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SPEARS ELECTRIC SUPPLY

P. O. Box 115, Oak Ridge, Tennessee

AUGUST 23, 1946.

Mr. F. J. SKURKA,  
Taylor's, Inc.  
Oak Ridge, Tennessee.

DEAR SIR: This is written in regard to the proposed contract to be entered into by Taylor's Oak Ridge Corporation and myself, pertaining to the operation of the electrical-appliance department in Taylor's. I feel that the draft of the contract submitted by you varies in several important respects from our previous understandings, as evidenced in my letter dated July 18, 1946, and your response of July 27, 1946, and other discussions had between us. In the interest of devising a more satisfactory agreement and one more in line with our general understanding, I wish to submit for your consideration the following changes to the draft as submitted by you. All references are to the numbered paragraphs of the draft.

1. The first paragraph provides that sales may only be for cash. To limit the sale of the more expensive electrical appliances to cash sales would unduly restrict sales. General Electric provides a plan whereby they finance credit purchases. To permit operation of this plan would increase rather than decrease the immediate gross sales intake.

2. The thirteenth paragraph permits the Main Store to terminate the agreement should a default on the part of the Department, of which it has been duly notified, not be rectified within ten days. No reciprocal right of termination is granted the Department. The thirteenth paragraph should either be eliminated or made reciprocal.

3. The sixteenth paragraph gives the Main Store the option of terminating the agreement in event of enumerated acts of insolvency upon the part of the Department. A reciprocal right should be granted the Department in event of insolvency

upon the part of the Main Store. In view of the fact that gross sales are deposited with the Main Store, the Department should not be required to run the risk of having to continue such deposits in event of insolvency of the Main Store and thereby risk becoming general creditors as to such deposits. To provide for this, the fifteenth paragraph, which has been eliminated in the draft, should be restored.

4. It was our understanding to have a permanent window display and window display service. No assurance of any window display is given by the draft. The seventeenth paragraph, which has been eliminated, would provide assurance of window displays while leaving overall control of window displays with the Main Store. This paragraph should be restored.

5. The twentieth paragraph provides for the exclusive use of the name Taylor's. The undersigned has established considerable business good will in past business operations on the area and should be permitted to capitalize upon this for the benefit of both the Main Store and the Department. Permission to announce and use the department manager's name, as manager, should be provided for.

6. The twenty-sixth paragraph provides for the remitting by the Main Store of gross receipts, after proper deductions, by the fifteenth day following the end of the fiscal month. This would require operation by the Department for a minimum of forty-five days without one cent in the way of return and in effect would be a compulsory loan of a sizable fund to the Main Store for its use and benefit over an unjustifiably long period of time, while at the same time severely penalizing and hamstringing the department. No such long period of retention of gross receipts is in any way needed or justified. The last sentence of the eighth paragraph originally provided for a daily return of receipts, but this was eliminated in the draft. A daily remittance by the Main Store to the Department should be restored as a one day retention permits the necessary accounting by the Main Store. At the very most the retention of gross receipts for a maximum of a week would permit all necessary accounting, with remittance being made not later than the third day of the following week. While being retained, gross receipts should be held in a separate fund and not mixed with the Main Store's general funds.

7. The thirty-second paragraph requires the Main Store to install appropriate fixtures but the cost to be borne by the Department in twenty-four installments. The fixtures are to remain the property of the Main Store. This places the Department in the position of purchasing the fixtures, yet obtaining no title. The installment payments are therefore in effect, a devious manner of increasing the basic ten percent of gross agreement. By rights, payment for fixtures should be considered as included in the ten percent of gross sales rental, but at the very least, title to the removable fixtures should pass to the Department upon payment of the total cost of installation.

8. The first part of the thirty-third paragraph by placing the entire control of employees etc. in the Main Store, in effect, eliminates the undersigned from all management and control of the Department. This paragraph should be eliminated and the ninth paragraph, originally eliminated, should be restored. This would place the department head in control of management but subject to approval of the Main Store.

The second part of the thirty-third paragraph provides for the Department's paying a proportionate share of the cashier's salary. The cashier is solely responsible to and employed by the Main Store and to shift his salary to the Department by this means is to increase the ten percent gross agreement. The original understanding was that the ten percent would cover all these incidental items.

The third part of the thirty-third paragraph, relating to advertising, should be eliminated. This provision of the draft amends the fifth paragraph to such an extent that the entire control over advertising would be placed in the Main Store, with the Main Store having the right to spend an unlimited amount for advertising and charge it to the Department. The fifth paragraph fully assures adequate advertising and gives the Main Store adequate control over the matter. Moreover the two percent of gross required to be spent for advertising by the fifth paragraph is excessive. No more than one percent should be required as the Department's contribution.

9. The thirty-fourth paragraph permits the management in its sole discretion to permit direct competition in the same line by other departments. This is grossly unfair to the contracting Department. Adequate safeguards are included elsewhere in the agreement to assure the Main Store of having the Department carry a full and complete line. Some incidental competition and overlapping among departments is doubtless unavoidable, but the first sentence of the thirty-fourth paragraph is adequate to cover this and the remainder should be eliminated.

The provision stricken from the first paragraph which reads "The Main Store will not permit the conduct of such business in its store by any other person, firm, or corporation," should be restored.

Yours very truly,

EVA WATKINS SPEARS,  
*Spears Electric Supply.*

Certified a true copy:

FRANK W. WILSON.

I personally delivered the letter.—F. W. W.

### CIVIL WARRANT—TRIAL JUSTICE COURT

STATE OF TENNESSEE, COUNTY OF ANDERSON

*To any Lawful Officer to Execute and Return:*

Summon Taylor's Inc., Oak Ridge, Tennessee, to appear before the Judge of the Trial Justice Court of Anderson County, Tennessee, to be held at the Courtroom of said Court in said County in the town of Oak Ridge on the 20th day of August 1947, at 10 A. M., then and there to answer in a civil action brought by G. W. Underwood, d/b/a/ Underwood Window Cleaning Company, for \$150 for window-cleaning services performed as per contract.

Under \$500.00.

This 13th day of August, 1947.

Clerk of the Trial Justice Court.  
By \_\_\_\_\_, D. C.

BOND

\$3.00 cash deposit.

### REPLEVIN—TRIAL JUSTICE COURT

THE STATE OF TENNESSEE, ANDERSON COUNTY

I, Royal Jewelers, plaintiff(s), plaintiff's agent, or attorney, do hereby make oath that according to the affiant's information and belief, the plaintiff, Royal Jewelers, is entitled to the possession of the property proposed to be repleveid, which property is described as follows, to-wit: Nine glass show cases each approximately three feet high and five feet long, located in the jewelry department of Taylor's Department Store, Oak Ridge, Anderson County, Tennessee, including lighting fixtures within the said cases.

That Taylor's Oak Ridge Corporation has seized said property or detains the same and that said property was not subject to such seizure, detention, or execution, wherefore plaintiff demands the writ of replevin.

Sworn to and subscribed before me this the 28th day of February 1948.

Deputy Clerk of Trial Justice Court.

BOND

We, Royal Jewelers, Principal, and Steuart Seagull, Surety, do hereby bind ourselves, our heirs and assigns to Taylor's Oak Ridge Corporation, defendant(s), in the penal sum of Nine Hundred Dollars, being double the value of the property above described, this obligation to be void, should the plaintiff(s) abide by and perform the judgment of the Court in the premises.

This 28th day of February 1948.

Approved:

\_\_\_\_\_, Principal.  
\_\_\_\_\_, Surety.

\_\_\_\_\_, Judge, Clerk, Sheriff.

### WRIT OF REPLEVIN

STATE OF TENNESSEE,  
County of Anderson.

*To the Sheriff or any Constable of said County:*

Summon Taylors Oak Ridge Corporation, defendant(s), to appear before the Trial Justice Court of Anderson County, Tennessee, to be held at the Courtrooms of said Court in the town of Clinton—Oak Ridge on the 5th day of March 1948,

at 2 o'clock P. M., to answer the complaint of Royal Jewelers, for unlawfully taking out of his possession and detaining from him the property of the said plaintiff(s), as follows: Nine glass show cases, each approximately three feet high and five feet long, located in the jewelry department of Taylor's Department Store, Oak Ridge, Anderson County, Tennessee, including lighting fixtures within the said cases.

And I also command you to take said property out of the possession of the said Taylor's Oak Ridge Corporation, defendant(s), and deliver the same to the said Royal Jewelers, plaintiff(s), he having given bond and security as required by law.

This 28th day of February 1948.

By \_\_\_\_\_, Judge.  
 \_\_\_\_\_, Deputy Clerk  
 Trial Justice Court.

(The following letter was received after the hearing and is incorporated herein:)

OAK RIDGE, TENN., March 18, 1950.

Congressman CHET HOLIFIELD,  
 Senate Office Building, Washington, D. C.

DEAR SIR: I have some further comment regarding the Taylor department store lease matter as follows:

The question remains, Why was the lease given to a firm that offered a far lower rental than we did, that offered less services in its proposal than we did, that had no experience in operating another store other than its present one, that was not the tenant in possession as we were, and that does one-half the business per capita in its trade area that we did in our trade area. Roane Anderson denies that it acted in a vindictive and malicious manner against Taylors. If this was not the reason for their decision, what was the reason?

The falaciousness and ridiculousness of the University of Tennessee retail survey of Oak Ridge quoted by Wilson at your hearing is very easily proven when you take just one of the percentages that Wilson referred to. He stated that Taylors did only 5 percent of the potential men's business in Oak Ridge. The 1949 sales of men's clothing and furnishings in the United States was \$17 per capita. The 1949 gross sales of the men's department in Taylors were approximately \$150,000, which represents, \$5 per capita of Oak Ridge population. If as stated, the men's department only did 5 percent of the business, that would represent a total sale in Oak Ridge of \$100 per capita for men's wear or about six times the national average. As Oak Ridge is a small town, the matter of dress is not important and it can easily be determined that the potential would be nearer the national average and not six times as great. All the figures quoted in this report are likewise subject to grave doubt as to their reliability. In addition, this witness, Wilson, represented the Oak Ridge newspaper and I question the moral right of this paper to take an active part in fighting against Taylors as I understand they are receiving a subsidy from the AEC.

Taylors operated a well-rounded department store containing many more departments than is usually found in a city of 30,000. Actual drop in population from 1946 figures at time we started at Taylors store to now is 50 percent and our sales dropped only 30 percent. We certainly did more than hold our own considering the drop in population.

I feel that you and your committee are fully convinced of the justice of our case and that the figures themselves show the truth of the fact that our bid was higher and a more lucrative arrangement for the Government than that of Lovemans. Also please remember that Roane Anderson could not produce at your hearing one letter from them to Taylors complaining about the Taylor operation.

I want to thank you and your colleagues, Congressman Elston and Congressman Kilday, for conducting a very fair hearing in regard to the loss of the Taylor Department Store lease. In view of the bad faith and poor judgment shown by Roane Anderson and the Atomic Energy Commission from beginning to end of the negotiations regarding the lease, I respectfully ask that your committee make a recommendation that any lease granted to Lovemans be canceled and the whole matter be thrown open to renegotiation with Taylors.

Yours very truly,

STANLEY LEVITT.

X

**CONFIRMATION OF THOMAS KEITH GLENNAN TO BE  
A MEMBER OF THE ATOMIC ENERGY COMMISSION**

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**HEARING**

**BEFORE THE**

**SENATE SECTION OF THE  
JOINT COMMITTEE ON ATOMIC ENERGY  
CONGRESS OF THE UNITED STATES**

**EIGHTY-FIRST CONGRESS**

**SECOND SESSION**

**ON THE**

**CONFIRMATION OF THOMAS KEITH GLENNAN TO BE A  
MEMBER OF THE ATOMIC ENERGY COMMISSION**

\_\_\_\_\_  
**AUGUST 16, 1950**  
\_\_\_\_\_

**Printed for the use of the Joint Committee on Atomic Energy**



**UNITED STATES  
GOVERNMENT PRINTING OFFICE  
WASHINGTON : 1950**

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## **SENATE SECTION OF THE JOINT COMMITTEE ON ATOMIC ENERGY**

**BRIEN McMAHON**, Connecticut, *Chairman*

**RICHARD B. RUSSELL**, Georgia

**EDWIN C. JOHNSON**, Colorado

**TOM CONNALLY**, Texas

**MILLARD E. TYDINGS**, Maryland

**BOURKE B. HICKENLOOPER**, Iowa

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**WILLIAM L. BORDEN**, *Executive Director*

**HAROLD BERGMAN**, *Deputy Director*

**II**

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# CONFIRMATION OF THOMAS KEITH GLENNAN TO BE A MEMBER OF THE ATOMIC ENERGY COMMISSION

WEDNESDAY, AUGUST 16, 1950

CONGRESS OF THE UNITED STATES,  
JOINT COMMITTEE ON ATOMIC ENERGY,  
*Washington, D. C.*

The joint committee met at 10:30 a. m., pursuant to call, in room 48-G of the Capitol, Senator Brien McMahon (chairman of the joint committee) presiding.

Present: Senators McMahon (chairman), Hickenlooper, Millikin, Knowland, Bricker; and Representatives Durham (vice chairman), Price, and Elston.

The CHAIRMAN. Gentlemen, the committee will be in order.

Gentlemen, we have with us this morning Dr. Thomas Keith Glennan. Dr. Glennan has been nominated by the President for the vacancy on the Atomic Energy Commission, and I believe you have before you, gentlemen of the committee, a list of his experience and directorships.

Now, Dr. Glennan, will you make a brief statement about your past work and education?

## STATEMENT OF DR. THOMAS KEITH GLENNAN, CLEVELAND HEIGHTS 6, OHIO

Dr. GLENNAN. I think, Senator McMahon, it is set forth pretty accurately on this paper. I would be glad to answer any specific questions that you might have.

I would say only that my activities for the past 20 years have been principally in administrative and management or executive work in enterprises which have been based largely on science and engineering.

The CHAIRMAN. From 1927 to 1935, when you started with Electrical Research Products, were you in the laboratory or in the business end?

Dr. GLENNAN. I was in the business field almost entirely. As a matter of fact, a couple of those years were spent abroad in London and on the Continent, and that was in the installation and operation and servicing of sound motion picture equipment in the early days of sound motion pictures.

The CHAIRMAN. That is what led into the active participation in the motion-picture business? Was that in California?

Dr. GLENNAN. That is quite right, sir.

Senator KNOWLAND. Mr. Chairman, I suggest that the memorandum which we have before us be included as a part of the record at this point, if that is agreeable.

The CHAIRMAN. That will be done.

(The statement of qualifications referred to follows:)

## THOMAS KEITH GLENNAN (EDUCATOR)

Born: Enderlin, N. Dak.; September 8, 1905.

Address: Home, 2530 Fairmount Boulevard, Cleveland Heights 6, Ohio.

## Degrees:

1927: Bachelor of science, Yale University.

1947: Doctor of science, Clarkson College.

1950: Doctor of science, Oberlin College.

## Experience:

1927-35: With Electrical Research Products, Inc.

1935-39: Operations manager, Paramount Pictures, Inc.

1939-41: Studio manager.

1941-42: Studio manager, Samuel Goldwyn Studios.

1942-45: Director, United States Navy Underwater Sound Laboratory of Columbia University.

1945-47: Executive, Ansco (General Aniline & Film Co.), Binghamton, N. Y.

Since 1947: President, Case Institute of Technology, Cleveland, Ohio.

## Directorships:

Deputy Chairman of Committee on Ordnance, Research and Development Board, National Military Establishment.

Member, board of directors, Cleveland Electric Illuminating Co.

Member, board of directors, Equity Savings & Loan Co. of Cleveland.

Member, board of trustees, Cleveland Clinic Foundation.

Awards: Medal of Merit by United States Government for services at Underwater Sound Laboratory.

The CHAIRMAN. This Directorship of the United States Navy Underwater Sound Laboratory of Columbia University; I believe that is at New London, Conn.?

Dr. GLENNAN. That is quite right.

The CHAIRMAN. And you spent 3 years there?

Dr. GLENNAN. That is right.

The CHAIRMAN. Did that require active scientific work, or was that in a managerial capacity?

Dr. GLENNAN. I would say it was a combination of both. Perhaps I can best describe it as requiring intuitive scientific or engineering judgment. That is a round term, but it is a very accurate one in a situation such as that.

The CHAIRMAN. And from 1945 to 1947, I notice you were an executive in General Aniline & Film Co. What position did you fill?

Dr. GLENNAN. I was assistant production manager at the Ansco Division in Binghamton for about 6 months, and then became manager of administrative services, which included quite a variety of the engineering, service and industrial relations functions.

The CHAIRMAN. Then I notice you went to Case.

Dr. GLENNAN. That is right.

The CHAIRMAN. I have no other questions.

Senator BRICKER. I would like to say for the record that when I heard of Dr. Glennan's appointment, I was pleased, coming from my State. He has been a resident there for some little time.

I called some of my friends in Ohio, members of the board of Case, whom I happened to know well, as the doctor knows. I got two reactions. The first was that they were sorry to lose him at Case; and the second, that they were glad that the Atomic Energy Commission was getting a man of his sturdy Americanism, patriotism, and ability.

So I just wanted that to go in the record as a matter of approval of men who have known you and worked with you and at one time employed you.

The CHAIRMAN. I think that is a very fine tribute, and I am delighted to hear it, Senator.

With the appointment of Dr. Glennan, the Commission comes up to full strength, and I think we will be in excellent shape as far as the Commission is concerned, and I am quite happy about it.

Dr. GLENNAN. Thank you, sir.

I should tell you, Senator McMahon, that I will find it difficult if not impossible to come to Washington until October 1, until I get this school launched on another school year and wind up some of my family affairs in Cleveland. I intend to be here October 1, if confirmed.

The CHAIRMAN. If we confirm you, as I assume the Senate will, you will have an opportunity in the interim, I assume, to make some trips in here and take home some work, in which you can familiarize yourself with this work.

Dr. GLENNAN. I suspect the midnight oil will be burned.

The CHAIRMAN. If there are no further questions, Doctor, thank you very much, indeed. We will be reporting the nomination to the Senate.

Senator KNOWLAND. There is just one question that I would like to ask.

I subscribe to what the Senator has said. All of the reports I have had are of the very high standing of the doctor.

On this work that you were doing from 1942 to 1945, with the United States Navy Underwater Sound Laboratory at Columbia, just as a matter of information, did that job require the handling of classified information?

Dr. GLENNAN. Very much so; yes, sir.

Senator KNOWLAND. Thank you.

The CHAIRMAN. Thank you, Doctor.

(Thereupon, at 10:45, the hearing was adjourned.)









# HANFORD SCHOOL FACILITIES

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## HEARING

BEFORE A

### SUBCOMMITTEE OF THE JOINT COMMITTEE ON ATOMIC ENERGY CONGRESS OF THE UNITED STATES

EIGHTY-FIRST CONGRESS

SECOND SESSION

ON

HANFORD SCHOOL FACILITIES

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MARCH 3, 1950

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Printed for the use of the Joint Committee on Atomic Energy



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WASHINGTON : 1950

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## JOINT COMMITTEE ON ATOMIC ENERGY

(Created pursuant to Public Law 585, 79th Cong.)

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HAROLD BERGMAN, *Deputy Director*

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### SUBCOMMITTEE OF THE JOINT COMMITTEE ON ATOMIC ENERGY TO INQUIRE INTO FEDERAL RESPONSIBILITY FOR CAPITAL CONTRIBUTIONS TO SCHOOLS IN THE AREA SURROUNDING RICHLAND, WASH.

HENRY M. JACKSON, Washington, *Chairman*

RICHARD B. RUSSELL, Georgia

W. STERLING COLE, New York

II

REPRODUCED FROM THE  
OFFICIAL RECORDS OF THE  
JOINT COMMITTEE ON ATOMIC ENERGY

# HANFORD SCHOOL FACILITIES

FRIDAY, MARCH 3, 1950

CONGRESS OF THE UNITED STATES,  
JOINT COMMITTEE ON ATOMIC ENERGY,  
SUBCOMMITTEE ON HANFORD SCHOOL FACILITIES,  
*Washington, D. C.*

The subcommittee met, pursuant to call, at 3:45 p. m., in room 48-G, the Capitol, the Honorable Henry M. Jackson (chairman of the subcommittee) presiding.

Present: Representatives Jackson (chairman of the subcommittee) and Cole.

Also present: Clarence Ohlke, Carleton Shugg, and Mr. Harold L. Price, Atomic Energy Commission; E. S. Black, superintendent of Kennewick school district, on behalf of the following school districts: Benton City, Grandview, Kiona, Pasco, Prosser, and Sunnyside; representing the committee staff: William L. Borden, executive director, and Edward Heller.

Mr. JACKSON. The committee will come to order.

When we completed the hearings last fall, I think it was quite clear that there was definite need for some assistance to the public schools in the Hanford area. The committee took a considerable amount of testimony, and I believe a formula was worked out that seemed pretty satisfactory.

As a result of that hearing, the subcommittee was advised that the Commission was going to request funds of the Bureau of the Budget in connection with their budget for the fiscal year 1951 to take care of the urgent school situation in the area.

I understand the request was made of the Bureau of the Budget. Subsequently, the Bureau of the Budget turned down this item.

The reason apparently given at the time was that there was pending in the House a bill which had previously passed the Senate, providing for assistance in those areas in which there was a burdensome condition resulting from Federal activity. That bill was brought up in the House in the closing days of the session, was objected to, and as a result, no action was taken.

It is my understanding that the Bureau of the Budget apparently turned down the request on the assumption that this bill would pass and that it would be better to handle this problem by general legislation that would be applicable to all departments of the Government and that it should not be the responsibility of the Commission alone.

I think there is general agreement, certainly in the subcommittee, that it ought to be handled that way. The only problem is, What are you going to do if the legislation is not enacted?

We have with us today Mr. Black, who is here at my request, to outline to the committee for the record the situation as it exists at

the moment in the area, and more particularly with reference to the Kennewick school system.

Mr. COLE. May we have the amount of money requested from the Bureau of the Budget that was turned down?

Mr. SHUGG. \$3,210,698.

Mr. COLE. Was that exclusively for operation or for capital?

Mr. SHUGG. That was capital expenditure for construction of the permanent facilities.

Mr. COLE. All of the \$3,210,698 was for capital?

Mr. SHUGG. Yes, sir. We have in that same budget the smaller sum, actually \$36,000, for the estimated need to cover the \$240 per year for first-year students.

Mr. COLE. That was approved by the Budget?

Mr. SHUGG. That is still in there.

Mr. COLE. At least, it wasn't rejected by the Budget.

Mr. JACKSON. How much are the temporary funds you requested annually for temporary purposes?

Mr. SHUGG. That is based on the estimated number of new first-year students. In the 1951 budget the amount is \$36,000.

Mr. JACKSON. Mr. Shugg, did my opening statement substantially describe the situation as it exists now? I was going to call on Mr. Black to explain the problem.

Mr. SHUGG. Yes, sir, it does.

Mr. JACKSON. If there is no objection, we will hear from Mr. Black at this time.

First, Mr. Black, we don't want to be repetitious here this afternoon. The general situation, as it existed up until September or August, when we held the last hearing, is pretty well established. I think it would be helpful to the committee if you could advise us what the current situation is now and what you anticipate the situation to be next September, assuming now, as I was advised recently, that there will be at Hanford, I think, some 10,000 construction workers, new workers, in September, with a peak of about 13,000 in January, and that is the current program.

#### STATEMENT OF E. S. BLACK

Mr. BLACK. Mr. Chairman, we are not in a position to cope with any new ones. We have more than we can cope with, with what we have. We have a building, which was built in 1936, for a junior-senior high-school building, built to house 500 students. We now have operating in that building and surrounding makeshifts about 1,290 students enrolled in the junior-senior high organization, and the move-up alone from the lower, coupled with the graduations, brings the two organizations to over 1,500 in September.

We are so far beyond our ability to handle it that there isn't anything we can do about it. We don't like to get into these situations, but we are there. It isn't exactly our fault, and we have made every effort possible to try and solve it for the good of the youth of our community and our Nation.

We brought the problem up, as you have recited, where it is, and the money was dropped out of the budget. We do not feel, from talking to a number of Congressmen, that over-all legislation will be in time to help us. It throws us in this position: In September, as

far as any new students are concerned, the only thing we can do is fulfill the law, enroll them, and tell them we will have to notify them when and if facilities are available.

Then we would notify the Atomic Energy at Richland, and if we can bus them in to the schools, they can do that for the good of their children. That is a much more expensive proposition than to educate them in Kennewick. The question has been raised here on first year students that brings up another question.

When Hanford increases, we increase. When they terminate, we increase, for the simple reason that there are rules and regulations there that children can only live on the project so long a time after termination. They are entitled to a certain amount of unemployment pay and social security. They stay in the State and collect it in our area.

Last spring, when the big termination took place, we drew the terminated people. We have many people in our community going to school, who are terminees, who were terminated prior to the entrance of our school year. So we are discussing that problem not with the Richland officials regarding the acceptance of those terminees who moved into our area to finish off the collection of their funds, and I am sure it will bring up quite a problem.

Of course, our main difficulty of my school district and the other five school districts is the matter of facilities.

Mr. JACKSON. How many children would be denied an opportunity to go to school if no assistance is provided? That is, bearing in mind that which is now in the budget—namely, \$36,000.

Mr. BLACK. All I can speak for is my district, and without anything new, we would probably be faced with not having at all facilities for from three to four hundred, and if there are new ones, I don't know what we would be faced with.

Mr. JACKSON. That is, without any increase, you would be faced with an impossible situation with reference to three or four hundred students?

Mr. BLACK. Junior-senior high school.

Mr. JACKSON. That is in your area?

Mr. BLACK. Yes, sir.

Mr. JACKSON. You don't know what the situation is in the other districts?

Mr. BLACK. No. The only thing I can say is Kennewick has gone ahead, we have an architect, we have plans and specifications for a high school, the bidding is being done now. The architect's estimate on that building is \$2,200,000 for 800 students.

The way building has been going in the State recently, probably a decided saving could be made over that figure. But at the present time with all funds that we have anywhere near us, we have a total of \$808,000.

Mr. JACKSON. The amount needed is how much?

Mr. BLACK. According to the architect's estimate, it is \$2,200,000. It would be according to the bid when it came in.

Mr. JACKSON. That is the shortage?

Mr. BLACK. Yes, that building would be ready to start construction on within 5 weeks if we had funds, and we could meet the bottleneck and carry on and save these problems. But the funds aren't available.

Mr. JACKSON. Will that school be ready next fall?

Mr. BLACK. Yes, sir.

Mr. JACKSON. Can anyone answer the question as to, approximately at least, the number of students that could be expected with a construction force of 10,000 workers by next fall? Is there any rule of thumb or any past history to go by?

Mr. SHUGG. Not that I know of, Mr. Chairman. Of course, the bulk of that construction camp is now empty, and again it remains to be seen of the new force picked up how many take up trailer space or barrack space in the present camp, where there is a school for them, or how many elect to reside outside.

Mr. COLE. How long will they be on, that additional 10,000?

Mr. JACKSON. It will reach a peak, I understand from the information given by Mr. Williams, of 13,000 in January, and then it will taper off—January 1951, will be the peak—and it will taper off gradually throughout 1951 and terminate in the early part of 1952.

Mr. SHUGG. That is a good estimate.

Mr. JACKSON. No one can predict as to the exact number of workers that will be on the project?

Mr. SHUGG. All we can say is there will be a substantial force by next fall at the time school opens.

Mr. COLE. What fraction of them will live on the station?

Mr. SHUGG. That is the difficult thing to guess, sir. There is plenty of room up in the camp now.

Mr. JACKSON. That is, for them to live, but how many more students could they take in the Richland School?

Mr. SHUGG. They are obligated, I believe, to take care of all of the children who come in with parents to live in the camp itself.

Mr. COLE. If there is room enough in the camp to take care of these new temporary construction employees, the problem of additional children will not face Mr. Black's district nor any of the outlying districts. That will be a problem for the Commission at Richland; is that correct?

Mr. SHUGG. The bulk of it will be, though I believe, as Mr. Black has said, that an unknown number of those new workers will elect to live out of Richland, out in Kennewick and the outlying towns, regardless of space being available in the camp.

Mr. COLE. But not regardless of space being available in these other towns. Is there space available for them in the other towns?

Mr. BLACK. There is housing but not schools.

Mr. COLE. I am talking about housing.

Mr. JACKSON. As I understand the testimony, even if you didn't bring in any more workers, next fall there will be turned away some 400 students approximately, without any increase in the force at Hanford, not a question of turning them away, but you will not have the facilities; is that right?

Mr. BLACK. That is right.

Mr. COLE. Where are they coming from?

Mr. BLACK. I would say we have an increase of about 300 percent due entirely to the Hanford project.

Mr. COLE. Let me ask you differently. Have you had to turn away any school children yet?

Mr. BLACK. We have not.

Mr. COLE. You expect that next fall you will have to turn away three to four hundred?

Mr. BLACK. That is right.

Mr. COLE. And there will be that many, not taking into consideration the additional number of construction employees?

Mr. BLACK. That is right.

Mr. COLE. Does that mean that the normal operation at Hanford is going to be increased to the extent that it will provide 300 more children for you to take care of?

Mr. BLACK. They wouldn't have to increase any operation to increase us.

Mr. COLE. You haven't turned anybody back yet, you are not taking into consideration added employees at this atomic project, and yet you say you expect to turn 300 away.

Mr. JACKSON. The answer, I think, is that our school population throughout the country is going up and the number that you have, roughly 8,000, of production employees at Hanford and children in schools now, and they will have more children in schools, not all of them are in this area, but some of them, and a portion of this 400 will be attributable to Hanford but not all of the 400.

Mr. BLACK. Our lower grades represent 400 enrollment per grade, and we graduated last year 103 seniors. That influx is into junior high now, and we are graduating small classes, and those big classes are coming in.

Mr. COLE. It isn't new children coming into the school district, it isn't youngsters coming into the first grade, but the large crowd of war children moving into high school?

Mr. BLACK. That is right.

Mr. COLE. And is it that large?

Mr. BLACK. About 300.

Mr. COLE. About 25 percent increase over what you have now?

Mr. BLACK. We are graduating a class of a hundred and we have classes of 400 taking their place.

Mr. JACKSON. How many in the school system?

Mr. BLACK. Thirty-three hundred.

Mr. COLE. In the high school?

Mr. BLACK. One thousand two hundred and eighty we now have enrolled, and we will have approximately a 200 increase in the junior-senior high organization.

Mr. JACKSON. How many additional students can be accommodated at Richland at the present time?

Mr. BLACK. The past experience has been that the schools outside of the district have handled about 60 percent as many children as they have handled in Richland, and that is pay-roll attachees only, not including the service workers.

Mr. JACKSON. You mean the indirect?

Mr. BLACK. The indirect people.

Mr. JACKSON. Indirect workers?

Mr. BLACK. At Richland they handled production workers plus service people. Outside we only count those that are directly connected with production pay roll.

Mr. COLE. I still don't understand why the added increase. These children coming into your high school in the fall are not wartime children.

Mr. BLACK. They are mostly brought in by production workers.

Mr. COLE. Where are they now?

Mr. BLACK. Originally we only had an 800 enrollment, and we now have 3,300. Most of the people in Richland brought in their young children, and they are moving up.

Mr. JACKSON. Wouldn't the increase be in the lower grades? In other words, these 8,000 employees that work at Hanford are subject to the same general trend as that throughout the country—that is, upward, as far as school population is concerned. Isn't that the point? As Mr. Cole mentioned, I don't see how it affects the high school population, because it will be possibly 5 or 6 years before that.

Mr. BLACK. We are already handling around 1,700 AEC children now that are chargeable to them for some type or other for construction. When they originally came in there, we did everything to meet it, but can't go that far. If there is any increase, it will be added to that.

Mr. JACKSON. The increase, as far as you are concerned, won't make any difference whether it is AEC or non-AEC. The point is you have been carrying this heavy AEC load, and this new influx is the thing that is really going to put you into what is almost an impossible situation, not taking into consideration that which may or may not be in store for you when the construction force is brought into the area.

Of course, it might be said, too, that you have a substantial part of that construction force there now, a lot of people in the area that are drawing unemployment compensation that are waiting to go back to work, so it wouldn't be fair to say that you have only, say, 2,000 people working at Hanford today on construction, you are going to have 10,000 in September, that there will be 8,000 new workers coming into the area. We don't know how many.

Mr. BLACK. The last employment service report was there were still 4,000 unemployed in the area.

Mr. JACKSON. There will be some increase, but I don't think it will be in direct relation to the number of projected employees on the construction work. That is probably correct, isn't it, Mr. Shugg? Assuming that these people are there, I assume that is a fair assumption.

Mr. SHUGG. I certainly believe that a good many of the people that are there and not employed now are waiting for construction to pick up and probably a good many of those, if they are living outside now, will continue to live outside and then, as I say, it is only a guess as to the new people who come there as to what proportion will go into the camp and what proportion will elect to go to the outside towns.

Mr. JACKSON. I would like to say I think the Commission has done everything possible to take care of this matter that has been presented to the Bureau of the Budget, and the bureau has turned it down. I think, however, that the Bureau of the Budget should be apprised by this committee of what the facts are, and it is going to be their responsibility, if there is a real problem next fall.

Mr. COLE. Did the Budget Bureau have any criticism of the formula by which this \$3,210,000 was determined?

Mr. SHUGG. Not that I heard.

Mr. JACKSON. Am I correct in understanding that the main reason given for the denial of the request was the assumption that this legislation would pass or that it should be handled by general legislation pending in the Congress?

Mr. SHUGG. I am not sure of the particular bill, whether they based their case on any one bill, but their over-all reason for deleting it, as I understand it, was that they did not feel it would be in keeping with over-all executive department policy that this permanent construction should be financed by a particular agency.

Mr. COLE. They didn't question the authority of the Commission to spend this money, did they?

Mr. SHUGG. No, sir; I don't think that came up.

Mr. JACKSON. I think they should have looked a little closer and checked the appropriation bill for the Department of the Interior, and they would have found in there two schools that are being built, permanent construction, in the Columbia Basin area.

The committee will present a report to the full committee, with the request that a letter be sent to the Bureau of the Budget outlining the situation as it was contemplated at the last meeting of the subcommittee in August, as it exists now, and what the addition will be in the Hanford School area beginning in September of this year.

(Whereupon, at 4:20 p. m., the hearing was adjourned.)

X



**CONFIRMATION OF THOMAS E. MURRAY TO BE A  
MEMBER OF THE ATOMIC ENERGY COMMISSION**

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**HEARING**

**BEFORE THE**

**JOINT COMMITTEE ON ATOMIC ENERGY  
CONGRESS OF THE UNITED STATES**

**EIGHTY-FIRST CONGRESS**

**SECOND SESSION**

**ON THE**

**CONFIRMATION OF THOMAS E. MURRAY TO BE A  
MEMBER OF THE ATOMIC ENERGY COMMISSION**

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**MARCH 29, 1950**

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**Printed for the use of the Joint Committee on Atomic Energy**



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## JOINT COMMITTEE ON ATOMIC ENERGY

(Created pursuant to Public Law 585, 79th Cong.)

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# CONFIRMATION OF THOMAS E. MURRAY TO BE A MEMBER OF THE ATOMIC ENERGY COMMISSION

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WEDNESDAY, MARCH 29, 1950

CONGRESS OF THE UNITED STATES,  
JOINT COMMITTEE ON ATOMIC ENERGY,  
*Washington, D. C.*

The joint committee met at 10:30 a. m., pursuant to call, in room 48-G, the Capitol, Senator Brien McMahon (chairman), presiding.

Present: Senators McMahon and Bricker, and Representative Price.

The CHAIRMAN. The joint committee will be in order.

We are meeting this morning to consider the nomination of Mr. Thomas E. Murray, of New York, to be a member of the Atomic Energy Commission for the term expiring June 30, 1950.

Mr. Murray, will you come forward, please.

## STATEMENT OF THOMAS E. MURRAY, OF NEW YORK, NOMINATED TO BE A MEMBER OF THE ATOMIC ENERGY COMMISSION

The CHAIRMAN. Mr. Murray, will you give your name to the stenographer, please, in full?

Mr. MURRAY. Thomas Edward Murray.

The CHAIRMAN. And you reside at 686 Park Avenue, New York City?

Mr. MURRAY. That is right.

The CHAIRMAN. Mr. Murray, the President, as is required of him under the law, has submitted to us a biographical sketch which is in the hands of the committee.

Mr. Stenographer, I wish you would insert it at this point in the record.

(The biographical sketch of Mr. Murray follows:)

### THOMAS E. MURRAY

Residence: 686 Park Avenue, New York City.

Born: June 20, 1891, Albany, N. Y.

Parents: Thomas E. Murray and Catherine Bradley Murray.

Education:

Our Lady of Victory School, Brooklyn, N. Y.

St. Francis Xavier's Grammar School, New York City.

St. Francis Xavier's High School, New York City.

Yale University, Sheffield Scientific School with bachelor of science degree in mechanical engineering, 1911.

**Professional memberships:**

Professional engineer's license, 1930.  
 Member of the American Society of Mechanical Engineers, 1932.  
 Fellow of the American Society of Mechanical Engineers, 1947.  
 Fellow of the American Institute of Electrical Engineers, 1933.

**Honorary degrees:**

St. John's University, 1937.  
 Georgetown University, 1939.  
 Fordham University, 1940.

**Experience:**

1907-11: During college course worked during summer with Consolidated Edison Co.  
 1911-12: Worked as engineer with Consolidated Edison Co.  
 1912-15: Served in various capacities as research engineer with Metropolitan Engineering Co., founded by his father in 1900.  
 1915-49: President of Metropolitan Engineering Co., until its merger with Murray Manufacturing Corp. in October 1949.  
 1932-40: Sole Federal receiver of the \$500,000,000 properties of the Interborough Rapid Transit. His term of office was not marred by a single serious labor difficulty.  
 1941: Impartial arbitrator in settling the important Bell Aircraft labor controversy.

**Experience:**

1942-49: President of Murray Manufacturing Corp., founded in 1942. Resigned as president in October 1949.  
 1943: Won a special award from the United States Government for inventing new method of manufacturing shells which saved tons of strategic materials and accounted for 25 percent of all World War II trench mortar shell production.  
 1946: Appointed by President Truman as first impartial chairman of the United Mine Workers welfare and retirement fund.  
 1947:

Also served as impartial representative of the 1947 United Mine Workers welfare and retirement fund.

Granted approximately 200 patents in electrical and welding research.

**Directorships:**

Director of American Radiator and Standard Sanitary Co., 1930-39.  
 Director of Bank of New York and Fifth Avenue Bank, 1933 to date.  
 Director and member of finance committee of Chrysler Corp., 1935 to date.  
 Trustee, Manhattanville College, 1945 to date.

**Family:** Married Marie Brady of Brooklyn, January 4, 1917. Eleven children: Thomas E. Murray, Jr., Mrs. Basil Harris, Jr., James B., Mr. D. Bradley, S. J., Paul, Anne, Jane, Frank, Mr. Joseph G., S. J., Peter, and Margot.

The CHAIRMAN. Mr. Murray, I presume that you have given some thought and consideration to the Commission and to its activities.

Mr. MURRAY. I have.

The CHAIRMAN. Your educational background and experience, I notice, has been in the engineering field for the most part.

Mr. MURRAY. It has been; yes, sir.

The CHAIRMAN. Would you wish to elaborate for us, please, on the engineering work in which you have been engaged?

Mr. MURRAY. You mean other than as covered by this particular record here?

The CHAIRMAN. Yes, if you would. I notice in 1943 you won a special award for inventing a new method of manufacturing shells. Would you care to go into that with us?

Mr. MURRAY. Well, during the beginning of the last war, the Government was facing quite a problem in the manufacture of all kinds of shells, particularly trench mortar shells. There was a great shortage of equipment for making shells out of forgings, and the problem was presented to me by General Campbell, who later became Chief of

Ordinance, to see if we could get up a method to do away with forging.

So I invented a process where rolled sheet could be used and formed up in two halves and welded, which gave the same results as a forging but at the same time not only eliminated the necessity of using forgings but saved a great deal of strategic metal. It was a saving of about 20 percent in the manufacture of shells by this method over ordinary forging methods.

There is one thing I noticed in this report. It does not state the engineering organization of Thomas E. Murray, Inc., which my father organized many years ago. That company carried on an organization that built power plants. At the time of his death, I think that he had installed more horsepower than any other engineering concern in the country.

I was associated with father in that activity for a great many years, along with my work in the manufacturing field.

That is the only thing, Senator, that I notice as not being covered here.

The CHAIRMAN. This record discloses you were granted approximately 200 patents in electrical and welding research. Were those patents granted on your inventions?

Mr. MURRAY. Yes, sir.

The CHAIRMAN. You realize, Mr. Murray, that under the requirements of the act, which are very stringent, you cannot have any outside interests.

Mr. MURRAY. I understand that.

The CHAIRMAN. Therefore, it may be regrettable but necessary for you to resign, for instance, from Chrysler, and as a director of the Bank of New York, and the Fifth Avenue Bank. I would say that as trustee of the college you would not come within the prohibition in the act.

I think that is true; is it not, Senator Bricker?

Senator BRICKER. That would be my impression.

The CHAIRMAN. And I see that you are no longer a director of the American Radiator & Standard Sanitary Co.

Mr. MURRAY. I am no longer a director.

The CHAIRMAN. You and Mrs. Murray have 11 children.

Mr. MURRAY. Yes.

The CHAIRMAN. Senator Bricker, have you any questions?

Senator BRICKER. No. I am very favorably impressed with the experience and the qualifications of Mr. Murray, and I think he is exactly the type of man that is needed at this time in this field; and, from his experience, I am quite confident that he will thoroughly appreciate the opportunities that he has. He has been not only in the professional field but in the public field as well.

This is only as a matter of interest, but what is the nature of Manhattanville College?

Mr. MURRAY. It is a college run by the Sisters of the Sacred Heart.

Senator BRICKER. It is a religious school?

Mr. MURRAY. Yes. It is a nonsectarian school, but run by a religious order.

Senator BRICKER. I happen to be a member of the board of one or two colleges of similar character in Ohio, and I was just interested in it.

Mr. MURRAY. It is located at One hundred and thirty-third Street, and it is about 100 years old.

Senator BRICKER. Those schools have done a great job; I know that.

Mr. MURRAY. Yes; it is a fine school.

Senator BRICKER. There is nothing in here that I can see, Mr. Chairman, that would in any way require his severance from the school.

The CHAIRMAN. The intent of the act was not against charitable and eleemosynary institutions.

Mr. MURRAY. I was making a point that that could be done.

The CHAIRMAN. I would not want you to do it if you did not have to. I sometimes think that that restriction we wrote in there was perhaps too stringent.

Mr. MURRAY. If it was tied in or connected with some of the universities associated with the Atomic Energy Commission, perhaps there might be some point in it; but I cannot foresee any case where Manhattanville College would participate in any way with this particular program.

Senator BRICKER. It is not a business, vocation, or employment.

Mr. MURRAY. No, sir.

The CHAIRMAN. Mr. Murray, your confirmation, of course, rests with the Senate, but this is a joint committee and we have a most pleasant relationship on it. Mr. Price is representing the House here; and if you have any questions, Congressman Price, we will be glad if you would feel free to ask them.

Representative PRICE. I have no questions.

The CHAIRMAN. If there are no further questions, Senator, we will adjourn the meeting, and I shall poll the Senate members of the committee.

Senator BRICKER. You can poll me favorably.

The CHAIRMAN. I would appreciate it if you would tell the Senate members your attitude so that we can have it reported. Mr. Murray is going to Rome tonight and will be back within 2 to 3 weeks. It is a trip that he has planned for the past 4 months, with his family, and he will enter upon his duties when he returns, provided the Senate, of course, in the interim has confirmed him.

Senator BRICKER. This is the appointment to succeed Mr. Lilienthal; is it?

The CHAIRMAN. That is right.

Senator BRICKER. There will be one other vacancy as of the 1st of next month, will there not?

The CHAIRMAN. That is right.

All right, gentlemen, the meeting is adjourned.

(The following letter was received by the committee and is incorporated as part of this hearing:)

UNITED STATES SENATE,  
COMMITTEE ON INTERIOR AND INSULAR AFFAIRS,  
March 29, 1950.

HON. BRIEN MCMAHON,  
Chairman, Joint Atomic Energy Committee,  
United States Senate, Washington, D. C.

DEAR SENATOR MCMAHON: I understand that your committee is to consider the nomination of Mr. Thomas E. Murray, of New York, as a member of the Atomic Energy Commission.

I should like to submit to you the following statement of my own views as to the qualifications and suitability of Mr. Murray for the post for which he has been nominated :

"I consider President Truman's nomination of Mr. Thomas E. Murray to the Atomic Energy Commission an excellent choice of a man who will, when he is confirmed, perform great service to his country. Mr. Murray has a wide background in industrial and engineering matters, combined with a devotion to the public interest. I have known him and his family for many years. I have followed his many activities in the industrial world and his many services to the State, local, and Federal Government with interest and appreciation through the years. He will bring to the Atomic Energy Commission a fine mind, sharpened by a rich experience in the field in which his new authority will be concentrated, that of applying atomic energy to both the industrial field and the field of national defense."

Very sincerely yours,

HERBERT H. LEHMAN.

(Thereupon, at 11 a. m., the hearing was adjourned.)

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# **PATENT ASPECTS OF THE ATOMIC ENERGY ACT**

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## **HEARING**

**BEFORE THE**

## **JOINT COMMITTEE ON ATOMIC ENERGY CONGRESS OF THE UNITED STATES**

**IN EXECUTIVE SESSION**

**EIGHTY-FIRST CONGRESS**

**SECOND SESSION**

**ON**

## **PATENT ASPECTS OF THE ATOMIC ENERGY ACT**

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**MARCH 31, 1950**

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# PATENT ASPECTS OF THE ATOMIC ENERGY ACT

FRIDAY, MARCH 31, 1950

CONGRESS OF THE UNITED STATES,  
JOINT COMMITTEE ON ATOMIC ENERGY,  
*Washington, D. C.*

The joint committee met in executive session, pursuant to notice, at 2:05 p. m., in room G-48, Capitol Building, Washington, D. C., Senator Brien McMahon (chairman) presiding.

(The following statements were presented to the Joint Committee on Atomic Energy. They have been edited so as to exclude all classified information.)

Present: Senators McMahon (chairman), Hickenlooper, Millikin, and Bricker; Representative Durham.

Members of the committee staff present: William L. Borden, executive director; Messrs. Heller, Brobeck, and Hamilton.

Representing the Atomic Energy Commission: Commissioners Pike, Strauss, Dean, and Smyth; and Messrs. Volpe, Hollis, Boskey, and Trapnell.

\* \* \* \* \*

The CHAIRMAN. Gentlemen, the Commission recommends to us and has cleared it with the Bureau of the Budget and with the Department of Justice, an amendment to the act, which would provide at the end of the provision, section 12 (c), certain additional language. The recommendation came in the form of a letter which reads as follows:

ATOMIC ENERGY COMMISSION,  
*Washington 25, D. C., February 28, 1950.*

HON. BRIEN MCMAHON,  
*Chairman, Joint Committee on Atomic Energy,  
Senate Office Building, Washington, D. C.*

DEAR SENATOR MCMAHON: In connection with certain claims against the Government based on alleged inventions in the field of atomic energy, there has arisen an important problem which the Commission recommends should be resolved by legislative clarification. The problem relates to the possible disqualification of members of the General Advisory Committee to the Atomic Energy Commission, as well as members of advisory boards designated by the Commission, and their assignees, from asserting claims against the Government based on inventions made by them during the period prior to the date on which such membership was assumed. If such a disqualification exists—and the Department of Justice has indicated a view that under existing statutory provisions it does—it means that by accepting membership on the General Advisory Committee a scientist would be compelled to forego, during his entire term of office, the assertion of any claim against the Government for compensation based on past inventions in which he has retained ownership rights. This places a high penalty upon accepting service on the General Advisory Committee. It thus might seriously impair the ability of the Government to induce persons of outstanding technical qualifications in the field to serve on the General Advisory Committee, or similarly to serve on the advisory boards which the Commission from time to time establishes pursuant to section 12 (a) (1) of the Atomic Energy Act of 1946.

The possibility of such a result, which would be so clearly detrimental to the interests of the atomic-energy program, should be removed by clarifying legislation at the earliest practicable date. The Commission accordingly recommends to the Congress that prompt legislative action be taken which will make it clear that the possibility of any such disqualification has been eliminated.

The problem to which we refer has arisen in the following manner: There is now pending before the Patent Compensation Board of the Atomic Energy Commission, in Docket No. 2, an application filed by G. M. Giannini & Co., Inc. for just compensation and reasonable royalty fee. This application is based on United States Patent No. 2,206,634, entitled "Process for the Production of Radioactive Substances," issued by the United States Patent Office on July 2, 1940, to Enrico Fermi, Edoardo Amaldi, Bruno Pontecorvo, Franco Rasetti, and Emilio Segre, as assignors to G. M. Giannini & Co., Inc., under an assignment dated September 30, 1935, and recorded in the United States Patent Office on January 22, 1936. Under an agreement dated October 7, 1935, G. M. Giannini & Co., Inc., as assignee obtained a one-eighth beneficial interest in the patent and Enrico Fermi, Edoardo Amaldi, Oscar d'Agostino, Bruno Pontecorvo, Franco Rasetti, Giulio Cesare Trabacchi, and Emilio Segre had a seven-eighths beneficial interest therein.

Pursuant to the rules of procedure which the Commission had adopted to carry out the direction of section 11 (e) of the Atomic Energy Act, G. M. Giannini & Co., Inc., filed its application before the Patent Compensation Board on October 26, 1948. At that time, Dr. Fermi, who as noted above retains a beneficial interest in the patent, was a member of the General Advisory Committee, having been appointed to such position by the President on December 12, 1946, pursuant to section 2 (b) of the Atomic Energy Act.

In the response filed before the Patent Compensation Board by the Commission's Office of the General Counsel, which under the rules of procedure becomes a party in cases before the Board, the Board's attention was invited to the fact that Dr. Fermi was a member of the General Advisory Committee and it was suggested that the Board consider the question of the possible applicability to the case of section 1498 of the Judicial Code, revised (28 U. S. C., sec. 1498), which reads as follows:

"The Court of Claims shall have jurisdiction to render judgment upon any claim against the United States for the recovery of the reasonable and entire compensation for the use or manufacture of an invention covered by a patent of the United States which has been used or manufactured by or for the United States without license of the owner thereof or lawful right to use or manufacture the same.

"The court shall not award compensation under this section if the claim is based on the use or manufacture by or for the United States of any article owned, leased, used by, or in the possession of the United States prior to July 1, 1918.

"This section shall not confer a right of action on any patentee who, when he makes such a claim, is in the employment or service of the United States, or any assignee of such patentee, and shall not apply to any device discovered or invented by an employee during the time of such employment or service."

It will be noted that this section relates to the jurisdiction of the Court of Claims in actions brought against the United States for infringement of patents, and that it creates certain disabilities against claimants in the employment or service of the United States and their assignees. The possibility that it might be interpreted to apply not only to Court of Claims proceedings but also to proceedings filed before the Commission's Patent Compensation Board was raised in the response, particularly in view of the provision in section 11 (e) (3) of the Atomic Energy Act directing that there be taken into consideration in proceedings before the Board "any defense, general or special, that might be pleaded by a defendant in an action for infringement." In carrying out its responsibilities to bring to the Board's attention possible issues in the case, the Office of the General Counsel identified this possible disqualification as a matter which the Board might wish to consider.

After this response had been filed, Dr. Fermi raised the question whether it would not be desirable to obtain a definitive interpretation as to the limitations which were placed upon the members of the General Advisory Committee, insofar as they relate to the presentation of claims of this nature. Dr. Fermi was informed that the matter would be explored with the Department of Justice, and Commission representatives subsequently brought it to the attention of the Department of Justice for consideration. As a result of informal discussions with the Department of Justice, we were advised that in the proceedings which are now pending before the Patent Compensation Board in Docket No. 2, the Department of Justice would have to take the position that by reason of Dr. Fermi's current

service as a member of the General Advisory Committee, both Dr. Fermi and his assignee, G. M. Giannini & Co., Inc., were disabled by section 1498 of the Judicial Code, revised, from maintaining the application before the Patent Compensation Board at the present time.

The Patent Compensation Board was informed of this development at a hearing on January 10, 1950. The Board requested that a brief relating to this question of statutory interpretation be submitted by counsel for the applicant, and that a statement be requested from the Department of Justice as to the basis for the position they had taken. At the same time the Board was advised that the question of obtaining legislative clarification was being actively considered. The Board expressed the view that this avenue should be pursued in order to eliminate from the case at the outset, if at all possible, this question of possible disqualification.

A similar problem is raised by an application filed before the Patent Compensation Board on January 9, 1950, in Docket No. 7. This is an application for just compensation and/or an award, in which the applicants are Glenn T. Seaborg, Joseph W. Kennedy, Arthur C. Wahl, and Emilio G. Segre. Dr. Seaborg, like Dr. Fermi, is presently a member of the General Advisory Committee, and Dr. Kennedy is presently a member of the Reactor Safeguard Committee, which is an advisory board the Commission has established pursuant to section 12 (a) (1) of the Atomic Energy Act. The application filed before the Patent Compensation Board in Docket No. 7 is based on certain alleged inventions, relating largely to plutonium and plutonium separation, which it is stated were invented prior to April 1, 1941.

As you know, section 12 (c) of the Atomic Energy Act of 1946 already contains certain provisions relieving members of the General Advisory Committee and of the Commission's advisory boards against certain disabilities imposed by law. In order to remove this possible disqualification relating to claims for past inventions, the Commission recommends that section 12 (c) of the Atomic Energy Act be amended by adding at the end a new sentence (italicized below), so that as revised it would read as follows:

"(c) ADVISORY COMMITTEES: The members of the General Advisory Committee established pursuant to section 2 (b) and the members of advisory boards established pursuant to subsection (a) (1) of this section may serve as such without regard to the provisions of sections 109 and 113 of the Criminal Code (18 U. S. C., secs. 198 and 203) or section 19 (e) of the Contract Settlement Act of 1944, except insofar as such sections may prohibit any such member from receiving compensation in respect of any particular matter which directly involves the Commission or in which the Commission is directly interested. *The provisions of the last sentence of section 1498 of the Judicial Code, revised (28 U. S. C., sec. 1498), shall not be applicable to the members of the General Advisory Committee or of such advisory boards, or the assignee of any such member, with respect to any invention or discovery made while such member was not in the employment or service of the United States.*"

It will be noted that this proposed amendment would remove any question of disqualification, arising out of membership on the General Advisory Committee or an advisory board of the Commission, with respect to claims—whether asserted before the Patent Compensation Board or in the courts—which are based on inventions made prior to the time membership on the General Advisory Committee or the advisory board was assumed. It would not, however, make any change in existing law with respect to claims based on inventions made during the period while the individual concerned was in the employment or service of the Government, and would leave the interpretation of existing law on that subject open for future consideration if it should arise.

The particular cases now pending before the Patent Compensation Board to which this amendment would be applicable are complex in nature, as will appear from an examination of the pleadings. The purpose of the proposed legislation would not be to prejudice in any way the merits of the claims, or of the defenses which might be available. It is intended merely to remove at the outset a possible disqualification arising from membership on the General Advisory Committee or on the Commission's advisory boards—a disqualification which, if not removed, would be most inequitable in its consequences and would bring serious disadvantages to the atomic energy program.

The Commission has consulted with the Department of Justice concerning this proposed amendment. From such consultation it has appeared that, in the view of the Department of Justice, the amendment is not regarded as contrary to the general purposes which section 1498 of the Judicial Code, revised, was intended to serve and that the Department of Justice agrees with our view that enactment of the legislation would be desirable.

We have also been advised by the Bureau of the Budget that this proposed legislation is in accordance with the program of the President.

Sincerely yours,

UNITED STATES ATOMIC ENERGY COMMISSION,  
SUMNER T. PIKE, *Acting Chairman*.

If you will turn to the copy of the act—

Mr. BOSKEY. That is on page 19.

The CHAIRMAN. The provision sets up advisory committees:

The members of the General Advisory Committee established pursuant to section 2 (b) and the members of advisory boards established pursuant to subsection (a) (1) of this section may serve as such without regard to the provisions of sections 109 and 113 of the Criminal Code \* \* \*

Now, as I remember 109 and 113, that exempts from the provision of the criminal statutes which prohibits their maintaining any claims against the Government; is that not right?

Mr. VOLPE. That is right, sir.

The CHAIRMAN (reading):

\* \* \* except insofar as such sections may prohibit any such member from receiving compensation in respect of any particular matter which directly involves the Commission or in which the Commission is directly interested.

What they want to add is this:

The provisions of the last sentence of section 1498 of the Judicial Code, Revised, shall not be applicable to the members of the General Advisory Committee or of such advisory boards, or the assignee of any such member, with respect to any invention or discovery made while such member was not in the employment or service of the United States.

It seems that Dr. Fermi, who is a member of the General Advisory Committee, before he became a member of the General Advisory Committee, made an invention. He assigned this invention, or at least a portion of it, called process for the production of radioactive substances, to Giannini & Co., Inc., and there is now a suit pending. Am I correct?

Mr. VOLPE. A claim before the Commission.

The CHAIRMAN. A claim before the Commission's Patent Board?

Mr. VOLPE. That is right.

The CHAIRMAN. You will remember we set up a Patent Board to hear any claims of inventors. Now, this would remove the disqualification of Dr. Fermi and people in like status from maintaining a claim. The claim of the invention, however, must have been before he was in the employment, meaning before he was a member of the Advisory Committee.

Mr. VOLPE. That is right.

The CHAIRMAN. In other words, if today while a member of the Advisory Committee he makes an invention, then this exemption would not apply.

Mr. VOLPE. It would not apply.

Mr. STRAUSS. He actually made this invention while he was in Italy before he came to this country.

The CHAIRMAN. It would seem to be an act of fairness to permit him to maintain his rights and not disqualify him because he is serving on our Advisory Committee.

Mr. STRAUSS. One consequence might be to force his resignation from the Committee.

he is a member of the Advisory Committee at the present time. I do not understand the purpose of that.

Mr. VOLPE. The matter of legal interpretation is not free from doubt. The Justice Department has taken a position.

Senator BRICKER. You have a legal opinion from the Justice Department?

Mr. VOLPE. We have, and in view of their having taken a position that this particular section does apply in this case, we felt because of the impact this has on the General Advisory Committee, we had better remove the doubt by amending this section.

The CHAIRMAN. I will put it in and we will have to come up for a vote on it.

Senator BRICKER. I do not understand how, if he can not process a claim at the present time—if he has no valid claim against the Government if we do not amend the act—I do not see how his resigning would do any good.

Mr. VOLPE. The only disability is that he is a member of the General Advisory Committee.

Senator BRICKER. That would be removed by his resigning.

Mr. VOLPE. Or by this provision, which would exempt him.

Senator BRICKER. I have no objection.

Senator MILLIKIN. Under the law at the present time can a man who is working in, say, Los Alamos get an invention and patent it?

Mr. VOLPE. Under the law, Senator, there are certain circumstances under which individuals might get patents. There are circumstances under which even if he does get a patent, the patent is of no effect; so that it is merely going through motions.

But we have contracts with all of our technical people, with our contractors, and our contractors in turn with their employees, under which inventions or discoveries are assigned to the United States Government.

Senator MILLIKIN. How about after their services are terminated? Suppose a fellow loads himself up with information on which he makes an invention. Do we have any reach over that?

Mr. VOLPE. We have reach over that under the law, under the common law, in that in the event an attempt is made to prosecute such a claim or seek compensation for such a claim, all of the defenses we would have would be made at that time.

Senator BRICKER. Is there not a statute on that, that such a patent would belong to the Government if the information he secured, upon which a patent was based, was secured in his employment by the Government? I know that is true of a company. You cannot take a job with a company and get the information by which you later premise a patent.

Mr. VOLPE. That is true, but that would be by way of defense to any claim that was made. I do not know of any statute which would prohibit an individual from attempting to prosecute such a patent or prosecute his claim, but obviously if someone would leave our project and use information obtained in our project for making application for a patent and then seek compensation from the Commission, we would, of course, use his employment in the project and his having obtained the information on the project as a defense to any claim he might make.

Senator MILLIKIN. Supposing he uses his patent to start an infringement suit or suit for royalties against a private person. John

Doe leaves Los Alamos, uses information to get an invention. Somebody else has a similar invention or assume no one has a similar invention; assuming he tries to collect royalties from somebody using his invention, is there any stoppage against that?

Mr. VOLPE. The individual against whom he seeks to obtain royalties or seeks to enjoin would have the defense just as the United States Government would have the defense.

Senator MILLIKIN. Out of what does that defense arise? What is the basic authority for that defense? How could a private citizen urge that kind of defense? I can see where the Government could urge it. How could a private citizen urge it?

Mr. VOLPE. I want to be sure I have the same set of facts you are considering.

Senator MILLIKIN. I will state them again. John Doe leaves Los Alamos; out of information he derived there he gets an invention. Let's assume he gets a patent. Supposing I infringe his patent, or supposing I use his patent without paying him anything for it. He comes after me for royalties. On what theory could I plead that this person got his information while working with the Government? Is there a general statutory basis for that?

Mr. VOLPE. There is not. As a matter of fact, I had misunderstood your question. My off-the-cuff view is that he might not have available to him the same defense that the Government might.

Senator MILLIKIN. I can see the defense of the Government. What I was really driving at is, you do not know of any provision of general law that would keep a fellow from coming out of Los Alamos, using his information, and getting himself a patent?

Mr. VOLPE. I do not know of any unless he attempts to use it in order to obtain compensation from the Government.

Senator BRICKER. I think there is a statute.

Mr. VOLPE. That may be true.

Senator HICKENLOOPER. What about the statute in industry?

Senator BRICKER. I have that in mind. I think there is one protecting the Government also.

Senator HICKENLOOPER. Patents where you may quit your job, but have developed the idea while under the employment of somebody.

Mr. VOLPE. I have always thought that the rights that are involved between, let us say, employer and employee in industry are rights that arise out of the employer-employee relationship or contract, as, for example, within the project we have contracts under which our employees pledge and agree not to use information acquired in the program—

Senator BRICKER. There is a statute covering patents in industry, I am confident of that.

Mr. VOLPE. I will check it.

Senator HICKENLOOPER. I think there is a statute covering that employer-employee relationship and what an employee can quit his job and do, based upon what he learned while an employee.

Senator BRICKER. There is such a statute. I wish you would get me a copy of the Attorney General's opinion on this, upon which you premise this.

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(Thereupon at 4:15 o'clock the hearing was adjourned.)

**CONFIRMATION OF SUMNER T. PIKE TO BE A  
MEMBER OF THE ATOMIC ENERGY COMMISSION**

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**HEARING**  
**BEFORE THE**  
**SENATE SECTION OF THE**  
**JOINT COMMITTEE ON ATOMIC ENERGY**  
**CONGRESS OF THE UNITED STATES**  
**EIGHTY-FIRST CONGRESS**  
**SECOND SESSION**

**ON THE**  
**CONFIRMATION OF SUMNER T. PIKE TO BE A MEMBER**  
**OF THE ATOMIC ENERGY COMMISSION**

\_\_\_\_\_  
**JUNE 29, 1950**  
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JUL 31 1950

## SENATE SECTION OF THE JOINT COMMITTEE ON ATOMIC ENERGY

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JOHN W. BRICKER, Ohio

WILLIAM L. BORDEN, *Executive Director*

HAROLD BERGMAN, *Deputy Director*

II

# CONFIRMATION OF SUMNER T. PIKE TO BE A MEMBER OF THE ATOMIC ENERGY COMMISSION

THURSDAY, JUNE 29, 1950

CONGRESS OF THE UNITED STATES,  
JOINT COMMITTEE ON ATOMIC ENERGY,  
*Washington, D. C.*

The Senate section of the joint committee met, pursuant to call, at 10:40 a. m., in room 48-G, the Capitol, Senator Brien McMahon (chairman of the joint committee), presiding.

Present: Senators McMahon, Connally, Tydings, Hickenlooper, and Knowland; Representatives Price, Jackson (Washington), Cole (New York), and Van Zandt.

Also present: Gordon E. Dean, Sumner T. Pike, Henry D. Smyth, and Thomas E. Murray, Commissioners, Atomic Energy Commission; William L. Borden, executive director, Edward Heller, Kenneth Mansfield, and Walter Hamilton, of the committee staff.

The CHAIRMAN. Come to order, please.

As the committee knows, we have been considering the nomination of Mr. Sumner Pike, who was appointed to the Atomic Energy Commission for a period of 4 years. We discussed the nomination the other day, but took no vote, came to no conclusion on it, and agreed to meet this morning.

Dr. Smyth, a member of the Commission, has written me under date of June 28, as follows:

DEAR SENATOR MCMAHON: Confirming my telephone call of this noon, I should like to request that I be allowed to testify before the joint committee tomorrow morning on behalf of Mr. Pike. I should also like to request that the session be open to the public.

I am asking for this opportunity to appear before the committee because I feel strongly that Sumner Pike deserves the committee's confidence and, as I told you yesterday, I am surprised that there is any doubt as to his confirmation.

Sincerely yours,

HENRY DEWOLF SMYTH.

In pursuance to that request, I advised Dr. Smyth to be present this morning, and here we are. Now, Doctor, if no other member of the committee has any objection, you may proceed.

## STATEMENT OF HENRY D. SMYTH, COMMISSIONER, UNITED STATES ATOMIC ENERGY COMMISSION

Mr. SMYTH. Mr. Chairman and gentlemen, I have asked permission to testify before the members of the joint committee with reference to the nomination of Mr. Pike for a new term as a member of the Atomic Energy Commission. I made this request because I feel that it is difficult for the members of the committee, burdened as they

are with manifold duties and responsibilities, to appreciate fully the importance of Mr. Pike's continuance on the Commission to the country's atomic energy program. In giving testimony, I have no personal motive; I had never met Mr. Pike but once, before I joined the Commission, and my association with him has been almost entirely professional although always entirely agreeable. I specifically asked the President to nominate me for only 1 year more on the Commission and you have done me the honor to recommend my confirmation. I believe these facts are relevant to the impartiality of my testimony, and I state them for that reason.

The period during which I have been intimately familiar with the work of the Commission—from June 1, 1949, to the present—has been a turbulent one. At its beginning, there was the investigation by this committee of the past actions of the Commission. In the fall, the question of the hydrogen bomb arose and has continued of major importance throughout the year. Also in the fall, Mr. Lilienthal announced his intention to resign which became effective February 15; his resignation was followed by that of Mr. Strauss, on April 15. Thus, in effect, the Commission has been operating for the past 6 months below full strength and without a Chairman. Since February 15, Mr. Pike has been Acting Chairman, never knowing from day to day how long he would continue in this office. I consider this a very difficult position for any man. In spite of this, I believe that the Commission has functioned with increasing effectiveness, particularly during the last few months. Great steps have been made to push forward the expanded program decided on last July and to carry out the President's order of January 31, 1950, on the H-bomb. Credit for these advances is in considerable measure due to Mr. Pike.

There is no doubt in my mind of Mr. Pike's intelligence, integrity, and complete devotion to the national welfare. In my 13 months' association with him on the Commission, I have never detected in his judgments and statements any trace of personal ambition, or vanity, or spite. He has a penetrating understanding of the motives that guide men, and he has the kind of tolerance that arises from such an understanding. He also has a remarkable capacity to grasp the scientific and technical features of our program and appreciate their significance. He is forthright and outspoken. This trait brings vigor to the operation of the great industrial enterprise for which the Atomic Energy Commission is responsible. Such vigor is particularly valuable when it is backed by the wide experience and knowledge he has.

I would like to point out the evident difficulty of finding competent men to serve on this Commission. It has been known since last December that we were losing our Chairman and another one of the original members of the Commission. In spite of that, only one new member has been added to the Commission since May 1949. Rejection of Mr. Pike will not make it easier to find a new member of the Commission, much less the two new members who would then be required. Of course, the three of us whose nominations have been confirmed by the Senate will do our best to continue and make more effective the work of the Commission. The task will be made specifically more difficult by the absence of Mr. Pike with his great ability and long familiarity with the project, and generally more difficult by the lack of a full complement of Commissioners.

I have tried to make clear to you why I believe Mr. Pike's confirmation is of great importance to the atomic energy program for which you share responsibility with the Commission. Such a sharing of responsibility is always difficult. Yet in many fields of government in this country we have done it successfully for a century and a half and it is inherent in the democratic process. In the atomic energy program we have been trying a new experiment in the field of democratic government, while at the same time we were developing a new industry. Of course there have been differences of opinion between the men who shared the responsibility—differences within the committee, differences within the Commission, differences between the Commission and the committee, such differences as occur between honest, conscientious men trying to solve pressing problems. There has been plenty of irritation, too, as we all know. Yet there are times when we put aside such differences and irritations, as the Nation has put them aside during this week. I believe that the greatest effectiveness in the atomic energy program in the coming months will be achieved only if we all remember constantly with respect to these differences, that neither my feelings, nor yours, nor those of anyone else in the Government are of real importance compared to the interests of our country which we are all trying to serve.

This concludes my formal statement. I shall, of course, be glad to answer any questions to the best of my ability. I cannot emphasize too strongly the importance of the decision you are about to make. If you feel there is any substantial question concerning Mr. Pike's qualifications, then I urge you most seriously to call other witnesses who are familiar with Sumner Pike's work and ability.

Thank you very much.

The CHAIRMAN. Are there any questions, gentlemen?

Senator CONNALLY. I would like to ask Mr. Smyth one question. What are the complaints that these folks have who oppose Mr. Pike's confirmation? What do they say about him?

Mr. SMYTH. Senator Connally, I only know of things I read in the papers. I do not know what their complaints are. That is the reason I have to make this statement rather general.

Senator CONNALLY. You think he is honest?

Mr. SMYTH. I do.

Senator CONNALLY. You think he is qualified?

Mr. SMYTH. I do.

Senator CONNALLY. You think he has served well?

Mr. SMYTH. I do.

Senator CONNALLY. And you think he will serve well?

Mr. SMYTH. I do.

Senator CONNALLY. That ought to cover the case.

Senator TYDINGS. If you had the appointing power to designate a man on this Commission at this critical time in the affairs of nations, particularly our own, would you without hesitation select Mr. Pike as one of the Commissioners on this Atomic Energy Commission?

Mr. SMYTH. If he had never been on, Senator Tydings?

Senator TYDINGS. Yes.

Mr. SMYTH. That is a hypothetical question which would be difficult for me to answer. I believe I would, but I would not have known him.

Senator TYDINGS. To take the other handle of the plow, supposing he had been on, with his experience, and you had the chance of re-appointing him or appointing someone else that you might think of who you feel would serve well, would you appoint Mr. Pike?

Mr. SMYTH. Yes; because the continuity is so important.

Senator TYDINGS. No other questions, Mr. Chairman, for me.

Senator HICKENLOOPER. Dr. Smyth, we are all familiar with the Atomic Energy Act and the unique position in which the joint committee finds itself under the law and, therefore, the position which the Senate members who are responsible for confirmation find themselves.

I think it is fair to state that it is a unique committee-administrative relationship and establishes affirmatively under the law some very important responsibilities, especially on the joint committee of which the Senate members are a part.

Do you agree generally with that statement?

Mr. SMYTH. I agree generally with that statement.

Senator HICKENLOOPER. I would not expect you to specifically agree with every word.

Now, I think many of us have conceived the atomic energy program as being one of uniqueness—I mean, it is new in government, the type of legislation is new, the type of governmental operation is new, and most of us have considered it to be a very vital and moving thing in our American security and our American economics perhaps in the future, and in the whole public set-up.

Do you agree that it is of very great importance?

Mr. SMYTH. I do.

Senator HICKENLOOPER. I anticipated that you would agree to that.

Do you agree, Dr. Smyth, that continuity and vigor in this atomic energy program is of importance?

Mr. SMYTH. Yes.

Senator HICKENLOOPER. And of vital importance to our country and perhaps to the world?

Mr. SMYTH. Yes.

Senator HICKENLOOPER. One other question along that line: Do you believe or agree that this committee has a very substantial responsibility in connection with the confirmation of Commissioners?

Mr. SMYTH. Certainly.

Senator HICKENLOOPER. And do you think I am making a fair statement when I say it is a rather unique responsibility as compared to perhaps other administrative agencies or departments because of the provisions of the law, the affirmative mandates of the law?

In other words, we are charged with the responsibility of making continuous studies and being informed and informing ourselves, et cetera, which is an affirmative charge seldom contained in legislation with regard to committee responsibility.

Mr. SMYTH. I am not sufficiently familiar with the various other acts and set-ups in the Government to speak from knowledge, but I would assume that that statement is correct.

Senator HICKENLOOPER. Do you agree that this committee and especially the Senate section, which constitutes the committee on confirmation, has not only the full right, but an important duty to examine carefully into confirmations because of the vital nature and importance of this Commission?

Mr. SMYTH. It was because I thought that it was my duty to help in that task that I asked to appear here this morning.

Senator HICKENLOOPER. Now, Dr. Smyth, I notice that you refer to the continuity and going ahead with the work of the program and that you are short-handed.

That is, it has no Chairman. Mr. Pike has been Acting Chairman. I take it that you place some emphasis on that particular line of discussion in your testimony. Is that correct?

Mr. SMYTH. I am not sure I follow you entirely.

Senator HICKENLOOPER. You called attention in your testimony to the fact that there should be continuity in operation here, and that there had been some handicaps because of uncertainty as to tenure and who was going to be on the Commission. Also, that you called attention to the fact that there is no Chairman and that Mr. Pike has been the Acting Chairman, and I take it that you attached importance to that line of discussion in your testimony.

Mr. SMYTH. I cited that particularly to suggest that I thought it was remarkable how effective Mr. Pike had been in so difficult a position.

Senator HICKENLOOPER. Now, Dr. Smyth, when Mr. Lilienthal announced his resignation, I believe about the 1st of last November, and it was well known he was terminating his services with the Commission, he eventually did terminate them, I believe, in February, he was Chairman of the Commission, appointed in accordance with the provisions of law.

A little later—and I believe in December, the last part of December—Admiral Strauss announced his determination to resign, I believe in April, or some place along in there.

Therefore, the absence of those two Commissioners and the absence of a Chairman on the Commission especially was known to the country and the world early in last November.

Up to this time the President has not seen fit to appoint or send up to the Congress the name of anyone for Chairman of the Commission. I feel that the responsibility for the chairmanship of the Commission rests, of course, in the Executive because the law so puts it. But we have had all this period of time since November, when the absence of a Chairman was well known, and yet no Chairman has been sent up, and these terms are all expiring under the law within a day or so, perhaps on Friday.

I want to call your attention also to the fact that you three gentlemen who have been confirmed—no objection was raised to you. I take it that you were not put in any distress or concern because your confirmation was rapid and without objection.

Mr. SMYTH. That did not distress me.

Senator HICKENLOOPER. Certainly that indicates that this committee can act in confirmations and just because a person is appointed to the Atomic Energy Commission does not mean per se this committee is going to get the hounds out and pursue him. It seems to me that is proof that this committee is not just after anyone who is appointed to the Atomic Energy Commission, because I think we had three confirmations here put through with rapidity and satisfaction, so far as I know, to all members of the committee. I think Mr. Dean was appointed and confirmed here a short time ago without anyone getting

the dogs of war after him, and Mr. Murray was appointed and confirmed. Both of them are able men, I believe. I do not believe that there was any dispute just because they were appointed to the Commission or that there would be a hue and cry raised against them.

Knowing these terms expire the 30th of June, realizing the importance of continuity and tenure and all those things that go into the operation of the Atomic Energy Commission, would you say that it is this committee's fault at all in any way that the names of the appointees for these staggered terms did not come to the Senate of the United States until a very few days ago, approximately a week ago? Approximately a week and a half before the terms themselves expired.

Senator CONNALLY. Mr. Chairman, I do not think this is a fair question to call on Dr. Smyth to answer.

Senator HICKENLOOPER. I will not ask him.

Senator CONNALLY. I am glad I convinced you.

Senator HICKENLOOPER. Your argument is so forceful that I am convinced.

I can answer the question so far as my own view is concerned. I feel the nominations for the staggered terms now under the law should have been in long ago in order to give this committee ample opportunity to discharge its obligations in examining into this chairmanship.

Senator KNOWLAND. Would the Senator yield for interruption?

Senator HICKENLOOPER. Yes.

Senator KNOWLAND. Might we have just for the record at this point the day on which the nominations came to the Senate, and when they were reported by the committee so that the record will be complete.

The CHAIRMAN. The nominations were received in the Senate on June 19, reported June 23.

Senator KNOWLAND. Received June 19 and report on the 23d?

The CHAIRMAN. The three that were confirmed.

Senator HICKENLOOPER. These questions, Dr. Smyth, in the nature of them, should perhaps be better called observations of mine. In certain quarters there has been criticism directed at this committee because we dare to exercise the responsibility that we have in examining into instances where we may think we should look a little further. I merely point out that sufficient time, in my judgment, was not given from the time the nominations were sent in, about 12 days prior to the expiration of the terms in this important case.

• While we did confirm without objection three of the members, I feel there is no reasonable ground for the rather explosive and caustic criticisms that are directed from certain quarters because we dare exercise the responsibility we are charged with under the law in one instance.

The CHAIRMAN. I have not heard it, Senator. I have not heard this caustic criticism you are talking about. There has been a surprising lack of any comment on it one way or the other.

Senator HICKENLOOPER. There is some, which, of course, considering the source, is not surprising, but there is some.

I merely make that observation, that we have had a comparatively few days on a very vital appointment to a very vital Commission in this country, and I feel that this committee has a right to give it such due consideration as this committee believes it merits.

The President has had since last November to send up the name of a Chairman, and he has not sent the name of the Chairman up yet. I am quite of the opinion that there is a substantial number of able men in this country who could be impelled to accept the chairmanship. I am not limiting that to members on or off the Commission. I am saying there are a great many able men who could grace the chairmanship of this Commission with ability and with vigor, but since last November—

Senator TYDINGS. Would you mind designating a half dozen of those you have in mind?

Senator HICKENLOOPER. That is not my province. That is the province of the Executive to designate.

Senator CONNALLY. Have you got a candidate?

The CHAIRMAN. Senator, there was no reason why the nominations of the three gentlemen whom we have confirmed could not have been delayed for another week if there was the slightest objection to their confirmation. There was none and, of course, the rapidity with which they were confirmed indicated the satisfaction of the committee with the nominations—and we have a quorum, three of the Commission of five.

I wish, too, the Chairman had been appointed before this, but I have some appreciation of the difficulties of getting men to serve today in the United States Government in positions of great responsibility, when you have a crew of "tomahawkers" who are taking out after their reputations, with little or no excuse and little or no provocation.

Senator CONNALLY. May I intervene?

The CHAIRMAN. Yes, sir.

Senator CONNALLY. I agree with Senator Hickenlooper that this committee has a right to pass on this and go into it and get the facts. That is what I am here for. If there is any reason why Mr. Pike should not be confirmed, I would like to know it from people who know, and not spend the morning in just lecturing everybody about our duties and what we can do. Everbody knows what we can do. If there is anything wrong with Mr. Pike, I have not seen it yet, but if there is anything wrong with him, it should be shown up. He is right here now. Let his accusers face him. I do not know of anything that has been brought out against him.

Senator HICKENLOOPER. I have nothing further.

The CHAIRMAN. Are we through with Dr. Smyth? All right, Dr. Smyth, you can remove yourself from the place of inquisition. Mr. Pike, I note that you are here. You are the subject of the session today. Have you got anything to say for yourself?

Mr. PIKE. No, sir; I do not know—

Senator CONNALLY. I do not think Mr. Pike ought to be put in the position of appearing as an advocate of himself, in the absence of any charges.

Mr. PIKE. I will be glad to answer questions.

The CHAIRMAN. That was probably an attempt at a little heavy-handed humor. I meant he was here and I know he is ready to answer questions.

Mr. PIKE. Mr. Borden called my office and asked me to come.

The CHAIRMAN. Yes; I asked him to do so. I felt somebody might want to ask Mr. Pike questions.

Are there any questions to be directed to Mr. Pike?

Senator KNOWLAND. Mr. Chairman, I think there possibly might be some questions to be directed to Mr. Pike, but it seems to me some of them possibly are in the field of high security that could not be properly directed in open session, and I would think that he should hold himself in readiness to answer such questions as the committee might desire to propound in executive session.

The CHAIRMAN. Are there any questions to be asked of Mr. Pike in this session?

Senator TYDINGS. No questions.

Senator CONNALLY. No questions.

The CHAIRMAN. Senator Hickenlooper?

Senator HICKENLOOPER. No questions.

Senator CONNALLY. I might ask this general question. Are you aware, Mr. Pike, of the supposed charges that are being leveled against you? You need not answer in detail.

Mr. PIKE. I read in the paper, Senator, that it was general incompetence.

Senator CONNALLY. General incompetence?

Mr. PIKE. Yes, sir.

Senator CONNALLY. If we established that rule, I am afraid we would have to call on the Civil Service Commission to give us a lot of new employees around Washington.

Mr. PIKE. I find it a very difficult charge to answer.

Senator CONNALLY. That is a sort of a shotgun charge. I want to say that I have observed Mr. Pike here before this committee with regard to all these matters, and now these terrible charges have been filed against him. I had a very high opinion of his efficiency and his fidelity and his vigor and all those things. I was pleased to see he was nominated again.

Senator TYDINGS. The people who have made this charge, as far as you know, have they had any access to a vantage point from which they could view whether your work was good or bad?

Mr. PIKE. I really do not know. I just read this in the paper.

Senator TYDINGS. I wonder how old Dick Tracy is getting along this morning.

Representative VAN ZANDT. Have we any official charges or are we talking about a newspaper story?

Senator HICKENLOOPER. As far as I know, no formal charges have been filed.

Senator KNOWLAND. I think, Mr. Chairman, it ought to be clearly understood that this is purely a proceeding of the joint committee, the Senate section of it really, in passing upon a Presidential nomination, to get such information as they feel they should have in order to discharge their constitutional responsibility.

So far as I know, Mr. Pike is not the subject of any formal charges and I do not think it should be in that atmosphere when the situation is discussed, either in open or executive session.

Senator CONNALLY. Mr. Chairman, of course, I agree that the confirmation is solely within the Members of the Senate who are members of this committee, but still I think the Representatives from the House, if they have any information or want to make any comment about this matter, I think we ought to hear them.

Senator KNOWLAND. I might say also, the other day in the session, I think the public should be informed that the Senate members said by all means the House members of the joint committee should sit in and should be invited to sit in, and we feel in the close relationships we have had over the years, although they do not have the constitutional responsibility in the House of passing on confirmations, we have worked closely together and they were entitled to all the information that we were entitled to.

The CHAIRMAN. Do any of the members of the committee from the House desire to make any statement or ask any questions of Mr. Pike?

Representative PRICE. Mr. Chairman, I find myself in the same position as the Senator from Texas. I have the highest esteem for Mr. Pike. This action comes as a complete surprise to me. I knew nothing of it until 2 days ago.

Senator TYDINGS. Mr. Chairman, if it does not meet with the disapproval of anyone here, I move we go into executive session and proceed to vote on the matter before us.

Senator KNOWLAND. Mr. Chairman, would you mind amending that to move that we go into executive session for such questions as the committee might desire to ask and then proceed to vote.

Senator TYDINGS. That is all right.

The CHAIRMAN. All right, gentlemen.

Senator CONNALLY. Aren't the other members of the Commission here?

Mr. DEAN. Yes, sir.

Senator CONNALLY. Does the committee want to hear from the other Commission members?

Mr. DEAN. I just returned from Berkeley a few hours ago, and I had not had an opportunity to read Dr. Smyth's statement until just a few moments ago. I will say I subscribe to what he has stated in that statement so far as Mr. Pike is concerned.

Mr. MURRAY. Mr. Chairman, I have only been an active member of this Commission for the last 60 days, and in that length of time I would subscribe to what Dr. Smyth had to say about Sumner Pike.

Senator TYDINGS. I renew my motion, as amended by Senator Knowland.

The CHAIRMAN. All right, ladies and gentlemen, will you betake yourselves.

(Whereupon, at 11:15 a. m., the committee recessed to reconvene immediately in executive session.)

## APPENDIX

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The following telegram which was received from Dr. Robert F. Bacher, a former member of the Atomic Energy Commission, is incorporated as part of this hearing.

PASADENA, CALIF.,  
June 29, 1950.

Senator BRIEN McMAHON,  
*Senate Office Building, Washington, D. C.*

This telegram is occasioned by the news report that while favorable action on three appointees for the Atomic Energy Commission has been taken by your committee, Sumner Pike's name has been withheld for further consideration. As a former colleague of Sumner Pike, I would like to say that his quick understanding of difficult situations, his objectivity, and his complete integrity were very important to the Atomic Energy Commission. He has been a loyal and tireless public servant and has acquired a thorough understanding of the problems of atomic energy. I hope very much that the Senate members of the joint congressional committee will lend their support to his appointment.

ROBERT F. BACHER.